Annex to: Conclusion on the peer review of the pesticide risk assessment of the active substance glyphosate. doi:10.2903/j.efsa.2023.8164

Appendix B – List of end points for the active substance and the formulation for representative uses

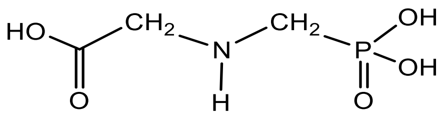
Identity, Physical and Chemical Properties, Details of Uses, Further Information (Regulation (EU) N° 283/2013, Annex Part A, points 1.3 and 3.2)

Active substance (ISO Common Name)	Glyphosate
Function (*e.g.* fungicide)	Herbicide

Rapporteur Member State	The Assessment Group on Glyphosate
Co-rapporteur Member State	None

Identity (Regulation (EU) N° 283/2013, Annex Part A, point 1)

Chemical name (IUPAC)	*N*-(phosphonomethyl)glycine
Chemical name (CA)	Glycine, *N*-(phosphonomethyl)-
CIPAC No	284
CAS No	1071-83-6
EC No (EINECS or ELINCS)	213-997-4
FAO Specification (including year of publication)	284/TC (2016) covering technical material of Monsanto, Cheminova, Syngenta and Helm glyphosate: ≥ 950 g/kg formaldehyde: maximum 1.3 g/kg *N*-nitroso-glyphosate: maximum 1 mg/kg
Minimum purity of the active substance as manufactured	950 g/kg
Identity of relevant impurities (of toxicological, ecotoxicological and/or environmental concern) in the active substance as manufactured	formaldehyde < 1 g/kg *N*-nitroso-glyphosate (NNG) < 1 mg/kg formic acid ≤ 4 g/kg triethylamine ≤ 2 g/kg Open for one impurity (data gap)

Location of the (proposed) reference specification (for significant impurities)	RAR Volume 4 Equivalence (2023) An updated reference specification compared to RAR 2015 was proposed, however it is not concluded.
Molecular formula	$C_3H_8NO_5P$
Molar mass	169.1 g/mol
Structural formula	

Physical and chemical properties (Regulation (EU) N° 283/2013, Annex Part A, point 2)

Melting point (state purity)	189.5 °C (99.9 %)
Boiling point (state purity)	Not applicable because glyphosate decomposes during melting
Temperature of decomposition (state purity)	200 °C (99.6 %)
Appearance (state purity)	White solid (99.6 %)
Vapour pressure (state temperature, state purity)	1.31×10^{-5} Pa at 25 °C (98.6 %)
Henry's law constant (state temperature)	< 2.21×10^{-8} Pa m^3 mol^{-1} (25 °C)
Solubility in water (state temperature, state purity and pH)	Solubility at 20 °C (99.9 %) > 100 g/L (pH 5) > 100 g/L (pH 7) 171 g/L (pH 9) 10.5 g/L under un-buffered water (pH 1.90 – 1.98) (99.5 %)
Solubility in organic solvents (state temperature, state purity)	Solubility at 20 °C (96.9 %) acetone < 0.6 mg/L 1,2-dichloroethane < 0.6 mg/L ethyl acetate < 0.6 mg/L heptane < 0.6 mg/L methanol 10 mg/L octan-1-ol < 0.6 mg/L xylenes < 0.6 mg/L acetonitrile 0.8 mg/L
Surface tension (state concentration and temperature, state purity)	(90 % saturated solution) 73 mN/m at 20°C (98.6%)
Partition coefficient (state temperature, pH and purity)	(99.9%) Log Pow = -5.39 at 25 °C (at pH buffers at 5) Log Pow = -6.28 at 25 °C (at pH buffers at 7) Log Pow = -5.83 at 25 °C (at pH buffers at 9)
Dissociation constant (state purity)	pKa_1 = 2.34 (99 %) pKa_1 = 5.73 (99 %)
UV/VIS absorption (max.) incl. ε (state purity, pH)	Aqueous solution (97.7 %): ε at 200 (nm): 122 L mol^{-1} cm^{-1} (pH 7.19) 760 L mol^{-1} cm^{-1} (pH 1.99) 712 L mol^{-1} cm^{-1} (pH 10.29) ε at 290 nm: < 10 L mol^{-1} cm^{-1}
Flammability (state purity)	glyphosate is not flammable substance (97.7 %)
Explosive properties (state purity)	glyphosate is not explosive (96.0 %)

Oxidising properties (state purity)	glyphosate technical material is not an oxidising substance (96.9 %)

Summary of representative uses evaluated, for which all risk assessments needed to be completed (360 g/L of glyphosate as isopropylammonium salt (486 g/L))
(Regulation (EU) N° 284/2013, Annex Part A, points 3, 4)

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
PRE-SOWING, PRE-PLANTING, PRE-EMERGENCE															
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT) (BBCH > 13)	SL	360 g/L	Tractor mounted broadcast spray	Pre-sowing, Pre-planting, Pre-emergence of the crop	1-1	NA	0.36 - 1.44	100-400	1.44	N/A	**Use No. 1a** Also applicable to renovation / change of land use applications. Application to 100 % of the field. Use at least 75 % drift reducing nozzles. Maximum application rate of 1.44 kg as/ha glyphosate in any 12 months period.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT) (BBCH 13-21)	SL	360 g/L	Tractor mounted broadcast spray	Pre-sowing, Pre-planting, Pre-emergence of the crop	1-1	NA	0.27 - 1.08	100-400	1.08	N/A	**Use No. 1b** Also applicable to renovation / change of land use applications. Application to 100 % of the field. Use at least 75 % drift reducing nozzles. Maximum application rate of 1.08 kg as/ha glyphosate in any 12 months period.
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT)	SL	360 g/L	Tractor mounted broadcast spray	Pre-sowing, Pre-planting, Pre-emergence of the crop	1-1	NA	0.18 - 0.72	100-400	0.72	N/A	**Use No. 1c** Also applicable to renovation / change of land use applications. Application to 100 % of the field. Use at least 75 % drift reducing nozzles. Maximum application rate of 0.72 kg as/ha glyphosate in any 12 months period.
POST-HARVEST, PRE-SOWING, PRE-PLANTING															

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	1-2	28 days	0.27 - 1.44	100-400	1.08 - 1.44	N/A	**Use No. 2a** Application to existing row cropland after harvest for removal of remaining crop / stubble and for control of actively growing weeds and mature annual weeds with hardened-off surface Application to 100 % of the field. Use at least 75 % drift reducing nozzles. Maximum application rate of 2.16 kg as/ha glyphosate in any 12 months period.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	1-3	28 days	0.18 - 1.08	100-400	0.72 - 1.08	N/A	**Use No. 2b** Application to existing row cropland after harvest for removal of remaining crop / stubble and for control of actively growing weeds. Application to 100 % of the field. Use at least 75 % drift reducing nozzles. Maximum application rate of 2.16 kg as/ha glyphosate in any 12 months period.
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT)	SL	360 g/L	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	1-3	28 days	0.18 - 0.72	100-400	0.72	N/A	**Use No. 2c** Application to existing row cropland after harvest for removal of remaining crop / stubble and for control of actively growing annual weeds Application to 100 % of the field. Use at least 75 % drift reducing nozzles. Maximum application rate of 2.16 kg as/ha glyphosate in any 12 months period.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Cereal volunteers (NNNGA)	SL	360 g/L	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	1	NA	0.135 - 0.54	100-400	0.54	N/A	**Use No. 3a** Application to existing row cropland after harvest for removal of cereal volunteers. Maximum application rate of 0.54 kg as/ha glyphosate in any 12 months period. Use at least 75% drift reducing nozzles
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Cereal volunteers (NNNGA)	SL	360 g/L	Tractor mounted broadcast spray	Post-harvest, pre-sowing, pre-planting	1	NA	0.135 - 0.54	100-400	0.54	N/A	**Use No. 3b** Application to existing row cropland after harvest for removal of cereal volunteers once every three years. Maximum application rate of 0.54 kg as/ha glyphosate in any 36 months period. Use at least 75% drift reducing nozzles

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
POST-EMERGENCE OF WEEDS															
Orchard crops: citrus (3CITC), stone (3STFC) and pome (3PMFC) fruits, kiwi (ATIDE), nut crops (3NUTC), banana (MUBPA), and table olives (OLVEU)*	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Ground directed, fully-shielded (hooded) spray, band applica-tion	Post-emergence of weeds throughout the year	1-2	28 days	0.27 - 1.44	100-400	1.08 - 1.44	7	**Use No. 4a** Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Band application in the rows below the trees or as spot treatments. The treated area represents not more than 50 % of the total orchard area. The application rate with reference to the total orchard surface area is not more than 50 % of the stated dose rate.
Orchard crops: citrus (3CITC), stone (3STFC) and pome (3PMFC) fruits, kiwi (ATIDE), nut crops (3NUTC), banana (MUBPA), and table olives (OLVEU)*	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Ground directed, fully-shielded (hooded) spray, band applica-tion	Post-emergence of weeds throughout the year	1-3	28 days	0.18 - 1.08	100-400	0.72 - 1.08	7	**Use No. 4b** Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Band application in the rows below the trees or as spot treatments. The treated area represents not more than 50 % of the total orchard area. The application rate with reference to the total orchard surface area is not more than 50 % of the stated dose rate.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Orchard crops: citrus (3CITC), stone (3STFC) and pome (3PMFC) fruits, kiwi (ATIDE), nut crops (3NUTC), banana (MUBPA), and table olives (OLVEU)*	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT)	SL	360 g/L	Ground directed, fully-shielded (hooded) spray, band application	Post-emergence of weeds throughout the year	1-3	28 days	0.18 - 0.72	100-400	0.72	7	**Use No. 4c** Avoid crop contamination during treatment. Maximum application rate of 2.16 kg as/ha treated area glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Band application in the rows below the trees or as spot treatments. The treated area represents not more than 50 % of the total orchard area. The application rate with reference to the total orchard surface area is not more than 50 % of the stated dose rate.
Vines (VITVI) (table and wine grape, leaves not intended for human consumption)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Ground directed, fully-shielded (hooded) spray, band application	Post-emergence of weeds throughout the year	1-2	28 days	0.27 - 1.44	100-400	1.08 - 1.44	7	**Use No. 5a** Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Band application in the rows below the vine stock or as spot treatments. The treated area represents not more than 50 % of the total vineyard area. The application rate with reference to the total vineyard surface area is not more than 50 % of the stated dose rate.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Vines (VITVI) (table and wine grape, leaves not intended for human consumption)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Ground directed, fully-shielded (hooded) spray, band applica-tion	Post-emergence of weeds throughout the year	1-3	28 days	0.18 - 1.08	100-400	0.72 - 1.08	7	**Use No. 5b** Avoid crop contamination during treatment. Maximum application rate of 2.88 kg as/ha treated area glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Band application in the rows below the vine stock or as spot treatments. The treated area represents not more than 50 % of the total vineyard area. The application rate with reference to the total vineyard surface area is not more than 50 % of the stated dose rate.
Vines (VITVI) (table and wine grape, leaves not intended for human consumption)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT)	SL	360 g/L	Ground directed, fully-shielded (hooded) spray, band applica-tion	Post-emergence of weeds throughout the year	1-3	28 days	0.18 - 0.72	100-400	0.72	7	**Use No. 5c** Avoid crop contamination during treatment. Maximum application rate of 2.16 kg as/ha treated area glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Band application in the rows below the vine stock or as spot treatments. The treated area represents not more than 50 % of the total vineyard area. The application rate with reference to the total vineyard surface area is not more than 50 % of the stated dose rate.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Vegetables (Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Legume vegetables (3LEVC), Leafy vegetables (3LEAC))	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Inter-row applica-tion: ground directed, fully-shielded (hooded) spray	Crop BBCH < 20	1	NA	0.27 - 1.08	100-400	1.08	60	**Use No. 6a** Avoid crop contamination during treatment. Maximum application rate of 1.08 kg as/ha glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Applications are made between the crop rows. The rate refers to the treated area only, which represents not more than 50 % of the total area. The application rate with reference to the total surface area is not more than 50 % of the stated dose rate.
Vegetables (Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Legume vegetables (3LEVC), Leafy vegetables (3LEAC))	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT)	SL	360 g/L	Inter-row applica-tion: ground directed, fully-shielded (hooded) spray	Crop BBCH < 20	1	NA	0.18 - 0.72	100-400	0.72	60	**Use No. 6b** Avoid crop contamination during treatment. Maximum application rate of 0.72 kg as/ha glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. Applications are between the crop rows. The rate refers to the treated area only, which represents not more than 50 % of the total area. The application rate with reference to the total surface area is not more than 50 % of the stated dose rate.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Railway tracks (3RAILO)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Ground directed, spray	Post-emergence of weeds throughout the year / no crop present	2	90 days	0.45 - 1.8	100-400	1.8	N/A	**Use No. 7a** Application by spray train Drift reducing nozzles should be used or curtailment measures of the potential for drift should be used – e.g., shielded spray, incorporating targeted / direct application with at least 75% potential for drift reduction. Maximum application rate of 3.6 kg as/ha glyphosate in any 12 months period.
Railway tracks (3RAILO)	EU	MON 52276	F	Emerged annual weeds (3ANMNT, 3ANDIT), emerged perennial and biennial weeds (3PEDIT, 3PEMNT)	SL	360 g/L	Ground directed, spray	Post-emergence of weeds throughout the year / no crop present	1	NA	0.45 - 1.8	100-400	1.8	N/A	**Use No. 7b** Application by spray train Drift reducing nozzles should be used or curtailment measures of the potential for drift should be used – e.g., shielded spray, incorporating targeted / direct application with at least 75% potential for drift reduction. Maximum application rate of 1.8 kg as/ha glyphosate in any 12 months period.
Invasive species in agricultural (3CRGK) and non-agricultural (YNKKX) areas	EU	MON 52276	F	Giant hogweed (*Hera-cleum mantegazzi anum*) (HERMZ)	SL	360 g/L	Spot treatment (shielded)	Post-emergence of invasive species throughout the year	1	NA	0.45 - 36	5-400	1.8	N/A	**Use No. 8** Maximum application rate of 1.8 kg as/ha glyphosate in any 12 months period. Use at least 75% drift reducing nozzles.
Invasive species in agricultural (3CRGK) and non-agricultural (YNKKX) areas	EU	MON 52276	F	Japanese knotweed (*Rey-noutria japonica*) (POLCU)	SL	360 g/L	Spot treatment (shielded), cut stem: spray application	Late summer, early fall	1	NA	0.45 - 36	5-400	1.8	N/A	**Use No. 9** Maximum application rate of 1.8 kg as/ha glyphosate in any 12 months period. Use at least 75% drift reducing nozzles.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Couch grass (*Elymus repens*) (AGRRE)	SL	360 g/L	Spot treatment (shielded)	Post-harvest, pre-sowing, pre-planting	1	NA	0.27 - 1.08	100-400	1.08	N/A	**Use No. 10a** Application to existing row cropland after harvest for removal of couch grass. Maximum application rate of 1.08 kg as/ha glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. The treated area represents not more than 20 % of the cropland.

Crop and/or situation (a)	Member State or Country	Product name	F G or I (b)	Pests or Group of pests controlled (c)	Preparation		Application				Application rate per treatment			PHI (days) (m)	Remarks
					Type (d-f)	Conc. a.s. (i)	method kind (f-h)	range of growth stages & season (j)	number min-max (k)	Interval between application (min)	kg a.s /hL min-max (l)	Water L/ha min-max	kg a.s./ha min-max (l)		
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Couch grass (*Elymus repens*) (AGRRE)	SL	360 g/L	Spot treatment (shielded)	Post-harvest, pre-sowing, pre-planting	1	NA	0.18 - 0.72	100-400	0.72	N/A	**Use No. 10b** Application to existing row cropland after harvest for removal of couch grass. Maximum application rate of 0.72 kg as/ha glyphosate in any 12 months period. Use at least 75% drift reducing nozzles. The treated area represents not more than 20 % of the cropland.
Root vegetable plants (NNNVW) & tuberous plants (NNNZK), bulb plants (NNNZJ), fruit-vegetable plants (NNNVF), Brassica (1BRSG), leaf and stem vegetable plants (NNNVL), Sugar beet (BEAVA)	EU	MON 52276	F	Couch grass (*Elymus repens*) (AGRRE)	SL	360 g/L	Spot treatment (shielded)	Post-harvest, pre-sowing, pre-planting	1	NA	0.18 - 0.72	100-400	0.72	N/A	**Use No. 10c** Application to existing row cropland after harvest for removal of couch grass once every three years. Maximum application rate of 0.72 kg as/ha glyphosate in any 36 months period. Use at least 75% drift reducing nozzles The treated area represents not more than 20 % of the cropland.

Risk mitigation measures that have been indicated in the remarks column in the table are those defined by the applicant in their application for renewal (as set out in document D1 of the dossier provided with the application).

During the peer review, upon request, the applicant proposed the following additional mitigation measure aimed at reducing losses in biodiversity from the uses: 1a, 1b, 1c, 2a, 2b, 2c, 3a, 3b, 6a & 6b.

Risk managers in individual Member States should decide what additional measures are required to compensate for indirect effects to biodiversity. The type and extent of compensatory measure is dependent on the ecological and agricultural conditions in the Member State and the size of the cropped area. A recommended compensatory measure is to have a multifunctional field margin (MFFM) on farms when glyphosate is applied to 100% of the inter-crop area for fields ≥ 15 ha. MFFMs (e.g., hedgerow, flowering strip) should be established on marginal farmland along field boundaries of arable fields, and is protected from spray drift, to provide habitat for biodiversity and wildlife corridors'.

It should be noted that the adequacy of the size limitation of the field (>15 ha) and threshold for 100% of the treated area was not scientifically supported by the assessments available (see Section 5 of the EFSA Conclusion).

(a) For crops, the EU and Codex classifications (both) should be taken into account; where relevant, the use situation should be described (e.g. fumigation of a structure) (b) Outdoor or field use (F), greenhouse application (G) or indoor application (I) (c) *e.g.* biting and sucking insects, soil born insects, foliar fungi, weeds (d) *e.g.* wettable powder (WP), emulsifiable concentrate (EC), granule (GR) (e) CropLife International Technical Monograph no 2, 6th Edition. Revised May 2008. Catalogue of pesticide (f) All abbreviations used must be explained (g) Method, e.g. high volume spraying, low volume spraying, spreading, dusting, drench (h) Kind, *e.g.* overall, broadcast, aerial spraying, row, individual plant, between the plant- type of equipment used must be indicated	(i) g/kg or g/L. Normally the rate should be given for the active substance (according to ISO) and not for the variant in order to compare the rate for same active substances used in different variants (e.g. fluoroxypyr). **In certain cases, where only one variant is synthesised, it is more appropriate to give the rate for the variant (e.g. benthiavalicarb-isopropyl).** (j) Growth stage range from first to last treatment (BBCH Monograph, Growth Stages of Plants, 1997, Blackwell, ISBN 3-8263-3152-4), including where relevant, information on season at time of application (k) Indicate the minimum and maximum number of applications possible under practical conditions of use (l) The values should be given in g or kg whatever gives the more manageable number (e.g. 200 kg/ha instead of 200 000 g/ha or 12.5 g/ha instead of 0.0125 kg/ha (m) PHI - minimum pre-harvest interval

Summary of additional intended uses for which MRL applications have been made, that in addition to the uses above, have also been considered in the consumer risk assessment
Regulation (EC) N° 1107/2009 Article 8.1(g))

Not applicable. Only a MRL for honey is applied for. This is not regarded an additional intended use.

Further information, Efficacy

Effectiveness (Regulation (EU) N° 284/2013, Annex Part A, point 6.2)

	In terms of efficacy, the representative uses GAPs are supported.

Adverse effects on field crops (Regulation (EU) N° 284/2013, Annex Part A, point 6.4)

	In terms of adverse effects on field crops, the representative uses GAPs are supported.

Observations on other undesirable or unintended side-effects (Regulation (EU) N° 284/2013, Annex Part A, point 6.5)

	In terms of adverse effects on succeeding or adjacent crops, the representative uses GAPs are supported.

Groundwater metabolites: Screening for biological activity (SANCO/221/2000-rev.10-final Step 3 a Stage 1)

	AMPA
Activity against target organism	No

Methods of Analysis

Analytical methods for the active substance (Regulation (EU) N° 283/2013, Annex Part A, point 4.1 and Regulation (EU) N° 284/2013, Annex Part A, point 5.2)

Technical a.s. (analytical technique)	HPLC-UV; HPLC-PDA
Impurities in technical a.s. (analytical technique)	HPLC-UV; LC-MS/MS; IC-UV; HPLC-colorimeter; Karl-Fisher
Plant protection product (analytical technique)	HPLC-UV

Analytical methods for residues (Regulation (EU) N° 283/2013, Annex Part A, point 4.2 & point 7.4.2)

Residue definitions for monitoring purposes

Food of plant origin	**Option 1 - According to Codex (FAO-WHO, 2019)[1]:** 1) For soya bean, oilseed rape (OSR), maize (including sweet corn)[2]: Sum of glyphosate and *N*-acetyl glyphosate, expressed as glyphosate 2) All other crops: Glyphosate only **Option 2- According to the proposal in the EFSA MRL Art.12 Reasoned Opinion of 2019[3]**, including also the metabolite AMPA for some crops: 1) For soya bean, OSR, cotton, maize (including sweet corn), sugar beet[4]: Sum of glyphosate, AMPA and *N*-acetyl glyphosate, expressed as glyphosate 2) All other crops: Glyphosate only The inclusion of AMPA in the residue definition for plants may need to be further considered once the information on additional field residue trials and on the magnitude of residues in rotational crops has been completed.
Food of animal origin	Sum of glyphosate and *N*-acetyl glyphosate, expressed as glyphosate, except for bee products where it is open if AMPA might be added, pending rotational crop considerations or if option 2 is selected for the plant residue definition
Soil	glyphosate and AMPA
Sediment	glyphosate and AMPA

[1] FAO and WHO. 2019. *Pesticide residues in food 2019 – Extra Joint FAO/WHO Meeting on Pesticide Residues Evaluation Part I: Residues*. Rome. https://www.fao.org/publications/card/en/c/CA6010EN/

[2] Due to the potential presence of glyphosate tolerant sources in the market (eg. imported products) risk managers should consider applying the proposed residue definition to all the monitored samples from these crops.

[3] EFSA (European Food Safety Authority), 2019. Review of the existing maximum residue levels for glyphosate according to Article 12 of Regulation (EC) No 396/2005 – revised version to take into account omitted data. EFSA Journal 2019;17(10):5862 doi:10.2903/j.efsa.2019.5862

[4] Due to the potential presence of glyphosate tolerant sources in the market (eg. imported products) risk managers should consider to apply the proposed residue definition to all the monitored samples from these crops.

Water	surface	glyphosate and AMPA
	drinking/ground	glyphosate and AMPA
Air		Glyphosate
Body fluids and tissues		Fluids and tissues: glyphosate and AMPA

Monitoring/Enforcement methods

Food/feed of plant origin (analytical technique and LOQ for methods for monitoring purposes)	LC-MS/MS LOQ 0.025 mg/kg for glyphosate, AMPA and *N*-acetyl glyphosate
Food/feed of animal origin (analytical technique and LOQ for methods for monitoring purposes)	LC-MS/MS LOQ 0.025 mg/kg for glyphosate, AMPA and *N*-acetyl glyphosate
Honey (analytical technique and LOQ for methods for monitoring purposes)	LC-MS/MS LOQ 0.025 mg/kg for glyphosate and AMPA Data gap: for *N*-acetyl glyphosate residues
Soil (analytical technique and LOQ)	LC-MS/MS LOQ 0.05 mg/kg for glyphosate and AMPA
Water (analytical technique and LOQ)	LC-MS/MS LOQ 0.03 µg/L for glyphosate and AMPA
Air (analytical technique and LOQ)	GC-MS LOQ 5 µg/m^3 for glyphosate
Body fluids and tissues (analytical technique and LOQ)	Fluids: LC-MS/MS LOQ 0.01 mg/L for glyphosate and AMPA Tissues: LC-MS/MS LOQ 0.025 mg/kg for glyphosate AMPA and *N*-acetyl glyphosate

Classification and labelling with regard to physical and chemical data (Regulation (EU) N° 283/2013, Annex Part A, point 10)

Substance	Glyphosate
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended][5]:	No classification linked to physical and chemical properties of glyphosate

[5] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. OJ L 353, 31.12.2008, 1-1355.

According to the peer review, criteria for harmonised classification according to Regulation (EC) No 1272/2008 may be met for:	None

Impact on Human and Animal Health

Absorption, distribution, metabolism and excretion (toxicokinetics) (Regulation (EU) N° 283/2013, Annex Part A, point 5.1)

Rate and extent of oral absorption/systemic bioavailability	20% (based on urinary excretion and cage wash) (based on various studies in rats, single lower dose levels ranging between 1-10 mg/kg bw) Absorption independent of dose and sex.
Toxicokinetics	Glyphosate: Cmax in plasma: 0.64-0.84 µg/ml at 72 mg/kg bw per day and 4.69-5.31 µg/ml at 385 mg/kg bw per day after 14-day repeated dietary administration. Tmax: 0.5 hour at 72 and 385 mg/kg bw per day after 14-day repeated dietary administration; other studies 2-8 hours Plasma T1/2: 11 hours at 72 mg/kg bw per day and 13 hours at 385 mg/kg bw per day after 14-day repeated dietary administration; other studies 6-12 h AUC: 8.3-10.4 µg/ml at 72 mg/kg bw per day and 44.7-57.0 µg/ml at 385 mg/kg bw per day after 14-day repeated dietary administration AMPA (after 14-day repeated dietary administration of 385 mg/kg bw/d of glyphosate): Cmax in plasma: 0.038-0.041 µg/ml Tmax: 0.5 hour Plasma T1/2: 7.0-7.5 hours AUC: 0.245-0.276 µg/ml
Distribution	Widely distributed (bone, kidney, to lesser extent in liver)
Potential for bioaccumulation	No evidence for accumulation in mammals
Rate and extent of excretion	Rapid and extensive (app. 90 % within 48 h), mainly via faeces (~ 20% in urine). Biliary excretion and exhalation negligible.
Metabolism in animals	Very limited metabolism with only biotransformation to AMPA accounting for up to 0.6% of the total excreted amount.
In vitro metabolism	Poorly metabolized (97% unmetabolized glyphosate). No unique human metabolite detected.
Toxicologically relevant compounds (animals and plants)	Glyphosate, AMPA (M02), *N*-acetyl AMPA (M05), *N*-acetyl glyphosate (M04)
Toxicologically relevant compounds (environment)	Glyphosate

Acute toxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.2)

Rat LD_{50} oral	> 2000 mg/kg bw	
Rat LD_{50} dermal	> 2000 mg/kg bw	
Rat LC_{50} inhalation	> 5 mg/L air/4h (nose-only)	
Skin irritation	Non-irritating to skin	
Eye irritation	Serious eye damage	Cat. 1, H318
Skin sensitisation	Negative (M&K test, LLNA, Buehler) (glyphosate) Negative (M&K test) (glyphosate-isopropylammonium)	
Phototoxicity	Not required	

Short-term toxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.3)

Target organ / critical effect	Rat: soft stool, diarrhoea, reduction in body weight gain and food consumption, liver effects (increased weight, changes in blood chemistry), caecum (distention and increased weight), salivary gland (cellular alterations; local effect) Mice: reduction in body weight gain and food consumption, liver effects (changes in blood chemistry), caecum (distension), increased incidence of cystitis in the urinary bladder (high dose males only), salivary gland (cellular alterations-local effect) Dog: loose stool, reduction in body weight gain and food consumption, liver (changes in blood chemistry), kidney (increased weight)	
Relevant oral NOAEL	90-day, rat: 79 mg/kg bw per day 90-day, mice: 1221 mg/kg bw per day 90-day, dog: 53 mg/kg bw per day	
Relevant dermal NOAEL	21-day, rat: 1000 mg/kg bw per day (systemic); LOAEL for local effects of 1000 mg/kg bw per day (mild skin irritation; observed at the only dose tested) 28-day, rabbit: 2000 mg/kg bw per day (systemic); 1000 mg/kg bw per day (local effects)	
Relevant inhalation NOAEL	No data - not required	

Genotoxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.4)

In vitro studies	***In vitro* gene mutation assay in bacteria and in mammalian cells** All *in vitro* assays showed consistently negative results (independently of their reliability and relevance) ***In vitro* clastogenicity and aneugenicity assays** *In vitro* assays of lower reliability and/or lower relevance showed mixed results. This is not the case for acceptable *in vitro* assays of high reliability and relevance that showed consistently negative results. ***In vitro* DNA damage studies:** *In vitro* studies showed inconsistent results.	
In vivo studies	***In vivo* clastogenicity and aneugenicity studies** *In vivo* studies of lower reliability and/or lower relevance showed mixed results. This is not the case for acceptable *in vivo studies* of high reliability and relevance that showed consistently negative results. ***In vivo* DNA damage studies:** There are no acceptable *in vivo* studies, there is only 1 *in vivo* study, supplementary, showing positive results. **Epidemiological studies on genotoxicity** Studies available considered supplementary and of low weight for the overall weight of evidence for genotoxicity.	
Photomutagenicity	Not required	
Potential for genotoxicity	Glyphosate is unlikely to be genotoxic based on a weight of evidence approach.	

Long-term toxicity and carcinogenicity (Regulation (EU) N°283/2013, Annex Part A, point 5.5)

Long-term effects (target organ/critical effect)	Rat: liver (increased ALP and liver lesions), stomach (inflammation and hyperplasia of squamous mucosa), caecum (distention and increased weight), eye (cataracts), lung lesions; local effects on salivary glands (increased weight and cellular alterations) Mouse: Reduced body weight gain, urinary bladder (hyperplasia). Higher dose levels produced liver (hepatocyte hyperthophy and necrosis) and kidney (chronic interstitial nephritis) lesions, stomach cysts and increased mortality.	
Relevant long-term NOAEL	2-year, rat: 59.4 mg/kg bw per day 18-month, mouse: 149.7 mg/kg bw per day (overall NOAEL)	
Carcinogenicity (target organ, tumour type)	Unlikely to be carcinogenic in rats and mice. **Epidemiological studies on carcinogenicity**: The currently available human epidemiological studies do not provide conclusive evidence that glyphosate exposure is associated with any cancer-related health effect.	
Relevant NOAEL for carcinogenicity	2-year, rat: 1214 mg/kg bw per day (highest dose tested) 18/24-month, mouse: 988 mg/kg bw per day	

Reproductive toxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.6)

Reproduction toxicity

Reproduction target / critical effect	Rats Adult: gastrointestinal disturbances (soft stool, distension of caecum), reduced bw, organ weight changes (increased liver and kidney weights), effects on salivary gland (histopathological changes). Effects on salivary glands were considered as a local effect. Reproduction and fertility: reduced homogenisation resistant spermatids (in *Cauda epididymidis*) in F0 males at limit dose (1063 mg/kg bw per day) but no evidence for impairment of fertility and reproductive performance, lower fertility indices in F1 females at high dose level (above 2000 mg/kg bw per day) (one study) Offspring: reduced bw, delayed preputial separation in F1 generation at limit dose (1063 mg/kg bw per day) (one study), distension of caecum at high dose level (above 2000 mg/kg bw per day) (one study)	

	Epidemiological studies on reproductive toxicity: Overall inconclusive for a causal or clear associative relationship between glyphosate and and effects on reproductive endpoints	
Relevant parental NOAEL	NOAEL: 417 mg/kg bw per day	
Relevant reproductive NOAEL	351 mg/kg bw per day	
Relevant offspring NOAEL	293 mg/kg bw per day	

Developmental toxicity

Developmental target / critical effect	Rat: Maternal toxicity: clinical signs in both studies Developmental toxicity: skeletal variations and reduced ossification at 1000 mg/kg bw per day Rabbit: Maternal toxicity: reduced body weight gain (21%, not stat sign); (between gestation days 11 to 29) Developmental toxicity: increased post-implantation loss (21% compared to 5.7% in controls) and reduced foetal weight (-8%)	
Relevant maternal NOAEL	Rat: 300 mg/kg bw per day Rabbit: 50 mg/kg bw per day	
Relevant developmental NOAEL	Rat: 300 mg/kg bw per day Rabbit: 150 mg/kg bw per day	

Neurotoxicity (Regulation (EU) N° 283/2013, Annex Part A, point 5.7)

Acute neurotoxicity	No sign of neurotoxicity Critical effect: mortality, clinical signs NOAEL systemic toxicity = 1000 mg/kg bw NOAEL neurotoxicity = 2000 mg/kg bw (highest dose tested)	
Repeated neurotoxicity	No sign of neurotoxicity Critical effect: reduced body weight and food consumption NOAEL systemic toxicity = 395 mg/kg bw per day NOAEL neurotoxicity = 1499 mg/kg bw per day (highest dose tested)	

Additional studies (e.g. delayed neurotoxicity, developmental neurotoxicity)	Acute delayed neurotoxicity: No adverse effects up to highest dose of 2000 mg/kg bw Developmental neurotoxicity: No specific study with glyphosate acid available. A data gap is identified to clarify whether the DNT effects seen in the public literature studies with GBHs and in the study with glyphosate trimesium are due to glyphosate acid. **Epidemiological studies on neurotoxicity** Overall inconclusive for a causal or clear associative relationship between glyphosate and neurotoxicity endpoints.	

Other toxicological studies (Regulation (EU) N° 283/2013, Annex Part A, point 5.8)

Supplementary studies on the active substance	<u>Immunotoxicity:</u> No indication of immunotoxic potential in mice. NOAEL = 1448 mg/kg bw per day, the highest dose tested. <u>Oxidative stress:</u> Glyphosate may induce oxidative stress, as shown in some *in vitro* and *in vivo* studies but increased oxidative stress was not consistently demonstrated in the available studies. **Epidemiological studies on oxidative stress**: Overall inconclusive for a causal or clear associative relationship between glyphosate and oxidative stress parameters from human studies.
Endocrine disrupting properties	Based on the available information and according to the ECHA/EFSA (2018) guidance, the ED criteria according to point 3.6.5 of Annex II to Regulation (EC) No 1107/2009, as amended by Commission Regulation (EU) 2018/605, are not met for the EAS- and T-modalities for the active substance glyphosate.

Studies performed on metabolites or impurities	<u>AMPA</u> Oral LD_{50} > 5000 mg/kg bw Dermal LD_{50} > 2000 mg/kg bw AMPA did not show a sensitising potential. Negative in *in vitro* bacterial gene mutation assay, negative in *in vitro* mammalian gene mutation assay, negative in *in vitro and in vivo* micronucleus assay. 28-day rat (NOAEL): 100 mg/kg bw per day based on decreased body weight and increased kidney weight at 350 mg/kg bw per day. 90-day rat: First study: NOAEL ≥ 1000 mg/kg bw per day based on no adverse effects at the highest dose tested. Second study: NOAEL of 400 mg/kg bw per day based on increased urothelial hyperplasia of the urinary bladder at 1200 mg/kg bw per day. 90-day dog (NOAEL): ≥ 263 mg/kg bw per day based on no adverse effects at the highest dose tested Rat developmental toxicity First study: Maternal and developmental NOAEL: 1000 mg/kg bw per day, the highest dose tested Second study: Maternal NOAEL: 150 mg/kg bw per day based on increased mucoid faeces, soft stool and hair loss at 400 mg/kg bw per day and above and decreased body weight gain and food consumption at 1000 mg/kg bw per day. Developmental NOAEL: 400 mg/kg bw/day based on a reduction in foetal weight at 1000 mg/kg bw per day. It is concluded that AMPA is unlikely to be genotoxic, is of similar toxicity as glyphosate and its reference values can be applied.

	<u>*N*-acetyl AMPA</u> Oral LD_{50} > 5000 mg/kg bw Negative bacterial gene mutation study, negative *in vitro* chromosomal aberration study, negative *in vitro* mammalian genotoxicity study and a negative *in vivo* micronucleus study. However, as bone marrow exposure is not proven in the latter study, aneugenicity was not sufficiently addressed and therefore no conclusion can be drawn on genotoxicity. In order to address aneugenicity, an *in vitro* micronucleus study was submitted, which is negative. 90-day rat (NOAEL): 374 and 455 mg/kg bw per day in males and females, respectively. Based on abnormal excreta in both sexes and decreased body weight gain in males at 1163 and 1400 mg/kg bw per day in males and females, respectively. It is concluded that *N*-acetyl AMPA is unlikely to be genotoxic, is of similar toxicity as glyphosate and its reference values can be applied.
	<u>*N*-acetyl glyphosate</u> Oral LD_{50} > 5000 mg/kg bw Negative bacterial gene mutation study, negative *in vitro* chromosome aberration study, negative *in vitro* mammalian gene mutation study and a negative *in vivo* micronucleus study. However, as bone marrow exposure is not proven in the latter study, aneugenicity was not sufficiently addressed and therefore no conclusion can be drawn on genotoxicity. 90-day rat (NOAEL): 283 mg/kg bw per day based on decreased body weight gain in males at 1157 mg/kg bw per day. A data gap is set for aneugenicity. Since aneugenicity has a threshold-based mechanism and this metabolite is of no greater toxicity than glyphosate (similar toxicological profile), it is concluded that the same reference values as for glyphosate can be applied.
	<u>*N*-methyl AMPA</u> Negative bacterial gene mutation study, negative *in vitro* micronucleus study. It is concluded that *N*-methyl AMPA is unlikely to be genotoxic.

	N-glyceryl AMPA No experimental data available, negative QSAR analysis for bacterial mutagenicity, QSAR data not sufficiently reliable to rule out aneugenicity/clastogenicity. Since this metabolite was not sufficiently investigated for all three genetic endpoints, a data gap is set for aneugenicity and clastogenicity.
	N-malonyl AMPA No experimental data available, negative QSAR analysis for bacterial mutagenicity, QSAR data not sufficiently reliable to rule out aneugenicity/ clastogenicity. Since this metabolite was not sufficiently investigated for all three genetic endpoints, a data gap is set for aneugenicity and clastogenicity.

Medical data (Regulation (EU) N° 283/2013, Annex Part A, point 5.9)

	No critical health effects reported from occupational health surveillance; no convincing evidence of genotoxicity, oxidative stress, carcinogenicity, neurotoxicity or effects on fertility and development in epidemiological studies; poisoning incidents after accidental or voluntary (suicidal) oral intake of large amounts of glyphosate-based herbicides; transient eye irritation as most frequent sign in operators following accidental exposure.

Summary[6] (Regulation (EU) N°1107/2009, Annex II, point 3.1 and 3.6)	Value (mg/kg bw (per day))	Study	Uncertainty factor
Acceptable Daily Intake (ADI)	0.5 (1)(5)	90-day dog study, supported by 2-year study in rats and covering maternal toxicity in rabbit developmental toxicity studies	100
Acute Reference Dose (ARfD)	1.5 (2)(5)	Developmental toxicity study in rabbits	100
Acceptable Operator Exposure Level (AOEL)	0.1 (1)(5)	90-day dog study and covering maternal toxicity in rabbit developmental toxicity studies	500 (4)

[6] If available include also reference values for metabolites

Acute Acceptable Operator Exposure Level (AAOEL)	0.3 (3)(5)	Developmental toxicity study in rabbits	500 (4)

(1) same as previously established (EFSA, 2015); however, based on a different study
(2) previously established ARfD was 0.5 mg/kg bw (EFSA, 2015)
(3) not previously established (EFSA, 2015)
(4) Including correction for limited oral absorption/bioavailability (20%).
(5) Applicable to metabolites AMPA, *N*-acetyl AMPA and *N*-acetyl glyphosate

Dermal absorption (Regulation (EU) N° 284/2013, Annex Part A, point 7.3)

Representative formulation (MON 52276, SL formulation, 360 g/L)	Concentrate: 0.096% Spray dilution 1:12.5 (28.8 g/L): 0.23% Spray dilution 1:150 (2.4 g/L): 0.68% *In vitro* human study with representative formulation.
	Pro-rata corrections for the representative uses: Uses 1c, 2(b,c), 4(b,c), 5(b,c), 6b: 0.91% for the spray dilution (1.8 g/L) Uses 3a, 3b: 1.21% for the spray dilution (1.35 g/L)

Exposure scenarios (Regulation (EU) N° 284/2013, Annex Part A, point 7.2)

Operators

<table>
<tr><td colspan="3"><u>Formulation</u>: MON 52276 SL
<u>Model</u>: EFSA 2015 (last version of calculator from EFSA 2014)</td></tr>
<tr><td colspan="3">Use 1 (a,b,c): pre-emergence of vegetables (bare soil), max 1.44 kg a.s./ha, tractor-mounted equipment, downward spraying
Covering also tractor-mounted application for uses 2, 3, 6 and 10 (as worst-case).</td></tr>
<tr><td>Equipment / Exposure</td><td>Short term (%AOEL)</td><td>Acute (%AAOEL)</td></tr>
<tr><td>No PPE (workwear)</td><td>3.80</td><td>5.22</td></tr>
<tr><td colspan="3">Uses 4(a,b) and 5 (a,b): orchard crops and vines, 1.44 kg a.s./ha, tractor-mounted equipment, downward spraying
Covering also tractor-mounted equipment for uses 4c and 5c (as worst-case)</td></tr>
<tr><td>No PPE (workwear)</td><td>3.81</td><td>3.10</td></tr>
<tr><td colspan="3">Uses 4(a,b) and 5 (a,b): orchard crops and vines, 1.44 kg a.s./ha, manual hand-held equipment, downward spraying</td></tr>
<tr><td>No PPE (workwear) – orchards
- vines</td><td>6.63
6.63</td><td>10.81
10.81</td></tr>
<tr><td colspan="3">Uses 4(a,b) and 5 (a,b): orchard crops and vines, 1.44 kg a.s./ha, manual knapsack equipment, downward spraying</td></tr>
<tr><td>No PPE (workwear) – orchards
- vines</td><td>2.19
2.19</td><td>2.95
2.95</td></tr>
<tr><td colspan="3">Uses 4(c) and 5 (c): orchard crops and vines, 0.72 kg a.s./ha, manual knapsack equipment, downward spraying</td></tr>
<tr><td>No PPE (workwear)</td><td>2.59</td><td>3.81</td></tr>
<tr><td colspan="3">Uses 7 (a,b): railway tracks (bare soil), 1.8 kg a.s./ha, tractor-mounted equipment, downward spraying</td></tr>
<tr><td>No PPE (workwear)</td><td>4.55</td><td>6.15</td></tr>
<tr><td colspan="3">Uses 8 and 9: invasive species in agricultural and non-agricultural areas, 1.8 kg a.s./ha, manual knapsack equipment, downward spraying</td></tr>
<tr><td>No PPE (workwear)</td><td>1.68</td><td>1.54</td></tr>
</table>

Workers

<table>
<tr><td colspan="3"><u>Model</u>: EFSA 2015 (last version of calculator from EFSA 2014)
Uses 1 (a, b, c): pre-emergence of vegetables (as bare soil)
Not relevant since re-entry is not necessary shortly after spraying</td></tr>
<tr><td colspan="3">Uses 2a, 3 (a,b), 10 (a,b,c): vegetables, 1x 1.44 kg a.s./ha, inspection 2 or 8h (as grassland and lawns)</td></tr>
<tr><td>Exposure with workwear (%AOEL)</td><td>1.37 (2h)</td><td>5.48 (8h)</td></tr>
<tr><td colspan="3">Use 2b: vegetables, 2x 1.08 kg a.s./ha, inspection 2 or 8h (grassland and lawns)</td></tr>
<tr><td>Exposure with workwear (%AOEL)</td><td>1.57 (2h)</td><td>6.28 (8h)</td></tr>
<tr><td colspan="3">Use 6 (a,b): vegetables, inter row application, 1x 1.08 kg a.s./ha, reaching/picking</td></tr>
</table>

Exposure with workwear (%AOEL)	7.34	1.70 (with gloves)
Uses 4 (a,b,c,) and 5 (a,b,c): orchards crops and vines, 2x 1.44 kg a.s./ha, inspection 2 or 8h		
Exposure with workwear (%AOEL)	2.09 (2h)	8.36 (8h)
Uses 7 (a,b): railway tracks (as bare soil) Not relevant since re-entry is not necessary shortly after spraying		
Uses 8 and 9: invasive species in agricultural and non-agricultural areas, 1x 1.8 kg a.s./ha, inspection/irrigation		
Exposure with workwear (%AOEL)	0.58 (2h)	2.32 (8h)

Bystanders (B) and residents (R)

<u>Model</u>: EFSA 2015 (last version of calculator from EFSA 2014) **Use 1 (a,b,c)**: pre-emergence of vegetables (bare soil), 1x 1.44 kg a.s./ha, buffer zone 2-3m					
Exposure pathway:	Drift	Vapour	Deposits	Re-entry	Sum
R. child (%AOEL) R. adult	2.94 0.65	1.07 0.23	0.38 0.07	1.65 0.92	4.35 1.33
B. child (%AAOEL) B. adult	2.52 0.58	0.36 0.08	0.35 0.07	0.55 0.31	- -
Use 2a, 3(a,b), 6(a,b), 10(a,b,c): vegetables, 1x 1.44 kg a.s./ha, buffer zone 2-3m					
R. child (%AOEL) R. adult	2.94 0.65	1.07 0.23	0.38 0.07	1.65 0.92	4.35 1.33
B. child (%AAOEL) B. adult	2.52 0.58	0.36 0.08	0.35 0.07	0.55 0.31	- -
Use 2(b,c): vegetables, 2x 1.08 kg a.s./ha, buffer zone 2-3m					
R. child (%AOEL) R. adult	2.21 0.49	1.07 0.23	0.43 0.08	1.89 1.05	4.16 1.36
B. child (%AAOEL) B. adult	1.89 0.43	0.36 0.08	0.40 0.08	0.63 0.35	- -
Uses 4(a,b,c) and 5(a,b,c): orchard crops and vines (cereal scenario with downward application), 2x 1.44 kg a.s./ha, buffer zone 2-3m					
R. child (%AOEL) R. adult	2.94 0.650	1.07 0.23	0.57 0.10	2.52 1.40	5.19 1.75
B. child (%AAOEL) B. adult	2.52 0.58	0.36 0.08	0.53 0.10	0.84 0.47	- -
Uses 7(a, b): railway tracks, 2x 1.8 kg a.s./ha, buffer zone 2-3m					
R. child (%AOEL) R. adult	3.68 0.82	1.07 0.23	0.53 0.09	2.32 1.29	5.42 1.73
B. child (%AAOEL) B. adult	3.15 0.72	0.36 0.08	0.49 0.09	0.77 0.43	- -

Use 8: invasive species in agricultural areas (cereal scenario), 1x 1.8 kg a.s./ha, buffer zone 2-3m					
R. child (%AOEL) R. adult	30.12 5.92	1.07 0.23	0.35 0.03	0.70 0.39	20.23 3.63
B. child (%AAOEL) B. adult	30.19 5.56	0.36 0.08	0.32 0.03	0.23 0.13	- -
Use 9: invasive species in non-agricultural areas (e.g. turf), 1x 1.8 kg a.s./ha, buffer zone 2-3m Recreational exposure: 6.3% of AOEL for child, 0.5% of AOEL for adult					
R. child (%AOEL) R. adult	30.12 5.92	1.07 0.23	0.35 0.03	2.36 0.06	19.80 3.38
B. child (%AAOEL) B. adult	30.19 5.56	0.36 0.08	0.32 0.03	0.92 0.04	- -

Classification with regard to toxicological data (Regulation (EU) N° 283/2013, Annex Part A, Section 10)

Substance:	glyphosate
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended][7] [8]:	Eye Damage 1 H318 - Causes serious eye damage
According to the peer review, criteria for harmonised classification according to Regulation (EC) No 1272/2008 may be met for:	Same as above

[7] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. OJ L 353, 31.12.2008, 1-1355.

[8] ECHA (European Chemicals Agency), 2022. Committee for Risk Assessment (RAC) Opinion proposing harmonised classification and labelling at EU level of glyphosate (ISO); N-(phosphonomethyl)glycine. CLH-O-0000007122-85-01/F. Adopted 30 May 2022. Available at www.echa.europa.eu

Residues in or on treated products food and feed

Metabolism studies, methods of analysis and residue definitions in plants

Primary crops (available studies)	**Crop groups**	**Crop(s)**	**Application(s)**	**Sampling** (DAT)	**Comment/Source**
Conventional crops[9]	Fruit crops	Citrus (lemon)	Soil application at 3.9 kg/ha (expressed in glyphosate equiv.)	3, 2 months, 4 months	Glyphosate-trimesium
		Grapes	Soil application at 8.1 N-(phosphono-methyl)glycine-label (PMG-label) and 7.8 kg/ha trimesium-label (TMS-label) corresponding to 5.6 or 5.4 kg glyphosate equiv./ha, respectively	14, 365	Glyphosate-trimesium
			Overspray on bunches at 14.3 mg per 10 bunches (PMG-label) and 13.2 mg per 10 bunches (TMS-label) corresponding to 9.9 mg and 9.1 mg expressed as glyphosate equivalents	14	Glyphosate-trimesium
		Grapes	Soil application (drench) at 8.3 kg/ha (PMG-label) (corresponding to 5.7 kg glyphosate equiv./ha) or 7.1 kg/ha (TMS label) (corresponding to 4.9 kg glyphosate equiv./ha)	7	Glyphosate-trimesium
	Cereals/grass	Wheat	Foliar application at 5.64 kg/ha (corresponding to 3.89 kg glyphosate equiv./ha)	7	Glyphosate-trimesium
	Pulses/oilseeds	Soya bean	Soil drench at 8.4 kg/ha	31, 97	Glyphosate-trimesium

[9] Additional metabolism studies in primary crops were available in fruits, root crops, cereals, pulses and sugar cane which were considered only supportive and are not reported in this table.

Primary crops (available studies)	**Crop groups**	**Crop(s)**	**Application(s)**	**Sampling** (DAT)	**Comment/Source**
		Coffee	Soil application at 4.5 kg/ha	28, 42, 56	Glyphosate and AMPA, different plots
			Stem treatment at 1.9 mg/plant	35	Glyphosate
			Foliar application at 0.32 mg/plant, only upper or only lower leaf surface; 0.64 mg/plant, upper and lower surface treated; 0.608 mg/plant, both surfaces treated, used for further extraction; 1.9 mg/plant lower leaf surface on a tree with beans	21, 35 Every 28 days 35	Glyphosate
CP4 EPSPS & GOX modified crops	Root crops	Sugar beet	Pre-emergence at 0.9 kg/ha	158	Glyphosate
			Post-emergence 2x 1.08 kg/ha	91	
	Cereals/grass	Wheat	Spray applications 2x 0.84 kg/ha	5, 24-30, 84	Glyphosate
		Maize	Spray applications 1x 0.93 kg/ha and 1x 0.84 kg/ha	0, 37, 49-53, 83	Glyphosate
	Pulses/oilseeds	Canola	Post-emergence 1x 0.455 kg/ha	87	Glyphosate
			Post-emergence 2x 0.90 kg/ha	79	
		Soya bean	Pre-emergence 1x 5.38 kg/ha	56, 84, 104	Glyphosate
			Early post-emergence 1x 0.84 kg/ha	35, 63, 83	
			Sequential post-emergence 1x 0.84 kg/ha and 1x 1.68 kg/ha	13, 41, 61	
		Cotton	Spray applications 1x 0.93 kg/ha and 1x 1.27 kg/ha	0, 27, 158	Glyphosate
GAT modified crops	Root crops	Maize	Pre-emergence 1x 4.26 kg/ha to bare soil and foliar applications 3x 1.1 kg/ha	48 DAT soil, 59 DAT3, 7 DAT4	Glyphosate
	Pulses/oilseeds	Canola	Pre-emergence 1x 4.5 kg/ha to bare soil and foliar applications 3x 1.0 kg/ha	38 DAT3, 90 DAT3, 7 DAT4	Glyphosate

Primary crops (available studies)	**Crop groups**	**Crop(s)**	**Application(s)**	**Sampling** (DAT)	**Comment/Source**
		Soya bean	Pre-emergence 1x 3.290 kg/ha to bare soil and 3 foliar applications 1x 1.410, 1x 2.284 and 1x 0.880 kg/ha	36 DAT soil, 4 DAT2, 82 DAT3, 14 DAT4	Glyphosate

Rotational crops (available studies)	**Crop groups**	**Crop(s)**	**Application(s)**	**PBI** (DAT)	**Comment/Source**
	Root/ crops[10]	Radish	Primary crop soya bean seeds were planted immediately prior to application; soil application at 3.87 kg/ha (expressed as glyphosate equivalents)	35	Glyphosate-trimesium
			Primary crop soya bean seeds were planted immediately prior to application; soil application at 6.56 kg/ha split in three monthly applications (expressed as glyphosate equivalents)	63, 308	Glyphosate-trimesium
		Carrot	Application on planted rye grass at 4.16 kg/ha; crop of soya beans was planted 7 days after application	30, 119, 364	Glyphosate
	Leafy crops	Lettuce	Primary crop soya bean seeds were planted immediately prior to application; soil application at 3.87 kg/ha (expressed as glyphosate equivalents)	35	Glyphosate-trimesium
			Primary crop soya bean seeds were planted immediately prior to application; soil application at 6.56 kg/ha split in three monthly applications (expressed as glyphosate equivalents)	63, 308	Glyphosate-trimesium
			Application on planted rye grass at 4.16 kg/ha; crop of soya beans was planted 7 days after application	30, 119, 364	Glyphosate

[10] Several non-fully guideline compliant studies which show no contradictory results and are considered supportive are available and not reported in this table.

Cereal (small grain)	Wheat	Primary crop soya bean seeds were planted immediately prior to application; soil application at 3.87 kg/ha (expressed as glyphosate equivalents)	35	Glyphosate-trimesium
		Primary crop soya bean seeds were planted immediately prior to application; soil application at 6.56 kg/ha split in three monthly applications (expressed as glyphosate equivalents)	63, 308	Glyphosate-trimesium
	Barley	Application on planted rye grass at 4.16 kg/ha; crop of soya beans was planted 7 days after application	30, 119, 364	Glyphosate

Processed commodities (hydrolysis study)	**Conditions**	**Stable?**	**Comment/Source**
	Pasteurisation (20 min, 90°C, pH 4)	Yes	Data available for glyphosate, AMPA, *N*-acetyl glyphosate and *N*-acetyl AMPA
	Baking, brewing and boiling (60 min, 100°C, pH 5)	Yes	Data available for glyphosate, AMPA, *N*-acetyl glyphosate and *N*-acetyl AMPA
	Sterilisation (20 min, 120°C, pH 6)	Yes	Data available for glyphosate, AMPA, *N*-acetyl glyphosate and *N*-acetyl AMPA
	Other processing conditions	--	No data available, not required

Can a general residue definition be proposed for primary crops?	No	Different residue definitions proposed for conventional and genetically modified crops
Rotational crop and primary crop metabolism similar?	Yes	
Residue pattern in processed commodities similar to residue pattern in raw commodities?	Yes	
Plant residue definition for monitoring (RD-Mo)	**Option 1 - According to Codex (FAO-WHO, 2019)[11]:** 1) For soya bean, oilseed rape (OSR), maize (including sweet corn)[12]: Sum of glyphosate and *N*-acetyl glyphosate, expressed as glyphosate 2) All other crops: Glyphosate only **Option 2- According to the proposal in the EFSA MRL Art.12 Reasoned Opinion of 2019[13]**, including also the metabolite AMPA for some crops:	

[11] FAO and WHO. 2019. *Pesticide residues in food 2019 – Extra Joint FAO/WHO Meeting on Pesticide Residues Evaluation Part I: Residues*. Rome. https://www.fao.org/publications/card/en/c/CA6010EN/

[12] Due to the potential presence of glyphosate tolerant sources in the market (eg. imported products) risk managers should consider to apply the proposed residue definition to all the monitored samples from these crops.

[13] EFSA (European Food Safety Authority), 2019. Review of the existing maximum residue levels for glyphosate according to Article 12 of Regulation (EC) No 396/2005 – revised version to take into account omitted data. EFSA Journal 2019;17(10):5862 doi:10.2903/j.efsa.2019.5862

	1) For soya bean, OSR, cotton, maize (including sweet corn), sugar beet[14]: Sum of glyphosate, AMPA and *N*-acetyl glyphosate, expressed as glyphosate 2) All other crops: Glyphosate only The inclusion of AMPA in the residue definition for plants may need to be further considered once the information on additional field residue trials and on the magnitude of residues in rotational crops is completed (see data gaps). For **honey and bee products**, the same residue definitions as for primary crops apply. It is noted that a validated analytical method for monitoring of *N*-acetyl glyphosate residues in honey is not available (**data gap, not originating from the representative uses but *N*-acetyl glyphosate has the potential to be present in imported honey)**.
Plant residue definition for risk assessment (RD-RA)	**Conventional crops:** Sum of glyphosate and AMPA, expressed as glyphosate. **Glyphosate tolerant crops:** Sum of glyphosate, AMPA, *N*-acetyl glyphosate and *N*-acetyl AMPA, expressed as glyphosate It should be noted that the aneugenicity of *N*-acetyl glyphosate has not been addressed (data gap). For **honey and bee products**, the same residue definitions as for primary crops apply.
Methods of analysis for monitoring of residues (analytical technique, matrix groups, LOQs)	LC MS/MS LOQ 0.025 mg/kg for glyphosate, AMPA and *N*-acetyl glyphosate

[14] Due to the potential presence of glyphosate tolerant sources in the market (eg. imported products) risk managers should consider to apply the proposed residue definition to all the monitored samples from these crops.

Stability of residues in plants

Plant products (available studies)	**Category**	**Commodity**	**T** (°C)	**Stability period** Value	Unit	**Comment/Source**
Glyphosate						
	High water content	Sugar beet leaves	-18	18	Months	Maximum general storage stability in high water content commodities: 24 months
		Maize forage/green plant	-18	12	Months	
		Soya bean forage	-18	Max. 24	Months	
		Tomato	-18	31	Months	
		Clover	-18	31	Months	
		Banana (whole fruit)	-18	12	Months	
	High starch content	Maize grain	-18	Max. 24	Months	Maximum general storage stability in high starch content commodities: 24 months
		Barley grain	-18	18	Months	
		Wheat/rye grain (whole commodity)	-18	45	Months	
		Sugar beet roots	-18	18	Months	
	High oil content	Soya bean seeds	-18	12	Months	Storage stability in oilseeds, at least: 12 months No extrapolation across category of high oil content commodities possible
		Oilseed rape/ linseeds (whole commodity)	-18	18	Months	
	High protein content	Dry beans	-18	18	Months	Maximum general storage stability in high protein content commodities: 18 months
	High acid content	Orange	-18	24	Months	Maximum storage stability in citrus fruit: 24 months No extrapolation across category of high

Plant products (available studies)	Category	Commodity	T (°C)	Stability period Value	Unit	Comment/Source
						acid content commodities possible
	Other matrices	Barley straw	-18	18	Months	
		Wheat/rye straw (chopped)	-18	45	Months	
		Soya bean hay	-18	12	Months	
		Maize stover	-18	23	Months	
		Sorghum stover	-18	31	Months	
AMPA						
	High water content	Sugar beet leaves	-18	18	Months	Maximum general storage stability in high water content commodities: 6 months
		Maize forage/green plants	-18	12	Months	
		Soya bean forage	-18	24	Months	
		Tomato	-18	31	Months	
		Clover	-18	Max. 6	Months	
	High starch content	Maize grain	-18	31	Months	Maximum general storage stability in high starch content commodities: 12 months
		Barley grain	-18	Max. 12	Months	
		Wheat/rye grain (whole commodity)	-18	Max. 10	Months	
		Sugar beet roots	-18	Max. 12	Months	
	High oil content	Soya bean seeds	-18	12	Months	Maximum storage stability in oilseeds: 12 months No extrapolation across category of high

Plant products (available studies)	Category	Commodity	T (°C)	Stability period Value	Unit	Comment/Source
						oil content commodities possible
	High protein content	Dry beans (interim study)	-18	12	Months	Maximum general storage stability in high protein content commodities: 12 months
	High acid content	Orange	-18	24	Months	Maximum storage stability in citrus fruit: 24 months No extrapolation across category of high acid content commodities possible
	Other matrices	Maize stover	-18	Max. 9	Months	An overall extrapolation was confirmed for the storage stability of AMPA of at least 6 months for all commodities, including processed commodities
		Wheat/rye straw (chopped)	-18	Max. 6	Months	
		Soya bean hay	-18	9	Months	
		Sorghum stover/straw	-18	Max. 9	Months	
***N*-acetyl glyphosate**						
	High water content	Maize forage/ green plant	-18	12	Months	Maximum storage stability in forage/fodder crops: 12 months No extrapolation across category of high water content commodities possible
		Soya bean forage	-18	12	Months	
	High starch content	Maize grain	-18	12	Months	Maximum storage stability in cereal grain: 12 months No extrapolation across category of high starch content commodities possible
	High oil	Soya bean seed	-18	12	Months	Maximum storage stability in oilseeds:

Plant products (available studies)	Category	Commodity	T (°C)	Stability period Value	Unit	Comment/Source
	content					12 months No extrapolation across category of high oil content commodities possible
	Other matrices	Maize stover	-18	Max. 12	Months	
		Soya bean hay	-18	12	Months	
***N*-acetyl AMPA**						
	High water content	Maize forage/ green plant	-18	23	Months	Storage stability in forage/fodder crops, at least: 18 months No extrapolation across category of high water content commodities possible
		Soya bean forage	-18	18	Months	
	High starch content	Maize grain	-18	23	Months	Maximum storage stability in cereal grain: 23 months No extrapolation across category of high starch content commodities possible
	High oil content	Soya bean seed	-18	18	Months	Maximum storage stability in oilseeds: 18 months No extrapolation across category of high oil content commodities possible
	Other matrices	Maize stover	-18	23	Months	
		Soya bean hay	-18	18	Months	

Magnitude of residues in plants

Summary of residues data from the supervised residue trials – Primary crops

Commodity	**Region/ Indoor** [(a)]	**Residue levels observed in the supervised residue trials** (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	**Comments/Source**	**Calculated MRL** (mg/kg)	**HR** [(b)] (mg/kg)	**STMR** [(c)] (mg/kg)	**CF** [(d)]
Post-emergence uses							
Apple	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	Data gap: 6 NEU + 7 SEU additional residue trials in grapes with AMPA/glyphosate analysed within the demonstrated storage stability period or studies demonstrating a longer storage stability of AMPA are needed. The results from these trials can cover the uses in kiwi, pome fruit, citrus fruit, stone fruit and tree nuts (relevant for the representative use in grapes, kiwi, pome fruit, citrus fruit, stone fruit and tree nuts).	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo**: 2x <0.05 **RA**: 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Plum	NEU	**Mo:** 1x<0.05 **RA:** 1x<0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo:** 6x <0.05 **RA:** 2x <0.126			Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Apricot	SEU	**Mo:** 4x <0.05 **RA:** 4x <0.126		-	Mo: 0.05 RA: 0.126	Mo: 0.05 RA: 0.126	
Cherry	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
Peach	SEU	**Mo:** <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Grapes	NEU	**Mo:** 9x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
	SEU	**Mo:** 8x <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Mandarins	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Oranges	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Pistachio	SEU	**Mo:** <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Hazelnut	SEU	**Mo:** <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Kiwi	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
Olives	SEU	**Mo:** 0.11; 0.14; 0.53; 0.93 **RA:** data for AMPA not available	Data gap: at least 4 NEU residue trials with analysis of glyphosate and AMPA + at least 4 SEU residue trials with AMPA/glyphosate analysed within the demonstrated storage stability period. (relevant for the representative use in table olives).	-	Mo: 0.93	Mo: 0.335	
Banana	SEU	**Mo:** 3x <0.05 **RA:** data for AMPA not available	Data gap: At least 3 SEU additional residue trials with AMPA/glyphosate analysed within the demonstrated storage stability period or studies demonstrating a longer storage stability of AMPA in banana. (relevant for the representative use in banana).	-	Mo: 0.05	Mo: 0.05	
Post-harvest, pre-sowing, pre-planting, pre-emergence use							
Potato	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	Extrapolation to the whole group of root and tuber vegetables (except sugarbeet) possible with 4 trials on carrot (per zone) + 4 trials on potatoes (per zone). Data gap: 2 NEU + 2 SEU trials in carrots and 2 NEU + 2 SEU trials in potatoes are still required.	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Carrot	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Onion bulb	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	Extrapolation to the whole group of bulb vegetables not possible. Extrapolation from bulb onion to garlic and shallots possible. Bulb onion is a major crop in NEU and SEU. Data gap: 2 NEU + 2 SEU trials in bulb onions are still required. No data available in support of spring onions (minor crop). Data gap: see data gap on leek (2 NEU + 1 SEU trials on leek (for data extrapolation) are still required in support of spring onion). For bulb vegetables other than onion and spring onion, at least 3 NEU and 3 SEU additional trials for each are still required.	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Tomato	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
Cucumber	SEU	**Mo:** <0.05 **RA:** <0.126	Extrapolation to the whole group of fruiting vegetables possible with 4 trials on tomatoes (per zone) + 4 trials on cucumbers (per zone). Trials on courgettes are considered an adequate surrogate for trials on cucumbers. <u>Data gap</u>: 2 NEU + 4 SEU trials in tomatoes and 3 NEU + 2 SEU trial in cucumber or courgette are still required.	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Courgette	NEU	**Mo:** <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Courgette	SEU	**Mo:** <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Cauliflower	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo:** 2x <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Cabbage head	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	

Commodity	Region/ Indoor (a)	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR (b) (mg/kg)	STMR (c) (mg/kg)	CF (d)
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	Extrapolation to the whole subgroups of (b) head brassica and (a) flowering brassica possible with 4 trials on head cabbage (per zone) + 4 trials on cauliflower/broccoli (per zone). Data gap: 2 NEU + 2 SEU trials in head cabbage and 2 NEU + 3 SEU trials in cauliflower or broccoli are still required. No data for subgroup (c) leafy brassica (minor crops) or (d) kohlrabies (minor crop) available. Data gap: 3 NEU + 3 SEU trials in leafy brassica (kale) and 3 NEU + 3 SEU trials in kohlrabies are still required. In support of leafy brassica, pre-emergence trials in lettuce are also acceptable for extrapolation (data on pre-emergence lettuce are shown below).	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Lettuce, leaves	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
Lettuce, head	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	Extrapolation to whole subgroup of (a) lettuce and salad plants (pre-emergence) and (b) spinaches and similar leaves (pre-emergence) possible from trials on lettuce (pre-emergence). Note that open and closed leaf varieties can be used for extrapolation when it comes to pre-emergence uses. Data gap: 2 NEU + 2 SEU trials in lettuce (pre-emergence) still required. No data for subgroup (c) vine leaves and similar species (minor crops) available. Data gap: 3 NEU + 3 SEU trials in vine leaves are still required. No data for subgroup (e) witloof (minor crop) available. Data gap: 3 NEU + 3 SEU trials in witloof are still required. Extrapolation to whole subgroup (d) watercresses (minor crop) and (f) herbs and edible flowers (minor crops) possible with trials on open leaf lettuce. Data gap: 1 NEU + 3 SEU trials are still required on open leaf lettuce.	-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
Leek	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	No extrapolations from leek to other stem vegetables possible. Leek is a major crop in NEU and a minor crop in SEU. <u>Data gap:</u> 2 NEU + 1 SEU trials are still required in support of a use in leek (possible extrapolation to spring onions). For other stem vegetables, 3 NEU and 3 SEU additional trials for each are still required.	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Sugar beet, roots	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	No extrapolations from other plants to sugar beet possible. Sugar beet is a major crop in NEU and SEU. <u>Data gap:</u> 4 NEU trials + 2 SEU trials are still required.	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Sugar beet, tops/leaves (for feed)	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Inter – row use							
Carrot	SEU	**Mo:** 4x <0.05 **RA:** 4x <0.126	Extrapolation to the whole group of root and tuber vegetables possible with 4 trials on carrot (per zone) + 4 trials on potatoes (per zone). <u>Data gap:</u> 4 NEU trials in carrots and 4 NEU + 4 SEU trials in potatoes are still required.	-	Mo: 0.05 RA: 0.126	Mo: 0.05 RA: 0.126	
Radish, roots	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Radish, tops/leaves	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
Onion, bulb	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	Extrapolation to the whole group of bulb vegetable not possible. Extrapolation from bulb onion to garlic and shallots possible. Bulb onion is a major crop in NEU and SEU. Data gap: 2 NEU + 1 SEU trials in bulb onions are still required. For other bulb vegetables (other than onion) 3 NEU and 3 SEU additional trials for each are still required.	-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo:** 4x <0.05 **RA:** 3x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Tomato	SEU	**Mo:** 4x <0.05 **RA:** 4x <0.126	Extrapolation to the whole group of fruiting vegetables possible with 4 trials on tomatoes (per zone) + 4 trials on cucumbers (per zone). Trials on courgettes are considered an adequate surrogate for trials on cucumbers. Data gap: 4 NEU trials in tomatoes and 1 NEU trial in cucumber or courgette are still required.	-	Mo: 0.05 RA: 0.126	Mo: 0.05 RA: 0.126	
Cucumber	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	
Courgette	NEU	**Mo:** <0.05 **RA:** <0.126		-	Mo: 0.05 RA: 0.126#	Mo: 0.05 RA: 0.126#	

Commodity	Region/ Indoor [(a)]	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR [(b)] (mg/kg)	STMR [(c)] (mg/kg)	CF [(d)]
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Lettuce, head	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126	Extrapolation to the: whole subgroup (a) lettuces and salad plants, (b) spinaches and similar leaves, (d) watercresses, (f) herbs and edible flowers possible from 4 NEU + 4 SEU trials on open leaf lettuce. Data gap: 4 NEU + 4 SEU trials in open leaf lettuce required. (e) witloof and (c) vine leaves are part of leafy vegetables group and no extrapolation possible from open leaf lettuce or other crops. Data gap: 3 NEU + 3 SEU trials for witloof and 3 NEU + 3 SEU trials for vine leaves are required.	-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
	SEU	**Mo:** 4x <0.05 **RA:** 4x <0.126		-	Mo: 0.05 RA: 0.126	Mo: 0.05 RA: 0.126	
Parsley, leaves	NEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
	SEU	**Mo:** 2x <0.05 **RA:** 2x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	
Green beans, whole pods	NEU	**Mo:** 4x <0.05 **RA:** 4x <0.126	Extrapolation to the whole group Legume vegetables (fresh) possible from 4 NEU and 4 SEU trials on beans (with pods). Data gap: 1 SEU trial in beans (with pods) is still required.	-	Mo: 0.05 RA: 0.126	Mo: 0.05 RA: 0.126	
	SEU	**Mo:** 3x <0.05 **RA:** 3x <0.126		-	Mo: 0.05 RA: 0.126[#]	Mo: 0.05 RA: 0.126[#]	

Commodity	Region/ Indoor (a)	Residue levels observed in the supervised residue trials (mg/kg) **Mo:** Glyphosate **RA:** Sum of glyphosate and AMPA, expressed as glyphosate	Comments/Source	Calculated MRL (mg/kg)	HR (b) (mg/kg)	STMR (c) (mg/kg)	CF (d)
Summary of data on residues in pollen and bee products (Regulation (EU) No 283/2013, Annex Part A, point 6.10.1)							
Honey	NEU	**Mo:** 0.87, 3.2, 4.5, 6.9 **RA:** 0.91, 3.2, 4.5, 6.9	**The existing MRL is expected to be exceeded based on residue levels from field trials. The available data, however, are sufficient to propose a higher MRL.**	**15**	**Mo:** 6.9 **RA:** 6.9	**Mo:** 3.9 **RA:** 3.9	1

Mo: residue levels expressed according to the enforcement residue definition; RA: residue levels expressed according to risk assessment residue definition.

althouth the residue dataset was incomplete the inputs values HR/ STMRs were used for the indicative dietary risk assessment

(a): NEU: Outdoor trials conducted in northern Europe, SEU: Outdoor trials conducted in southern Europe, Indoor: indoor EU trials or Country code: if non-EU trials.
(b): Highest residue. The highest residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(c): Supervised trials median residue. The median residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.
(d): Conversion factor to recalculate residues according to the residue definition for monitoring to the residue definition for risk assessment. The CF is provisional for those commodities for which data gaps are set. It is noted that is currently amounting to 2.5 based on the LOQs for glyphosate and AMPA using a molecular weight correction of 1.5.

Residues in rotational crops

Overall summary

Residues in rotational and succeeding crops expected based on confined rotational crop study?	Yes	
Residues in rotational and succeeding crops expected based on field rotational crop study?	Yes	No residues of glyphosate expected in plants due to crop rotation. Residues of AMPA above the LOQ (0.025 mg/kg) cannot be excluded based on the available data at the anticipated PEC plateau levels in the super crop groups ‘leaf vegetables, herbs and edible flowers’ and cereals (grain, forage, straw). No

	AMPA residues above the LOQ expected in root/tuber vegetables. **Data gap:** Final report of the magnitude of the residues in rotational crops study in carrot, lettuce, wheat **Data gap** for sufficient studies investigating the magnitude of residues in rotational crops (i.e. carrot, lettuce, wheat) including in additional crops as appropriate.

Summary of residues data from the rotational crops residue trials (if relevant, e.g. MRL, STMR, HR derived from rotational crops)

Commodity	**Region/ Indoor** (a)	**PBI (days)** (b)	**Residue levels observed in the supervised residue trials (expressed as glyphosate)** (mg/kg)		**Comments/Source**	**Calculated MRL** (mg/kg)	**HR** (c) (mg/kg)	**STMR** (d) (mg/kg)	**CF** (e)
			Glyphosate (f)	**AMPA** (g)					
Carrot	Outdoor	27 ± 2 days	Leaves: 2x <0.025 Roots: 2x <0.025	Leaves: 2x <0.038 Roots: 2x <0.038		Data set too limited for a robust MRL calculation	<0.025	<0.025	-
		135 ± 10 days	Leaves: 2x <0.025 Roots: 2x <0.025	Leaves: 2x <0.038 Roots: 2x <0.038			<0.025	<0.025	-
Lettuce	Outdoor	27 ± 2 days	Unscaled residues <0.025, 0.028 Scaled residues 2x <0.025	<0.038, 0.074			0.099	0.081	-
		135 ± 10 days	2x <0.025	<0.038, 0.073			0.098	0.081	-

Commodity	Region/ Indoor (a)	PBI (days) (b)	Residue levels observed in the supervised residue trials (expressed as glyphosate) (mg/kg)		Comments/Source	Calculated MRL (mg/kg)	HR (c) (mg/kg)	STMR(d) (mg/kg)	CF (e)
			Glyphosate (f)	AMPA (g)					
Wheat	Outdoor	27 ± 2 days	Green material (BBCH 30-31): 2x <0.025 Green material (BBCH 75): 2x <0.025 Grain: 2x <0.025 Straw: 2x <0.025	Green material (BBCH 30-31): <0.038, 0.059 Green material (BBCH 75): <0.038, 0.058 Grain: <0.038, 0.27 Straw: 2x <0.038			Green material (BBCH 30-31): 0.084 Green material (BBCH 75): 0.083 Grain: 0.30 Straw: 0.063	Green material (BBCH 30-31): 0.074 Green material (BBCH 75): 0.073 Grain: 0.18 Straw: 0.063	-
		135 ± 10 days							

Commodity	Region/ Indoor (a)	PBI (days) (b)	Residue levels observed in the supervised residue trials (expressed as glyphosate) (mg/kg)		Comments/Source	Calculated MRL (mg/kg)	HR (c) (mg/kg)	STMR(d) (mg/kg)	CF (e)
			Glyphosate (f)	**AMPA** (g)					
			Green material (BBCH 30-31): <0.025 Green material (BBCH 75): <0.025 Grain: <0.025 Straw: <0.025	Green material (BBCH 30-31): <0.038 Green material (BBCH 75): <0.038 Grain: 0.046 Straw: <0.038	Two independent field trials (one in NEU, one in SEU). Results based on an interim study only. No data available for the third PBI and incomplete data available for the second PBI for wheat. Study slightly overdosed (1.4-1.5N) with regard to glyphosate compared to the anticipated plateau concentrations. Study adequately dosed with regard to AMPA. Available data are nevertheless not sufficient to conduct a robust risk assessment (**data gaps**: see above		Green material (BBCH 30-31): 0.063 Green material (BBCH 75): 0.063 Grain: 0.071 Straw: 0.063	Green material (BBCH 30-31): 0.063 Green material (BBCH 75): 0.063 Grain: 0.071 Straw: 0.063	-

* Indicates that the MRL is proposed at the limit of quantification.

Mo: residue levels expressed according to the monitoring residue definition; RA: residue levels expressed according to risk assessment residue definition.

(a): NEU: Outdoor trials conducted in northern Europe, SEU: Outdoor trials conducted in southern Europe, Country code: if non-EU trials.

(b): Plant-back interval: The interval (days, months, years) between the final application of a pesticide product to a primary crop and the planting of a rotational crop.

(c): Highest residue. The highest residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.

(d): Supervised trials median residue. The median residue for risk assessment (RA) refers to the whole commodity and not to the edible portion.

(e): Conversion factor to recalculate residues according to the residue definition for monitoring to the residue definition for risk assessment.

(f): A scaling factor is a applied to the residues of glyphosate > LOQ to take into account the exaggerated application rate of 1.5 N in the study.

(g) Residues of AMPA are corrected for the molecular weight and expressed as glyphosate. No scaling factor is applied to the residues of AMPA as the study was performed at 1 N with respect to estimated soil concentration.

Processing factors

Processed commodity	**Number of valid studies**[(a)]	**Processing Factor** (PF)		**CF_P**[(b)]	**Comment/ Source**
		Individual values	Median PF		
Glyphosate					
Olive/Raw oil	3	<0.03, <0.04, <0.05, <0.05, <0.10, <0.11, <0.12, <0.29, <0.38, <0.42, <0.45	<0.11	1	CF determined to be 1 since no residues of AMPA were determined in the RAC or processed commodity.
Olive/Refined oil	1	<0.05, <0.38, <0.42, <0.45	<0.40	1	CF determined to be 1 since no residues of AMPA were determined in the RAC or processed commodity.
AMPA					
Potato/Chips	1	1.6	n.a.	n.a.	PF for AMPA. No median PF or CF calculated since only one single value is available.
Potato/Wet peel (chips)	1	<0.45	n.a.	n.a.	
Potato/Flakes	1	1.4	n.a.	n.a.	
Potato/Wet peel (flakes)	1	<0.47	n.a.	n.a.	
Potato/Dry peel (flakes)	1	1.6	n.a.	n.a.	
Granules	1	1.7	n.a.	n.a.	

PF: Processing factor (=Residue level in processed commodity expressed according to RD-Mo/ Residue level in raw commodity expressed according to RD-Mo);
CF_p: Conversion factor for risk assessment in processed commodity (=Residue level in processed commodity expressed according to RD-RA / Residue level in processed commodity expressed according to RD-Mo)
(a): Studies with residues in the RAC at or close to the LOQ were disregarded (unless concentration may occur)
(b): Median of the individual conversion factors for each processing residues trial.

Residues in livestock[3]

Relevant groups	Dietary burden expressed in				Most critical diet[1]	Most critical commodity[2]		Trigger (0.004 mg/kg bw/day) exceeded
	mg/kg bw/day		mg/kg DM					
	Median	Max.	Median	Max.				
Cattle (all diets)	0.047	0.047	1.26	1.26	Dairy cattle	Wheat	milled bypdts	Yes
Cattle (dairy only)	0.047	0.047	1.23	1.23	Dairy cattle	Wheat	milled bypdts	Yes
Sheep (all diets)	0.065	0.065	1.53	1.53	Lamb	Wheat	milled bypdts	Yes
Sheep (ewe only)	0.044	0.044	1.33	1.33	Ram/Ewe	Wheat	milled bypdts	Yes
Swine (all diets)	0.043	0.043	1.55	1.55	Swine (finishing)	Wheat	milled bypdts	Yes
Poultry (all diets)	0.057	0.057	0.83	0.83	Poultry layer	Wheat	milled bypdts	Yes
Poultry (layer only)	0.057	0.057	0.83	0.83	Poultry layer	Wheat	milled bypdts	Yes

1 When several diets are relevant (e.g. cattle, sheep and poultry "all diets"), the most critical diet is identified from the maximum dietary burdens expressed as "mg/kg bw per day"

2 The most critical commodity is the major contributor identified from the maximum dietary burden expressed as "mg/kg bw per day".

3 For the dietary burden calculation the LOQ of glyphosate was used as input value in case residues of glyphosate and AMPA were both below the LOQ in the RACs, which is the case for all relevant feed items based on primary crop field trials. On the basis of preliminary rotational crop field trials, the sum of residues of glyphosate and AMPA were considered in case of residues above the LOQ for uses which were not proposed in the current peer-review, e.g. cereals and leafy crops.

In principle a second dietary burden calculation considering residues of AMPA only (residue definition for monitoring) would be required. However, given the overdosing of the animal studies a transfer is not likely and hence this calculation was not performed

Nature of residues and methods of analysis in livestock

Metabolism studies, methods of analysis and residue definitions in livestock

Livestock (available studies)	**Animal**	**Dose** (mg/kg bw/d)	**Duration** (days)	**Comment/Source**
	Poultry (Laying hen)			
		8.86 glyphosate and 0.98 AMPA 7.95 glyphosate and 0.88 AMPA 26.78 glyphosate and 2.98 AMPA 7.76 glyphosate and 0.86 AMPA	7	9:1 mixture of *N*-(phosphono-^{13}C/^{14}C-methyl)glycine (glyphosate) and amino-^{13}C/^{14}C-methylphosphonic acid (AMPA)
		5.9	10	*N*-(phosphono-^{14}C-methyl)glycine trimesium salt
		4.4	7	[^{14}C]-*N*-acetyl glyphosate
	Ruminants (Lactating goat)			
		2.6 glyphosate and 0.29 AMPA	5	9:1 mixture of *N*-(phosphono-^{13}C/^{14}C-methyl)glycine (glyphosate) and amino-^{13}C/^{14}C-methylphosphonic acid (AMPA)
		3.9	7	*N*-(phosphono-^{14}C-methyl)glycine trimesium salt
		8.42	5	[^{14}C]-*N*-acetyl glyphosate
	Pig	-	-	triggered (covered by ruminant and rat metabolism)
	Fish	-	-	Not triggered (glyphosate not fat-soluble)
	Feeding *N*-(phosphono-^{14}C-methyl)glycine (glyphosate) to poultry (17.9 mg/kg bw) and ruminants (6.4 and 7.6 mg/kg bw) are available but considered as supportive only.			

Time needed to reach a plateau concentration in milk and eggs (days)	Milk: 2-4	Plateau levels were reached after 2 to 4 days, depending on the metabolism study under investigation.

	Eggs: 14-21	Plateau levels are based on the feeding studies in poultry since dosing periods in metabolism studies were not long enough.
Metabolism in rat and ruminant similar	Yes	
Can a general residue definition be proposed for animals?	No	Different residue definitions proposed for animals exposed to conventional crops only (scenario within the scope of this Annex I renewal) or to a mix of conventional and genetically modified crops (scenario for potential future applications)
Animal residue definition for monitoring (RD-Mo)	**Considering also future MRL-setting procedure:** sum of glyphosate and *N*-acetyl glyphosate, expressed as glyphosate. For honey, see residue definition for plants.	
Animal residue definition for risk assessment (RD-RA)	**Considering the representative uses only:** sum of glyphosate and AMPA, expressed as glyphosate. **In the context of future MRL-setting procedures:** sum of glyphosate, AMPA, *N*-acetyl glyphosate and *N*-acetyl AMPA, expressed as glyphosate. It should be noted that the aneugenicity of *N*-acetyl glyphosate has not been addressed (data gap). For honey, see residue definition for plants.	
Fat soluble residues	No	
Methods of analysis for monitoring of residues (analytical technique, matrix groups, LOQs)	LC-MS/MS LOQ 0.025 mg/kg for glyphosate, AMPA and *N*-acetyl glyphosate	

Stability of residues in livestock

Animal products (available studies)	**Animal**	**Commodity**	**T (°C)**	**Stability period**		**Compounds covered**	**Comment/ Source**
				Value	**Unit**		
	Pig	Fat, muscle, liver, kidney	-20	26	Months	Glyphosate	(CA 6.1/014)
	Ruminant	Fat, muscle, liver, kidney	-20	24	Months		(CA 6.1/014)
	Ruminant	Milk	-29	22	Months		(CA 6.1/015)
	Poultry	Fat, muscle, liver	-20	25	Months		(CA 6.1/014)
	Poultry	Kidney	-20	13	Months		(CA 6.1/014)
	Poultry	Eggs	-20	Max. 14	Months		(CA 6.1/014)
	Pig	Muscle, liver, kidney	-20	26	Months	AMPA	(CA 6.1/014)
	Pig	Fat	-20	Max.15	Months		(CA 6.1/014)
	Ruminant	Fat, muscle, liver, kidney	-20	24	Months		(CA 6.1/014)
	Ruminant	Milk	-29	22	Months		(CA 6.1/015)
	Poultry	Fat, muscle, liver	-20	25	Months		(CA 6.1/014)
	Poultry	Kidney	-20	13	Months		(CA 6.1/014)
	Poultry	Eggs	-20	Max. 14	Months		(CA 6.1/014)
	Poultry	Liver, fat, muscle	-20	3	Months	*N*-acetyl glyphosate	(CA 6.1/018)
	Ruminant	Liver, kidney, fat, muscle	-20	3	Months		(CA 6.1/019)
	Poultry	Liver, fat, muscle	-20	3	Months		(CA 6.1/018)

	Ruminant	Liver, kidney, fat, muscle	-20	3	Months	*N*-acetyl AMPA	(CA 6.1/019)
	Bee products	Honey	-18	6	Months	Glyphosate	CA 6.1/001
			-18	6	Months	AMPA	

Magnitude of residues in livestock

Summary of the residue data from livestock feeding studies (dosed with glyphosate and AMPA (9:1))

Animal commodity	Residues at the closest feeding level[15] (mg/kg)		Estimated value at 1N		MRL proposal (mg/kg)	CF [(c)]
	Mean	Highest	$STMR_{Mo}$ [(a)] (mg/kg)	HR_{Mo} [(b)] (mg/kg)		
Cattle (all) - Closest feeding level (1.64 mg/kg bw; 54 N rate) [(d)]						
Muscle	<0.1	<0.1	<0.1	<0.1	0.1*	1
Fat	<0.2	<0.2	<0.2	<0.2	0.2*	1
Liver	<0.2	<0.2	<0.2	<0.2	0.2*	1
Kidney	<0.2	<0.2	<0.2	<0.2	0.2*	1
Cattle (dairy only) - Closest feeding level (1.64 mg/kg bw; 35 N rate) [(d)]						
Milk	<0.1	n.a.	<0.1	<0.1	0.1*	1
Sheep (all) [(e)] - Closest feeding level (1.64 mg/kg bw; 25 N rate) [(d)]						
Muscle	<0.1	<0.1	<0.1	<0.1	0.1*	1
Fat	<0.2	<0.2	<0.2	<0.2	0.2*	1
Liver	<0.2	<0.2	<0.2	<0.2	0.2*	1
Kidney	<0.2	<0.2	<0.2	<0.2	0.2*	1
Sheep (ewe only) [(e)] - Closest feeding level (1.64 mg/kg bw; 37 N rate) [(d)]						
Milk	<0.1	n.a.	<0.1	<0.1	0.1*	1
Swine (all) [(e)] - Closest feeding level (1.15 mg/kg bw; 27N rate) [(d)]						
Muscle	<0.1	<0.1	<0.1	<0.1	0.1*	1
Fat	<0.2	<0.2	<0.2	<0.2	0.2*	1
Liver	<0.2	<0.2	<0.2	<0.2	0.2*	1
kidney	<0.2	<0.2	<0.2	<0.2	0.2*	1
Poultry (all) - Closest feeding level (2.7 mg/kg bw; 51 N rate) [(d)]						
Muscle	<0.1	<0.1	<0.1	<0.1	0.1*	1
Fat	<0.2	<0.2	<0.2	<0.2	0.2*	1
Liver	<0.2	<0.2	<0.2	<0.2	0.2*	1
Poultry (layer only) - Closest feeding level (2.7 mg/kg bw; 49 N rate) [(d)]						
Eggs	<0.1	<0.1	<0.1	<0.1	0.1*	1

* Indicates that the MRL is proposed at the limit of quantification.
Note RMS: Proposed MRLs (at LOQ) are in line with the conclusions in Article 12 MRL Review (EFSA 2019) where the combined LOQs of 0.1 and 0.2 mg/kg were reported in animal commodities.
n.a.: not applicable
n.r. : not reported

[15] The results are expressed as sum of glyphosate and AMPA considering a molecular weight correction factor of 1.52.

(a): Median residues expressed according to the residue definition for monitoring, recalculated at the 1N rate for the median dietary burden.
(b): Highest residues expressed according to the residue definition for monitoring, recalculated at the 1N rate for the maximum dietary burden.
(c): Conversion factor to recalculate residues according to the residue definition for monitoring to the residue definition for risk assessment; proposed as 1 since *N*-acetyl glyphosate and AMPA is not expected at significant levels.
(d): Closest feeding level and N dose rate related to the maximum dietary burden.
(e): Since extrapolation from cattle to other ruminants and swine is acceptable, results of the livestock feeding study on ruminants were relied upon to derive the MRL and risk assessment values in sheep and swine.

Consumer risk assessment

The consumer risk assessment is provisional and pending the **data gaps** on the magnitude of residue studies in rotational crops and consequently the update of the animal dietary burden calculation.

ARfD	1.5 mg/kg bw
Highest IESTI, according to EFSA PRIMo (rev.3.1)	Honey and other apicultural products: 2% of ARfD
NESTI (% ARfD)	Not applicable
Assumptions made for the calculations	The calculation is based on the highest residue levels. However, field residue trials for most of the proposed uses were limited and below the requirements as specified in SANTE/2019/12752 (European Commission, 2019). Data gaps have been identified by EFSA Data from available field rotational crops trials were also considered, however, a **data gap** was set to provide additional trials.

ADI	0.5 mg/kg bw per day
TMDI according to EFSA PRIMo	Highest TMDI: 3 % ADI (NL toddlers)
NTMDI	Not applicable
Highest IEDI	Not applicable
NEDI (% ADI)	Not applicable
Assumptions made for the calculations	The calculation is based on the median residue levels. However, field residue trials for most of the proposed uses were limited and below the requirements as specified in SANTE/2019/12752 (European Commission, 2019). Data gaps have been identified by EFSA. Data from available field rotational crops trials were also considered, however, a **data gap** was set to provide additional trials.

Recommended MRLs

All proposals below (with the exception for honey) should be considered provisional pending data gaps identified for additional residue trials and option decided by risk managers on the residue definition for monitoring.

Code[(a)]	Commodity	Existing EU MRL (mg/kg)	Proposed EU MRL (mg/kg)	Comment/justification
Enforcement residue definition: Glyphosate				
Representative uses				
0110000	Citrus fruit	0.1*-0.5	0.05*	The MRL proposal reflects the NEU and SEU post-emergence use. Risk for consumers unlikely.
0120000	Tree nuts	0.1*	0.05*	
0130000	Pome fruit	0.1*	0.05*	
0140000	Stone fruit	0.1*	0.05*	
0151000	Table and wine grapes	0.5	0.05*	The MRL proposal reflects the NEU and SEU post-emergence use. Risk for consumers unlikely.
0161030	Table olives	1	2	The MRL proposal reflects the SEU post-emergence use. **MRL exceedances cannot be excluded with the current MRL.** For the NEU use the data were not sufficient to derive a MRL proposal (data gap). Risk for consumers unlikely.
0162010	Kiwi	0.1*	0.05*	The MRL proposal reflects the NEU and SEU post-emergence use. Risk for consumers unlikely.
0163020	Banana	0.1*	0.05*	
0210000	Root and tuber vegetables	0.1*-0.5	0.05*	The MRL proposal reflects the NEU and SEU post-harvest, pre-sowing, pre-planting, pre-emergence, and inter-row use. Risk for consumers unlikely.
0220000	Bulb vegetables	0.1*	0.05*	
0230000	Fruiting vegetables	0.1*-3	0.05*	
0240000	Brassica vegetables	0.1*	0.05*	The MRL proposal reflects the NEU and SEU post-harvest, pre-sowing, pre-planting, pre-emergence use. Risk for consumers unlikely.
0250000	Leafy vegetables, herbs and edible flowers	0.1*	0.05*	The MRL proposal reflects the NEU and SEU post-harvest, pre-sowing, pre-planting, pre-emergence, and inter-row use. Risk for consumers unlikely.
0260000	Legume vegetables	0.1*	0.05*	The MRL proposal reflects the NEU and SEU inter-row use. Risk for consumers unlikely.
0270000	Stem vegetables	0.1*	0.05*	The MRL proposal reflects the NEU and SEU post-harvest, pre-sowing, pre-planting, pre-emergence use. Risk for consumers unlikely.
0900010	Sugar beet roots	15	0.05*	
MRL application				
1040000	Honey	0.05*	15	Based on the available data, an MRL for honey can be proposed. Risk for consumers unlikely.

Code[(a)]	Commodity	Existing EU MRL (mg/kg)	Proposed EU MRL (mg/kg)	Comment/justification
				Exceedance of the current MRL cannot be excluded.

* Indicates that the MRL is set at the limit of analytical quantification (LOQ)

(a): Commodity code number according to Annex I of Regulation (EC) No 396/2005

(F): Fat soluble

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Environmental fate and behaviour

Route of degradation (aerobic) in soil (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.1)

Mineralisation after 100 days	16.9-70.6 % AR after 70-364 d (n[16] = 10)
Non-extractable residues after 100 days	2.5-21.6 % AR after 14-364 d (n = 10)
Metabolites requiring further consideration - name and/or code, % of applied (range and maximum)	AMPA: Laboratory: 42.4 % AR after 7 d (n= 10) Field: 48.8% on molar basis after 271 d (n= 6)

Route of degradation (anaerobic) in soil (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.2)

Mineralisation after 100 days	12.5 % AR after 120 d (n= 1) (12.4 % AR after the preliminary 10 days under aerobic conditions)
Non-extractable residues after 100 days	22.5 % AR after 120 d (n= 1) (15.0 % AR after the preliminary 10 days under aerobic conditions)
Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	AMPA – 30.2 % AR (water phase and soil extracts) after 84 d (n=1) (19.2 % AR after the the preliminary 10 days under aerobic conditions)

Route of degradation (photolysis) on soil (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.3)

Metabolites that may require further consideration for risk assessment - name and/or code, % of applied (range and maximum)	AMPA – 8.2 % AR after 7 d (n=1) (minor non transient) (6.1 % after 3 d in dark control)
Mineralisation at study end	14.6 % AR after 30 d (n= 1)
Non-extractable residues at study end	15.5 % AR after 30 d (n= 1)

[16] n corresponds to the number of soils.

Rate of degradation in soil (aerobic) laboratory studies active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)

Parent	Dark aerobic conditions – Trigger endpoints					
Soil	pH (H_2O)	t. ºC / % MWHC	DT_{50} /DT_{90} (d)	Kinetic parameters	St. (χ^2)	Method of calculation
Gartenacker Loam	7.1	20 / 50 % pF2.5	8.8/57.3	k_1: 0.2138 d^{-1} k_2: 0.03023 d^{-1} g: 0.4345	2.9	DFOP
Drusenheim Loam	7.4	20 / 50 % pF2.5	2.3 / 14.9	α: 1.414 β: 3.635	4.2	FOMC
Pappelacker Sandy loam	7.0	20 / 50 % pF2.5	3.9 / 38.7	k_1: 0.3125 d^{-1} k_2: 0.03172 d^{-1} g: 0.6584	5.0	DFOP
18-Acres Sandy clay loam	5.7	20 / 50 % pF2.5	78.6 / 588	k_1: 0.05856 d^{-1} k_2: 0.003146 d^{-1} g: 0.3644	3.4	DFOP
Soil B Sandy loam	6.7	25 / 75 % FC	0.7 / 16.2	k_1: 2.306 d^{-1} k_2: 0.08875 d^{-1} g: 0.58	8.2	DFOP
Arrow Sandy loam	6.4[a]	20 / 40	37.8 / 1660	α: 0.4539 β: 10.47	2.3	FOMC
Les Evouettes Silt loam	6.1[b]	20 / 40	11.5 / 358	α: 0.51 β: 3.96	5.9	FOMC
Speyer 2.2 Sand	6.0[b]	20 / 40	6.2 / 152	k_1: 0.1114 d^{-1} k_2: 0.0108 d^{-1} t_b: 6.6480 d	8.6	HS
Speyer 2.3 Loamy sand	6.9[b]	20 / 40	6.2 / 20.4	k: 0.1127 d^{-1}	8.0	SFO

[a] Calculated with equation reported in EFSA guidance 2017[17]: $pH_{H2O}=0.982pH_{CaCl2} + 0.648$.
[b] Medium not reported, H_2O assumed

For modelling endpoints of glyphosate, two datasets are presented:
- Endpoints derived from parent-only fits;
- Endpoints derived from pathway fits (glyphosate → AMPA).

Parent		Dark aerobic conditions – **Modelling endpoints based on parent-only fits**						
Soil	pH (H_2O)	t. ºC / % MWHC	Actual DT_{50} /DT_{90} (d)	Modelling DT_{50} (d) (not normalized)[a]	DT_{50} (d) 20 °C pF2/10kPa[b]	DT $_{90}$[e] (d) 20 °C pF2/10kPa[a]	St. (χ^2)	Method of calculation
Gartenacker Loam	7.1	20 / 50 % pF2.5	9.0/60	18.1	9.9	33.0	4.0	FOMC
Drusenheim Loam	7.4	20 / 50 % pF2.5	2.3/15	4.5	2.2	7.2	4.2	FOMC
Pappelacker Sandy loam	7.0	20 / 50 % pF2.5	4.0/37	11.1	5.1	17.0	4.5	FOMC
18-Acres Sandy clay loam	5.7	20 / 50 % pF2.5	76.3/523	192.6	109.8	298.1	2.6	DFOP
Soil B Sandy loam	6.7	25 / 75 % FC	1.0/20.1	6.1	6.5	21.7	8.6	FOMC

[17] EFSA (European Food Safety Authority), 2017. EFSA Guidance Document for predicting environmental concentrations of active substances of plant protection products and transformation products of these active substances in soil. EFSA Journal 2017;15(10):4982, 115 pp. https://doi.org/10.2903/j.efsa.2017.4982

Arrow Sandy loam	6.4[c]	20 / 40	37.4/440	187.3	161.1	378.4	3.6	DFOP
Les Evouettes Silt loam	6.1[d]	20 / 40	11.5/358	107.8	71.2	236.3	5.9	FOMC
Speyer 2.2 Sand	6.0[d]	20 / 40	6.2 / 152	64.2	44.3	104.9	8.6	HS
Speyer 2.3 Loamy sand	6.9[d]	20 / 40	6.1/20.3	6.1	3.2	10.8	8.0	SFO
pH dependence					Yes, glyphosate is more persistent with decreasing pH			

[a] DT90/3.32 for FOMC kinetics; ln(2)/k2 value for DFOP kinetics
[b] Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
[c] Calculated with equation reported in EFSA guidance 2017[4]: pH_{H2O}=0.982pH_{CaCl2} + 0.648.
[d] Medium not reported, H_2O assumed
[e] Modelling DT90 also reported since it is used to assess pH-dependency

Parent	Dark aerobic conditions – **Modelling endpoints based on pathway fit** (glyphosate → AMPA)							
Soil	pH (H_2O)	t. °C / % MWHC	DT_{50} /DT_{90} (d)	Kinetic parameters	Fast | Slow DT_{50} (d) 20 °C pF2/10kPa[a]	DT $_{90}$[d] (d) 20 °C pF2/10kPa[a]	St. (χ^2)	Method of calculation
Gartenacker Loam	7.1	20 / 50 % pF2.5	8.8 / 57.3	k_1: 0.2138 d^{-1} k_2: 0.03023 d^{-1} g: 0.4345	1.8 | 12.6	31.5	2.9	DFOP
Drusenheim Loam	7.4	20 / 50 % pF2.5	2.3 / 13.4	k_1: 0.9889 d^{-1} k_2: 0.1375 d^{-1} g: 0.3704	0.3 | 2.4	6.4	4.9	DFOP
Pappelacker Sandy loam	7.0	20 / 50 % pF2.5	3.9 / 38.7	k_1: 0.3125 d^{-1} k_2: 0.03172 d^{-1} g: 0.6584	1.0 | 10.1	17.8	5.0	DFOP
18-Acres Sandy clay loam	5.7	20 / 50 % pF2.5	78.6 / 588	k_1: 0.05856 d^{-1} k_2: 0.003146 d^{-1} g: 0.3644	6.7 | 125.6	335.2	3.4	DFOP
Soil B Sandy loam	6.7	25 / 75 % FC	0.7 / 16.2	k_1: 2.306 d^{-1} k_2: 0.08875 d^{-1} g: 0.58	0.3 | 8.4	17.5	8.2	DFOP
Arrow Sandy loam	6.4[b]	20 / 40	37.4 / 440	k_1: 0.0595 d^{-1} k_2: 0.0037 d^{-1} g: 0.4852	10.0 | 161.1	378.4	3.6	DFOP
Les Evouettes Silt loam	6.1[c]	20 / 40	9.8 / 192	k_1: 0.2084 d^{-1} k_2: 0.008013 d^{-1} g: 0.5339	2.2 | 57.1	126.7	5.9	DFOP
Speyer 2.2 Sand	6.0[c]	20 / 40	6.2 / 152	k_1: 0.1114 d^{-1} k_2: 0.0108 d^{-1} t_b: 6.6480 d	4.3 / 44.3	104.9	8.6	HS
Speyer 2.3 Loamy sand	6.9[c]	20 / 40	6.2 / 20.4	k: 0.1127 d^{-1}	3.3	10.8	8.0	SFO
pH dependence					Yes, glyphosate is more persistent with decreasing pH			

[a] Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
[b] Calculated with equation reported in EFSA guidance 2017[18]: pH_{H2O}=0.982pH_{CaCl2} + 0.648.
[c] Medium not reported, H_2O assumed
[d] Modelling DT90 also reported since it is used to assess pH-dependency

[18] EFSA (European Food Safety Authority), 2017. EFSA Guidance Document for predicting environmental concentrations of active substances of plant protection products and transformation products of these active substances in soil. EFSA Journal 2017;15(10):4982, 115 pp. https://doi.org/10.2903/j.efsa.2017.4982

Rate of degradation in soil (aerobic) laboratory studies transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)

AMPA	Dark aerobic conditions -Trigger endpoints Metabolite dosed or the precursor from which the f.f. was derived was glyphosate						
Soil	pH (H_2O)	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f. k_f / k_{dp}	Kinetic parameters	St. (χ^2)	Method of calculation
Gartenacker Loam	7.1	20 / 50 % pF2.5	112 / 373	0.1955	k: 0.006181 d^{-1}	7.6	SFO
Drusenheim Loam	7.4	20 / 50 % pF2.5	28.6 / 95.1	0.3000	k: 0.02421 d^{-1}	3.5	SFO
Pappelacker Sandy loam	7.0	20 / 50 % pF2.5	88.2 / 293	0.2004	k: 0.007863 d^{-1}	6.2	SFO
18-Acres Sandy clay loam	5.7	20 / 50 % pF2.5	1000 / 3320	0.2618	k: 0.000693 d^{-1}	9.2	SFO
Soil B Sandy loam	6.7	25 / 75 % FC	96.4 / 320	0.2793	k: 0.007187 d^{-1}	10.1	SFO
Speyer 2.3 Loamy sand	6.9[a]	20 / 40	79.2 / 263	0.3406	k: 0.008753 d^{-1}	8.2	SFO
Warsop Loamy sand	4.71	20 / pF 2	326 / 1080	-	k: 0.002128 d^{-1}	1.3	SFO
18-Acres Sandy clay loam	5.5	20 / pF 2	1040 / 3450	-	k: 0.000667 d^{-1}	3.0	SFO
Brierlow, Silt loam	5.7	20 / pF 2	1000[b] / 3320	-	k: 0.000693 d^{-1} [b]	-	SFO

[a] Medium not reported, H_2O assumed [b] Default value

AMPA	Dark aerobic conditions - **Modelling endpoints Metabolite dosed or the precursor from which the f.f. was derived was glyphosate**						
Soil	pH (H_2O)	t. °C / % MWHC	DT_{50}/ DT_{90} (d)	f. f. k_f / k_{dp}	DT_{50} (d) 20 °C pF2/10kPa[b)]	St. (χ^2)	Method of calculation
Gartenacker Loam	7.1	20 / 50 % pF2.5	112 / 373	0.1955	61.6	7.6	SFO
Drusenheim Loam	7.4	20 / 50 % pF2.5	28.0 / 92.5	0.2974	13.4	3.9	SFO
Pappelacker Sandy loam	7.0	20 / 50 % pF2.5	88.2 / 293	0.2004	40.6	6.2	SFO
18-Acres Sandy clay loam	5.7	20 / 50 % pF2.5	1000 / 3320	0.2618	570	9.2	SFO
Soil B Sandy loam	6.7	25 / 75 % FC	96.4 / 320	0.2793	104	10.1	SFO
Speyer 2.3 Loamy sand	6.9[a]	20 / 40	79.2 / 263	0.3406	42	8.2	SFO
Warsop Loamy sand	4.71	20 / pF 2	326 / 1080	-	326	1.3	SFO
18-Acres Sandy clay loam	5.5	20 / pF 2	1040 / 3450	-	1040	3.0	SFO
Brierlow, Silt loam	5.7	20 / pF 2	1000[c] / 3320	-	1000	-	SFO
Mean value (n= 6)				0.2625			
Geomean value pHwater ≤ 6.5 (n=4)					663		
Geomean value pHwater > 6.5 (n=5)					43		
pH dependence					Yes, AMPA is more persistent with decreasing pH		

[a] Medium not reported, H_2O assumed

[b] Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7

[c] Default value

Rate of degradation field soil dissipation studies (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.2.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.2.1)

Parent	Aerobic conditions – trigger endpoints						
Soil	Location	pH	Depth (cm)	DT_{50} / DT_{90} (d) Actual	Kinetic parameters	St. (χ^2)	Method of calculation
Egerkingen Clay loam (bare soil)	Switzerland	7.79 [a]	0-30	1.1 / 173	k_1: 2.613 d^{-1} k_2: 0.0089 d^{-1} g: 0.5286	5.4	DFOP
Bad Krozingen Sandy loam (bare soil)	Germany	6.6 [a]	0-30	2.7 / 116	α: 0.4565 β: 0.753	5.6	FOMC
Menslage Sand (bare soil)	Germany	5.6 [a]	0-30	5.7 / 192	k_1: 0.1789 d^{-1} k_2: 0.0043 d^{-1} g: 0.7734	9.5	DFOP
Ontario Loamy sand (bare soil)	Canada	6.8[b]	0-45	13.5 / 51.6	k_1: 0.05519 d^{-1} k_2: 0.00151 d^{-1} g: 0.9515	22.9	DFOP
California Loamy sand (bare soil)	USA	6.3 [b]	0-121.9	12.2 / 98.4	k_1: 0.1175 d^{-1} k_2: 0.01511 d^{-1} g: 0.5579	12.8	DFOP
California Sandy loam (bare soil)	USA	7.1[b]	0-121.9	4.6 / 31.8	k1: 0.2757 d^{-1} k2: 0.0444 d^{-1} g: 0.5904	4.8	DFOP

a) Measured in KCl in the study, converted to pH_{H2O} considering the formula pH_{H2O} = 0:860pH_{KCl} + 1.482 presented in the EFSA guidance for predicting environmental concentration in soil (2017)
b) Medium not given – value from the 0-15 cm depth layer

Parent	Aerobic conditions – **modelling endpoints**[d]							
Soil	Location.	pH	Depth (cm)	DT_{50} (d) Norm[b].	Kinetic parameters	DT_{90}(d) Norm[b].	St. (χ^2)	Method of calculation
Menslage Sand (bare soil)	Germany	5.6 [a]	0-30	44.7	k_2: 0.01551 d^{-1}	62.9	6.8	HS – slow phase
California Loamy sand (bare soil)	USA	6.3 [c]	0-121.9	47.0	k_2: 0.01474 d^{-1}	86.9	11.7	DFOP – slow phase
California Sandy loam (bare soil)	USA	7.1[c]	0-121.9	25.6	k_2: 0.02707 d^{-1}	51.9	4.4	DFOP – slow phase

a) Measured in KCl in the study, converted to pH_{H2O} considering the formula pH_{H2O} = 0:860pH_{KCl} + 1.482 presented in the EFSA guidance for predicting environmental concentration in soil (2017)
b) Normalised using a Q10 of 2.58 and Walker equation coefficient of 0.7, values are DegT50matrix
c) Medium not given – value from the 0-15 cm depth layer
d)For the field trials Egerkingen (Switzerland) and Bad Krozingen (Germany) reliable estimation of kinetic parameters could not be derived. For the field trial Ontario (Canada) the normalisation procedure to derive modelling endpoint was not possible due to the lack of daily meteorological data.

Rate of degradation field soil dissipation studies (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.2.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.2.1)

Reliable field data were not available for AMPA.: Data gap.

Combined laboratory and field kinetic endpoints for modelling (when not from different populations)

Rate of degradation in soil active substance, normalised geometric mean (if not pH dependent)	Laboratory and field data can be pooled For more clarity, tables with pooled data for glyphosate are reported hereafter Tier 1 modelling endpoints: - Parent only fits (glyphosate simulated alone): 161.1 d (max. value due to pH-dependence, n=12) - Pathway fits (glyphosate simulated along with AMPA): 2 sets of simulations: o 0.3 d (min. fast-phase value due to pH-dependence, n=9); o 161.1 d (max. slow-phase value due to pH-dependence, n=12) Tier 2 modelling endpoints: - Parent only fits (glyphosate simulated alone): o Soil $pH_{water} \leq 6.5$: 70.0 d (geomean, n=6) o Soil $pH_{water} > 6.5$: 6.2 d (geomean, n=6) - Pathway fits (glyphosate simulated along with AMPA): 2 sets of simulations per pH range: o Soil $pH_{water} \leq 6.5$: 5 d (geomean of fast-phase, n =4) ; 69.0 d (geomean of slow-phase, n=6) Soil $pH_{water} > 6.5$: 0.88 d (geomean of fast-phase, n =5) ; 7.7 d (geomean of slow-phase, n=6)
Rate of degradation in soil transformation products, normalised geometric mean (if not pH dependent)	No modelling field value for AMPA
Kinetic formation fraction (f. f. k_f / k_{dp}) of transformation products, arithmetic mean	No modelling field value for AMPA

Glyphosate combined laboratory and field kinetic endpoints for modelling:

	Parent	Dark aerobic conditions –					
Lab/field	Soil	pH (H_2O)	t. °C / % MWHC	**Modelling endpoints based on parent-only fits**		**Modelling endpoints based on pathway fits** (glyphosate → AMPA)	
				DT_{50} (d) 20 °C pF2/10kPa[a]	Method of calculation	Fast | Slow DT_{50} (d) 20 °C pF2/10kPa[a]	Method of calculation
lab	Gartenacker Loam	7.1	20 / 50% pF2.5	9.9	FOMC	1.8 | 12.6	DFOP
	Drusenheim Loam	7.4	20 / 50% pF2.5	2.2	FOMC	0.3 | 2.4	DFOP
	Pappelacker Sandy loam	7.0	20 / 50% pF2.5	5.1	FOMC	1.0 | 10.1	DFOP
	18-Acres Sandy clay loam	5.7	20 / 50% pF2.5	109.8	DFOP	6.7 | 125.6	DFOP

	Soil B Sandy loam	6.7	25 / 75 % FC	6.5	FOMC	0.3 | 8.4	DFOP
	Arrow Sandy loam	6.4[b]	20 / 40	161.1	DFOP	10.0 | 161.1	DFOP
	Les Evouettes Silt loam	6.1[c]	20 / 40	71.2	FOMC	2.2 | 57.1	DFOP
	Speyer 2.2 Sand	6.0[c]	20 / 40	44.3	HS	4.3 / 44.3	HS
	Speyer 2.3 Loamy sand	6.9[c]	20 / 40	3.2	SFO	3.3[e]	SFO
field	Menslage (GE) Sand (bare soil)	5.6 [d]		44.7	HS – slow phase	44.7[f]	HS – slow phase
field	California (USA) Loamy sand (bare soil)	6.3 [c]		47.0	DFOP – Slow phase	47.0[f]	DFOP – Slow phase
field	California (USA) Sandy loam (bare soil)	7.1[c]		25.6	DFOP – Slow phase	25.6[f]	DFOP – Slow phase
Tier 1 modelling endpoints				**161.1 (max, n=12)**		**0.3 (min. fast-phase, n=9) / 161.1 (max. slow-phase, n=12)**	
Tier 2 modelling endpoints	**Geomean for soils with $pH_{water} \leq 6.5$**			**70 (n=6)**		**5.0 (fast, n=4) / 69.0 (slow, n=6)**	
Tier 2 modelling endpoints	**Geomean for soils with $pH_{water} > 6.5$**			**6.2 (n=6)**		**0.88 (fast, n=5) / 7.7 (slow, n=6)**	

[a] Normalised using a Q_{10} of 2.58 and Walker equation coefficient of 0.7
[b] Calculated with equation reported in EFSA guidance 2017[19]: pH_{H2O}=0.982pH_{CaCl2} + 0.648.
[c] Medium not reported, H_2O assumed
[d] Measured in KCl in the study, converted to pH_{H2O} considering the formula pH_{H2O} = 0:860pH_{KCl} + 1.482 presented in the EFSA guidance for predicting environmental concentration in soil (2017)
[e] Considered as both fast and slow phase. Value included in both the geomean of fast-phases and the geomean of slow-phases
[f] Derived from slow phase. Value considered in the geomean of slow-phases only

Soil accumulation (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.2.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.2.2)

Soil accumulation and plateau concentration	Refer to PECaccumulation calculations

Rate of degradation in soil (anaerobic) laboratory studies active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.2.1.3 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.1.1)

Parent	Dark anaerobic conditions					
Soil type	pH[a)]	t. °C / % MWHC	DT_{50} / DT_{90} (d)	DT_{50} (d) 20 °C[b)]	St. (χ^2)	Method of calculation
Sandy loam	5.9	20°C, flooded	> 1000	-	1.6	DFOP

[a)] Measured inKCl
[b)] Normalised using a Q10 of 2.58

[19] EFSA (European Food Safety Authority), 2017. EFSA Guidance Document for predicting environmental concentrations of active substances of plant protection products and transformation products of these active substances in soil. EFSA Journal 2017;15(10):4982, 115 pp. https://doi.org/10.2903/j.efsa.2017.4982

Rate of degradation on soil (photolysis) laboratory active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.1.3)

Parent	Soil photolysis calculated values though calculated were concluded to have no meaning for the risk assessment methodology					
Soil type		pH[a)]	t. °C / % MWHC	DT_{50} / DT_{90} (d) light/dark cycle 12 h	St. (χ^2)	Method of calculation
Loam/silt loam		6.1	22 / air dried	69.8 / 482	1.2	HS k_1 0.1007 k_2 0.0039 tb 4.342 not corrected for degradation in the dark control.

[a)]medium of measurement not stated

Soil adsorption active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

Glyphosate								
Soil Type	OC (%)	pH ($CaCl_2$)	pH (H_2O)	K_D (mL/g)	$K_{D, OC}$ (mL/g)	K_F (mL/g)	$K_{F, OC}$ (mL/g)	1/n
Speyer 2.2, sandy loam	1.71	5.6	5.21	-	-	59.4	3476	0.546
RefeSol 01-A, loamy sand	0.8	5.33	6.11	-	-	59.8	7476	0.704
18 Acres, sandy clay loam	1.9	6.2	6.11	-	-	166.4	8755	0.579
M-SL-PF (Mutchler, US), sandy clay loam	1.9	6.1	6.44	-	-	152.4	8024	0.546
Speyer 2.3, sandy loam	0.67	5.9	7.02	-	-	52.9	7892	0.751
RefeSol 02-A, silt loam	0.92	6.19	6.98	-	-	88.5	9615	0.658
Gartenacker, loam	2.1	7.1	7.16	-	-	21.6	1031	0.757
Speyer 6S, clay	1.78	7.2	7.32	-	-	70.5	3962	0.736
Speyer 5M, sandy loam	0.92	7.4	7.56	-	-	18.9	2049	0.770
LAD-SL-PF (Pavillion, US), sandy loam	0.87	8.1	8.11	-	-	18.1	2082	0.777
Geometric mean (if not pH dependent) (n = 10)						54.2	4348	-
Arithmetic mean (if not pH dependent) (n = 10)						-	-	0.682
pH dependence							No	

Soil adsorption transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.3.1.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

AMPA								
Soil Type	OC (%)	pH ($CaCl_2$)	pH (H_2O)	K_D (mL/g)	$K_{D,\ OC}$ (mL/g)	K_F (mL/g)	$K_{F,\ OC}$ (mL/g)	1/n
RefeSol 02-A Silt	1.18	6.60	7.25	-	-	38.9	3299	0.707
LUFA 2.2 Sandy loam	1.48	5.70	6.33	-	-	41.9	2833	0.752
LUFA 2.3 Sandy loam	0.61	6.20	7.01	-	-	28.7	4709	0.721
LUFA 6S Clay loam	2.07	7.30	7.89	-	-	36.6	1769	0.825
Bourgfelden Silt loam	1.15	7.50	8.41	-	-	23.3	2032	0.713
Wurmwiese Sandy loam	2.00	5.00	5.20	-	-	33.5	1675	0.875
SLI Soil #4, sand	1.34	6.9[1]	7.4	-	-	15.7	1160	0.752
SLI Soil #5, clay loam	0.93	7.1[1]	7.6	-	-	53.9	5650	0.791
Geometric mean (if not pH dependent) (n = 8)						29.8	2541	-
Arithmetic mean (if not pH dependent) (n = 8)						-	-	0.767
pH dependence							No	

[1] Calculated with equation reported in EFSA guidance 2017: $pH_{H2O}=0.982pH_{CaCl2} + 0.648$.

Mobility in soil column leaching active substance (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.4.1.1 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

Column leaching	No reliable column leaching study, not required
Aged residues leaching	Soil type: sand Aged for: 8d Elution (mm): 200 mm $CaCl_2$ solution over 48 h Leachate: $\leq$ 0.1 % AR glyphosate Soil (top 6 cm): 69.6-71.8 % AR glyphosate, 24.2-24.9 % AR AMPA

Mobility in soil column leaching transformation products (Regulation (EU) N° 283/2013, Annex Part A, point 7.1.4.1.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.1.2.1)

Column leaching	No column leaching studies with metabolites submitted, not required

Lysimeter / field leaching studies (Regulation (EU) N° 283/2013, Annex Part A, points 7.1.4.2 / 7.1.4.3 and Regulation (EU) N° 284/2013, Annex Part A, points 9.1.2.2 / 9.1.2.3)

Lysimeter/ field leaching studies	No lysimeter or field leaching studies submitted, not required

Hydrolytic degradation (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.1.1

Hydrolytic degradation of the active substance and metabolites > 10 %	Stable at pH 4, 5, 7 and 9 at 50°C (also at lower temperatures)

Aqueous photochemical degradation (Regulation (EU) N° 283/2013, Annex Part A, points 7.2.1.2 / 7.2.1.3)

Photolytic degradation of active substance and metabolites above 10 %	Direct photolysis Stable in sterile distilled water (12 days of continuous irradiation) and in buffer solutions (pH 5, 7 and 9) under natural sunlight Degradation in aqueous solutions (pH 5.1, 7.3, 9.2): pH 5.1: DT_{50} of 30.3 days at 25°C (SFO); pH 7.3: DT_{50} of 55.2 days at 25°C (SFO) pH 9.2: DT_{50} of 62.2 days at 25°C (SFO) Metabolite: AMPA (max. after 15 days):16.0 % AR (pH 5.1) Indirect photolysis Degradation in natural water: DT_{50} from 4.09 to 4.92 days (SFO) (26.4-31.7 solar days, Tokyo) Metabolites: AMPA (max. 19.6% AR after 12 days), methanediol (max. 52% AR after 12 days) methanediol is not ecotoxicologically relevant according to guidance document EFSA PPR Panel (2013)
Quantum yield of direct phototransformation in water at λ > 290 nm	No determination of the quantum yield was performed.

‘Ready biodegradability’ (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.2.1)

Readily biodegradable (yes/no)	No

Aerobic mineralisation in surface water (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.2.2 and Regulation (EU) N° 284/2013, Annex Part A, point 9.2.1)

Glyphosate							
Suspended sediment test – natural fresh water	pH water phase	pH sed [a)]	t. ºC[b)]	DT_{50} (days) whole sys. (suspended sediment test)	DT_{90} (days) whole sys. (suspended sediment test)	St. (χ^2)	Method of calculation
Calwich Abbey (10 µg/L)	8.2	7.6	20	12.3	41.0	8.4	SFO
Calwich Abbey (95 µg/L)	8.2	7.6	20	21.8	72.4	5.2	SFO

[a)] Measured in water

[b)]study temperature

Mineralisation and non-extractable residues (for parent dosed experiments)					
System identifier (indicate fresh, estuarine or marine)	pH water phase	pH sed	Mineralisation	Non-extractable residues. max *x* % after *n* d (suspended sediment test)	Non-extractable residues. max *x* % after *n* d (end of the study) (suspended sediment test)
Calwich Abbey (10 µg/L)	8.2	7.6	26.5 % AR after 62 days (end of the study)	14.0 % AR after 62 days (end of the study)	14.0 % AR after 62 days (end of the study)
Calwich Abbey (95 µg/L)	8.2	7.6	23.1 % AR after 62 days (end of the study)	9.1 % AR after 44 days	8.8 % AR after 62 days (end of the study)

Water / sediment study (Regulation (EU) N° 283/2013, Annex Part A, point 7.2.2.3 and Regulation (EU) N° 284/2013, Annex Part A, point 9.2.2)

Glyphosate Trigger endpoints

Glyphosate		Distribution: Max in sediment: 61.4 % AR after 7 days (system Unter Widdersheim)					
Water / sediment system	**pH water phase**	**pH sed**	**t. (ºC)**	**DT_{50} (d)[1]**	**DT_{90} (d)[1]**	**St. (χ^2err) (%)**	**Kinetic model**
Total system							
Cache	8.2	8.1	20	8.4	45.6	2.7	FOMC
Putah	8.4	7.5	20	195.8	902.3	4.4	DFOP
Bickenbach	8.6	7.8	20	15.8	329.4	2.2	HS
Unter Widdersheim	8.6	7.68	20	121.6	>1000	4.8	DFOP
Water phase							
Cache	8.2	8.1	20	5.0	22.7	2.3	DFOP
Putah	8.4	7.5	20	7.9	78.2	10.0	FOMC
Bickenbach	8.6	7.8	20	2.0	22.2	5.2	DFOP
Unter Widdersheim	8.6	7.68	20	1.1	28.7	2.6	DFOP
Sediment phase							
Cache	8.2	8.1	20	33.9	112.6	8.4	SFO
Putah[2]	8.4	7.5	20	-[2]	-[2]	-[2]	-[2]
Bickenbach	8.6	7.8	20	158.7	965.3	3.6	DFOP
Unter Widdersheim	8.6	7.68	20	-[3]	-[3]	-[3]	-[3]

[1] DT_{50} = $DegT_{50}$ for total system but $DisT_{50}$ for water and sediment phase
[2] No evaluation could be conducted for the sediment phase since no decline is observed.
[3] No reliable endpoint can be derived for the sediment phase due the scatter of the data.

Glyphosate Modelling endpoints

Glyphosate						
Total system	pH water phase	pH sed a)	t. ºC	DT_{50} (days) whole sys.	Model	St. (χ^2)
Cache	8.2	8.1	20	9.7	SFO	5.3
Putah	8.4	7.5	20	301.4 b)	DFOP (k_1: 0.6409 d^{-1} k_2: 0.0023 d^{-1} g: 0.2189)	4.4
Bickenbach	8.6	7.8	20	144.4 b)	HS (k_1: 0.0439 d^{-1} k_2: 0.0048 d^{-1} tb: 18.5 d)	2.2
Unter Widdersheim	8.6	7.68	20	1000 c)	DFOP	4.8
Geometric mean at 20ºC				143.3		

a) Medium not reported

b) Calculated from slow phase degradation rate (k_2) as 10 % of the initial amount was not reached within experimental period

c) The estimated degradation rate is not significantly different from zero, default DegT50 of 1000 d to be used

AMPA: trigger endpoints

AMPA	Distribution from parent-dosed experiments: Max in water 15.7% AR after 14 days (system Bickenbach). Max. sed 18.7 % after AR 58 days (system Cache). Max in total system 27.1 % AR after 30 days (system Cache). Distribution from AMPA-dosed experiments: max. in sediment 63.8% after 30 days							
Water / sediment system	**pH water phase**	**pH sed**	**t. (ºC)**	**Ffm (-)**	**DT_{50} (d)[1]**	**DT_{90} (d)[1]**	**St. (χ^2err) (%)**	**Kinetic model**
Total system, Level P-I								
Rückhaltebecken	8.7	7.64	20	-	12.6	>1000	1.6	FOMC
Schäphysen	8.0	7.34	20	-	2.4	>1000	6.2	DFOP
Bickenbach	8.5	8.5	20	-	10.9	175.9	1.5	DFOP
Unter Widdersheim	8.5	8.5	20	-	82.2	337.7	2.4	HS
Bickenbach	8.3	7.4	20	-	43.5	196.8	3.5	DFOP
Unter Widdersheim	8.2	7.5	20	-	17.7	579.8	3.4	HS
Manningtree A	7.2	7.6	20	-	-[2]	-[2]	-[2]	-[2]
Cache	8.2	8.1	20	-	-[5]	-[5]	-[5]	-[5]
Putah	8.4	7.5	20	-	-[5]	-[5]	-[5]	-[5]
Total system, Level M-I degradation								
Cache[5]	8.2	8.1	20	0.339	172.8	573.9	7.0	SFO
Putah[5]	8.4	7.5	20	-[4]	-[4]	-[4]	-[4]	-[4]
Bickenbach	8.6	7.8	20	0.488	15.7	52.2	9.4	SFO
Unter Widdersheim	8.6	7.68	20	0.321	8.8	29.2	22.4	SFO
Water phase, Level P-I								
Rückhaltebecken	8.7	7.64	20	-	2.2	22.1	2.1	FOMC

Schäphysen	8.0	7.34	20	-	1.5	5.1	10.7	SFO
Bickenbach	8.5	8.5	20	-	1.8	31.4	2.0	FOMC
Unter Widdersheim	8.5	8.5	20	-	2.5	16.3	3.9	DFOP
Bickenbach	8.3	7.4	20	-	6.6	50.7	4.5	DFOP
Unter Widdersheim	8.2	7.5	20	-	2.0	17.3	8.2	DFOP
Manningtree A	7.2	7.6	20	-	0.6	8.1	1.8	FOMC
Cache	8.2	8.1	20	-	-[5]	-[5]	-[5]	-[5]
Putah	8.4	7.5	20	-	-[5]	-[5]	-[5]	-[5]
Water phase, Level M-I degradation								
Cache	8.2	8.1	20	0.339	172.8	573.9	7.0	SFO
Putah	8.4	7.5	20	-	-[4]	-[4]	-[4]	-[4]
Bickenbach	8.6	7.8	20	0.488	15.7	52.2	9.4	SFO
Unter Widdersheim	8.6	7.68	20	0.321	8.8	29.2	22.4	SFO
Sediment phase, Level P-I								
Rückhaltebecken	8.7	7.64	20	-	168.1	558.3	1.9	SFO
Schäphysen	8.0	7.34	20	-	-[2]	-[2]	-[2]	-[2]
Bickenbach	8.5	8.5	20	-	-[2]	-[2]	-[2]	-[2]
Unter Widdersheim	8.5	8.5	20	-	-[2]	-[2]	-[2]	-[2]
Bickenbach	8.3	7.4	20	-	-[4]	-[4]	-[4]	-[4]
Unter Widdersheim	8.2	7.5	20	-	-[2]	-[2]	-[2]	-[2]
Manningtree A	7.2	7.6	20	-	-[3]	-[3]	-[3]	-[3]
Cache	8.2	8.1	20	-	-[5]	-[5]	-[5]	-[5]
Putah	8.4	7.5	20	-	-[5]	-[5]	-[5]	-[5]

[1] DT_{50} = $DegT_{50}$ for total system but $DisT_{50}$ for water and sediment phase
[2] No acceptable fits obtained and no endpoints could be derived
[3] No evaluations could be conducted for the sediment phase due to the limited number of data points available after the peak concentration
[4] No evaluations could be conducted for any compartment at Level M-I dissipation due to the limited number of data points available after the peak concentration
[5] No endpoint can be determined for AMPA in the water and sediment phase for both systems Cache and Putah: no decline was observed or the number of data points available after the peak concentration is too limited.

AMPA: modelling endpoints

Water / sediment system	pH water phase	pH sed	t. (ºC)	Model	Ffm from parent (-)	SFO DT_{50} (d)[1]	St. (χ^2err) (%)
Total system, Level P-I							
Rückhaltebecken	8.7	7.64	20	DFOP (k_1:0.2458 d^{-1} k_2:0.0073 d^{-1} g: 0.4858)	-	95.0[2]	3.8
Schäphysen	8.0	7.34	20	DFOP	-	1000[3]	6.2
Bickenbach	8.5	8.5	20	DFOP (k_1: 0.3633 d^{-1} k_2: 0.0097 d^{-1} g: 0.4540)	-	71.5[2]	1.5
Unter Widdersheim	8.5	8.5	20	SFO	-	80	4.8
Bickenbach	8.3	7.4	20	SFO	-	47.7	5.9
Unter Widdersheim	8.2	7.5	20	HS (k_1: 0.0391 d^{-1} k_2: 0.0024 d^{-1} tb: 25.3 d)	-	288.8[2]	3.4
Manningtree A	7.2	7.6	20	-[4]	-	-[4]	-[4]
Total system, Level M-I degradation							
Cache	8.2	8.1	20	SFO	0.339	172.8	7.0
Putah	8.4	7.5	20	-[5]	-[5]	-[5]	-[5]
Bickenbach	8.6	7.8	20	SFO	0.488	26.8[6]	7.9
Unter Widdersheim	8.6	7.68	20	SFO	0.321	15.1[6]	5.8
Geometric mean (total system) (n = 9, derived from Level P-I and M-I degradation)						**93.1**	

[1] DT_{50} = $DegT_{50}$ for total system but $DisT_{50}$ for water and sediment phase
[2] Calculated from slow phase degradation rate (k_2) as 10 % of the initial amount was not reached within experimental period
[3] The estimated degradation rate is not significantly different from zero, default $DegT_{50}$ of 1000 d to be used
[4] No acceptable fits obtained and no endpoints could be derived
[5] No evaluations could be conducted for any compartment at Level M-I dissipation due to the limited number of data points available after the peak concentration
[6] Since AMPA was not detected in sediment in the study, evaluations at Level M-I dissipation were performed for the water phase only, which are also applicable for total system

HMPA: trigger and modelling endpoints

Metabolite HMPA (from glyphosate dosed experiments)								
Water / sediment system	**Distribution:** Max in water: 10.0 % AR at 61 DAT (system Bickenbach) Max in total system: 10 % AR at 61 DAT (system Bickenbach)							
	pH water phase	**pH sed**	**t. (ºC)**	**$DegT_{50}$ (d)**	**$DegT_{90}$ (d)**	**Formation fraction (-)**	**St. (χ^2err) (%)**	**Model**
Total system, Level M-I degradation								
Bickenbach	8.6	7.8	20	128.8	427.8	0.366 (from AMPA)	20.5	SFO
Unter Widdersheim	8.6	7.68	20	10	33.4	0.359 (from AMPA)	39.3	SFO

P1a

Metabolite P1a (from AMPA dosed experiments)	
Water / sediment system	**Distribution:** Max in sediment: 53 % AR at 14 DAT (system Manningtree A) from AMPA, minor in water. Estimated to be equivalent to 14.4% on molar basis from parent glyphosate

M3.3

Metabolite M3.3 (from AMPA dosed experiments)	
Water / sediment system	**Distribution:** Max in sediment: 22.9 % AR at 14 DAT (system Schaephysen) from AMPA, minor in water. Estimated to be equivalent to 6.2% on molar basis from parent glyphosate (minor non transient metabolite, estimated to exceed 5% on 2 consecutive sampling points)

Mineralisation and non extractable residues (from parent dosed experiments)					
Water / sediment system	pH water phase	pH sed	Mineralisation x % after n d. (end of the study).	Non-extractable residues in sed. max x % after n d	Non-extractable residues in sed. x % after n d (end of the study)
Cache	8.2	8.1	48.0 AR (100 d)	13.5 AR (58 d)	13.5 AR (100 d)
Putah	8.4	7.5	5.9 AR (100 d)	20.3 AR (58 d)	16.7 AR (100 d)
Bickenbach	8.6	7.8	23.5 (100 d)	22.0 AR (100 d)	22.0 AR (100 d)
Unter Widdersheim	8.6	7.68	19.4 AR (61 d)	13.6 AR (100 d)	13.6 AR (100 d)

Fate and behaviour in air (Regulation (EU) N° 283/2013, Annex Part A, point 7.3.1)

Direct photolysis in air	Not studied - no data requested
Photochemical oxidative degradation in air	Glyphosate: DT_{50} of 1.625 hours derived by the Atkinson model (AOPWIN^{TM} 1.92a). OH (12 h) concentration assumed = 1.5 x 10^6 radicals/cm³ Glyphosate salts: DT_{50} values from 1.380 hours to 1.719 hours derived by the Atkinson model (AOPWIN^{TM} 1.92). OH (12 h) concentration assumed = 1.5 x 10^6 radicals/cm³
Volatilisation	from plant surfaces (BBA guideline): negligible after 24 hours (n=3)
	from soil surfaces (BBA guideline):): negligible after 24 hours (n=2)
Metabolites	-

Residues requiring further assessment (Regulation (EU) N° 283/2013, Annex Part A, point 7.4.1)

Environmental occurring residues requiring further assessment by other disciplines (toxicology and ecotoxicology) and or requiring consideration for groundwater exposure	Soil: Glyphosate, AMPA Surface water: Glyphosate, AMPA, HMPA Sediment: Glyphosate, AMPA, HMPA, M3.3, P1a Ground water: Glyphosate, AMPA Air: Glyphosate

Definition of the residue for monitoring (Regulation (EU) N° 283/2013, Annex Part A, point 7.4.2)

	See section 5, Ecotoxicology

Monitoring data, if available (Regulation (EU) N° 283/2013, Annex Part A, point 7.5

Soil (indicate location and type of study)	<u>EU wide data from LUCAS topsoil project:</u> 317 samples Detection above LOQ: ~ 21 % of samples for glyphosate, in ~ 42 % of samples for AMPA. Maximum concentration 2.05 mg/kg for glyphosate (GLY) and 1.92 mg/kg for AMPA (15/20 cm depth), associated with vineyard. Note that the above results from different public survey and open literature review cannot be directly related to representative uses and/or other authorised good agricultural practices.
Surface water (indicate location and type of study)	<u>Public monitoring data, EU wide</u> > 308 000 samples from > 15 000 sampling sites for glyphosate > 270 000 samples collected from > 12 600 sampling sites for AMPA Detection above LOQ: ~ 37 % of samples for glyphosate, in ~ 62 % of samples for AMPA. Maximum concentration 3400 µg/L for GLY and 3369 µg/L for AMPA Note that the above results from public survey and open literature review cannot be directly related to representative uses and/or other authorised good agricultural practices.
Ground water (indicate location and type of study)	<u>Public monitoring data, EU wide</u> > 251 700 samples from > 40 000 sampling sites for glyphosate > 228 400 samples from > 35 900 sampling sites for AMPA Detection above LOQ: ~ 2 % of samples for glyphosate, in ~ 2.9 % of samples for AMPA. Compliance with threshold of 0.1 µg/L: > 99 % for both glyphosate and AMPA. Compliance with threshold of 10 µg/L: > 99.99 % for AMPA.

	Maximum concentration 39.2 µg/L for GLY and 19 µg/L for AMPA Note that the above results from public survey and open literature review cannot be directly related to representative uses and/or other authorised good agricultural practices. <u>Literature study (CA 7.5), on groundwater monitoring associated with railway sites in Sweden</u> 174 samples from down gradient wells regarding groundwater flow direction, from 12 sampling locations for both glyphoste and AMPA (years: 2007 – 2019) Detection above reporting limit: 2 % and 1% down gradient samples for glyphosate and AMPA, respectively Compliance with threshold of 0.1 µg/L: 99 % down gradient samples for both glyphoste and AMPA Maximum concentration: 0.25 µg/L and 0.29 µg/L in down gradient samples for glyphosate and AMPA, respectively Note that the above results are valid for the exposure assessment for the single use pattern to railways set out in the good agricultural practice table (1 x 1.8 kg a.s./ha) and Swedish conditions monitored, but would not be representative of conditions in the whole of the EU.
Air (indicate location and type of study)	No EU wide data available <u>Data from FR exploratory pesticide campaign:</u> from June 2018 to June 2019, 381 samples on 8 sites (3 urban/peri-uban areas and 5 rural areas) with different agricultural profiles Glyphosate quantified in 56% of the analyses (LOQ 0.009 ng/m^3). Maximum concentration for glyphosate: 1.225 ng/m^3, 95th percentile concentration is 0.088 ng/m^3 AMPA quantified in 1.3% of the analyses (LOQ 0.009 ng/m^3) Maximum concentration for AMPA: 0.015 ng/m^3

PEC soil (Regulation (EU) N° 284/2013, Annex Part A, points 9.1.3 / 9.3.1)

Parent Method of calculation	Kinetics: DFOP (k_1: 0.0551 day^{-1}; k_2: 0.0017 day^{-1}; g: 0.9420) *(correct values for future calculations: k_1: 0.05519 day^{-1}; k_2: 0.00151 day^{-1}; g: 0.9515)* Field or Lab: representative worst case from field (Ontario site) ESCAPE 2.0 (Constant climate conditions, Residues from different applications are considered separately)
Application data	Crop: all uses (risk envelope approach) Depth of soil layer: 5cm (for plateau, 5 cm for railway uses and perennial crops; 5 and 20cm for field crops) Soil bulk density: 1.5g/cm^3 % plant interception: no interception Number of applications: 1 Interval (d): - Application rate(s): 3600 g a.s./ha (railway uses) 2880 g a.s./ha (perennial crops) 2160 g a.s./ha (field crops)

3600 g a.s./ha (railway uses)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	4.800			
Plateau concentration	0.323 mg/kg on 5 cm			
PECaccumulation	5.123 mg/kg (background on 5 cm)			

2880 g a.s./ha (perennial crops)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	3.840			
Plateau concentration	0.259 mg/kg on 5 cm			
PECaccumulation	4.099 mg/kg (background on 5 cm)			

2160 g a.s./ha (field crops)

PEC$_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	2.880			
Plateau concentration	0.194 mg/kg on 5 cm 0.049 mg/kg on 20 cm			
PECaccumulation	3.074 mg/kg (background on 5 cm) 2.929 mg/kg (background on 20 cm)			

AMPA Method of calculation	Molecular weight relative to the parent: 111.04/169.1 DT_{50} (d): 1040 days Kinetics: SFO Field or Lab: representative worst case from laboratory Max occurrence from lab and field studies: 46.9% *(correct value for future calculations: 48.8%)* ESCAPE 2.0 (Constant climate conditions, Residues from different applications are considered separately)
Application data	Application rate assumed (applied as parent in ESCAPE, application rate of glyphosate corrected for molar ratio and maximum occurrence): 1109 g AMPA/ha (railway uses) 887 g AMPA/ha (uses on perennial crops) 665 g AMPA/ha (uses on field crops)

3600 g a.s./ha (railway uses)

$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	1.478			
Plateau concentration	5.367 mg/kg on 5 cm			
PECaccumulation	6.845 mg/kg (background on 5 cm)			

2880 g a.s./ha (perennial crops)

$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	1.182			
Plateau concentration	4.293 mg/kg on 5 cm			
PECaccumulation	5.476 mg/kg (background on 5 cm)			

2160 g a.s./ha (field crops)

$PEC_{(s)}$ (mg/kg)	Single application Actual	Single application Time weighted average	Multiple application Actual	Multiple application Time weighted average
Initial	0.887			
Plateau concentration	3.217 mg/kg on 5 cm 0.804 mg/kg on 20 cm			
PECaccumulation	4.104 mg/kg (background on 5 cm) 1.691 mg/kg (background on 20 cm)			

PEC ground water (Regulation (EU) N° 284/2013, Annex Part A, point 9.2.4.1)

Method of calculation and type of study (*e.g.* modelling, field leaching, lysimeter)	<u>FOCUS Modelling</u> Models used: FOCUS PEARL 4.4.4, FOCUS PELMO 5.5.3; FOCUS, MACRO 5.5.4 Crops: Carrots, Potatoes, Onions, Tomatoes, Cabbage, Sugar beets, Apples, Vine, Citrus, Grass/Alfalfa All relevant FOCUSgw scenarios simulated ***Glyphosate***: Molar mass (g/mol): 169.1 Crop uptake factor: 0 Water solubility (mg/L): 100 000 at 20 °C, 200 000 at 30 °C Vapour pressure (Pa): PEARL: 1.31×10^{-5} (25 °C) / PELMO: 6.81×10^{-6} (20 °C) / 2.72×10^{-5} (30 °C) Normalised DT_{50}: Degradation is pH dependent and biphasic. 2 sets of simulations are performed, each including parent and metabolite. ***First set of simulations***: DT_{50}: 0.1d (minimum fast phase normalized DT_{50}, from laboratory - pathway fits – and field, n=12) *(correct value for future calculations: 0.3 d)* ***Second set of simulations***: DT_{50}: 161.1 days (maximum slow phase normalized DT_{50}, from laboratory - pathway fits – and field, n=12) K_{OC}/K_{om} (mL/g): 4348 / 2522 (geometric mean, n = 10) 1/n: 0.682 (arithmetic mean, n = 10) *Should a refinement be needed, recommended DT50 for glyphosate for Tier 2 PECgw calculations are:* Pathway fit when glyphosate is simulated along with AMPA): Soil $pH_{water} \leq 6.5$: DT_{50} 5.0 d (geomean of fast phase, n=4), DT_{50} 69.0 d (geomean of slow phase, n=6) Soil $pH_{water} > 6.5$: DT_{50} 0.88 d, (geomean of fast phase, n=5), DT_{50} 7.7 d (geomean of slow phase, n=6) Parent only fits (when AMPA is not simulated): Soil $pH_{water} \leq 6.5$: DT_{50} 70.0 d (geomean, n=6) Soil $pH_{water} > 6.5$: DT_{50} 6.2 d (geomean, n=6) ***AMPA*** Molar mass (g/mol): 111.04 Crop uptake factor: 0 Water solubility (mg/L): 100 000 at 20 °C (parent data) Vapour pressure (Pa): 1.31×10^{-5} (25 °C) (parent data) Normalized DT_{50}: 1040 d (max laboratory normalized DT50, SFO, n=10, to take into account pH-dependence) K_{OC}/K_{om} (mL/g): 2541 / 1474 (geometric mean, n = 8) 1/n: 0.767 (arithmetic mean, n = 8)

	Formation fraction : 0.290 from glyphosate (mean laboratory studies, n=7) *(correct value for future calculations: 0.2625, n=6)* *Should a refinement be needed, recommended degradation parameters for AMPA for Tier 2 PECgw calculations are:* Soil $pH_{water} \leq 6.5$: DT_{50} 663 d (geomean, n=4) Soil $pH_{water} > 6.5$: DT_{50} 43.0 d (geomean, n=5) ffm: 0.263 (arithmetic mean, n=6) <u>Modelling for application to railways</u>: Model used: HardSPEC 1.4.3.2 ***Glyphosate***: Molar mass (g/mol): 169.1 Water solubility (mg/L): 100 000 Soil DT_{50}: 161.1 days (max normalized DT50 from parent-only fits, n=12, to take into account pH-dependence) K_{OC}/K_{om} (mL/g): 4348 / 2522 (geometric mean, n = 10) *Should a refinement be needed, recommended DT50 (from parent-only fits) for glyphosate for Tier 2 PECgw calculations are:* Soil $pH_{water} \leq 6.5$: DT_{50} 70.0 d (geomean, n=6) Soil $pH_{water} > 6.5$: DT_{50} 6.2 d (geomean, n=6) ***Metabolite AMPA:*** Molar mass (g/mol): 111.04 Water solubility (mg/L): 100 000 (parent data) Soil DT_{50}: 1040 (max laboratory normalized DT50, n=10, to take into account pH-dependence) K_{OC}/K_{om} (mL/g): 2541 / 1474 (geometric mean, n = 8) *Should a refinement be needed, recommended DT50 for AMPA for Tier 2 PECgw calculations are:* Soil $pH_{water} \leq 6.5$: DT_{50} 663 d (geomean, n=4) Soil $pH_{water} > 6.5$: DT_{50} 43.0 d (geomean, n=5)
Application rate	<u>FOCUS calculations</u> Gross application rate: Carrots, Potatoes, Onions, Tomatoes, Cabbage, Sugar beets: 540, 720, 1440 and 2160 g/ha - Apples, Vine, Citrus: 720, 1440 and 2880 g/ha - Grass/Alfalfa: 1800 g/ha Canopy interception 0 %: No. of applications: 1 Time of application (absolute or relative application dates):

- Carrots, Potatoes, Onions, Tomatoes, Cabbage, Sugar beets: 20 days before emergence (early app.), 7 days after harvest (late app.) - Apples, Vine, Citrus, Grass/Alfalfa: 01-Apr (early app.), 01-Oct (late app.)
HardSPEC calculations: Gross application rate (g a.s./ha): 3600 For AMPA, parent rate was corrected for molecular ratio only (2364 g AMPA/ha)

FOCUS calculations

PEC$_{gw}$ of glyphosate and AMPA (FOCUS PEARL, FOCUS PELMO, FOCUS MACRO)

Crop	Scenario	Glyphosate (µg/L)	AMPA (µg/L)	
		Slow: DT50 = 161 days	Slow: parent DT50 = 161 days	Fast: parent DT50 = 0.1 days
All relevant FOCUS crops (1 × 720 g a.s./ha)	All relevant FOCUS scenarios*	<0.001	<0.001	<0.001
All relevant FOCUS crops (1 × 1440 g a.s./ha)	All relevant FOCUS scenarios*	<0.001	<0.001	<0.001
All relevant FOCUS crops (1 × 540 g a.s./ha)	All relevant FOCUS scenarios*	<0.001	<0.001	<0.001
All relevant FOCUS crops (1 × 2160 g a.s./ha)	All relevant FOCUS scenarios*	<0.001	<0.001	<0.001
All relevant FOCUS crops (1 × 2880 g a.s./ha)	All relevant FOCUS scenarios*	<0.001	<0.001	<0.001
All relevant FOCUS crops (1 × 1800 g a.s./ha)	All relevant FOCUS scenarios*	<0.001	<0.001	<0.001

* Chateaudun only for FOCUS MACRO; Citrus was not simulated in FOCUS MACRO since the scenario Châteaudun is not defined for this crop

HardSPEC calculations

PECgw of glyphosate and AMPA – 1 x 3600 g/ha on railways

	Glyphosate			**AMPA**		
Average annual concentration at the base of the railway formation (µg/L)	0.01			0.01		
	Exposure at the abstraction well-head					
	Glyphosate			**AMPA**		
	Chalk	**Limestone**	**Sandstone**	**Chalk**	**Limestone**	**Sandstone**
Max. concentration in well (µg/L)	<0.001	<0.001	<0.001	0.028	0.006	0.007
Period when plume in well >0.1 µg/L (d)	0	0	0	0	0	0

PEC surface water and PEC sediment (Regulation (EU) N° 284/2013, Annex Part A, points 9.2.5 / 9.3.1)

FOCUS calculations

FOCUSsw step 1 and 2	Version control no. of FOCUS calculator: FOCUS Step 1-2 v. 3.2 (used for parent and metabolites)
Parent Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 169.1 K_{OC}/K_{OM} (mL/g): 4348 / 2522 (geometric mean, n = 10) DT_{50} soil (d): 161.1 days (maximum modelling normalized DT_{50}, from laboratory – parent-only fits - and field, n = 12, to take into account pH-dependence) DT_{50} water/sediment/system (d): 143.3 (geometric mean, total system, n = 4)
Parameters used in FOCUSsw step 3 (if performed)	Version control no.'s of FOCUS software: FOCUS SWASH 5.3, SPIN 2.2, FOCUS MACRO 5.5.4, FOCUS PRZM 4.3.1, FOCUS TOXSWA 5.5.3 Water solubility (mg/L): 100 000 (20°C) Vapour pressure (Pa): 1.31 × 10^{-5} (25 °C) Koc/Kom (mL/g): 4348 / 2522 (geometric mean, n = 10) 1/n: 0.682 (arith. mean, n = 10) DT_{50} soil (d): 161.1 days (maximum modelling normalized DT_{50}, from laboratory – parent-only fits - and field, n = 12, to take into account pH-dependence) DT_{50} water (d): 1000 (FOCUS default) DT_{50} sediment (d): 143.3 (geometric mean, total system, n = 4) Q10=2.58, Walker equation coefficient 0.7 Crop uptake factor: 0

	Should a refinement be needed, recommended soil DT50 for glyphosate for Tier 2 PECsw calculations are: Pathway fit (when glyphosate is simulated along with AMPA): Soil $pH_{water} \leq 6.5$: DT_{50} 5.0 d (geomean of fast-phase, n=4), DT_{50} 69.0 d (geomean of slow phase, n=6) Soil $pH_{water} > 6.5$: DT_{50} 0.88 d, (geomean of fast phase, n=5), DT_{50} 7.7 d (geomean of slow phase, n=6) Parent only fits (when AMPA is not simulated): Soil $pH_{water} \leq 6.5$: DT_{50} 70.0 d (geomean, n=6) Soil $pH_{water} > 6.5$: DT_{50} 6.2 d (geomean, n=6)
Application rate	Crop and growth stage: Root vegetable, Potatoes, Bulb vegetable, Fruiting vegetable, Leafy vegetable, Sugar beet Application rate(s): 1x540, 3x720, 2x1080, 1x1440 g a.s./ha Interval (d): 28 Crop interception (%) : - Step 2: no interception - Step 3: groundspray, CAM 1 for R scenarios, interception set to 0 for D scenarios Application window: - Step 2: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb Step 3: end of application window 20 days before emergence (early app.), start of application window 7 d after harvest (late app.)
	Crop and growth stage: Pome/stone fruits, Olives, Vines (Grass/Alfalfa was used as surrogate crop in Step 2 to account for low drift - groundspray application) Application rate(s): 3x720, 2x1440 g a.s./ha Interval (d): 28 Crop interception (%) : - Step 2: no interception - Step 3: airblast, CAM 1 for R scenarios, interception set to 0 for D scenarios Step 3: Drift manually adjusted to reflect groundspray application Application window: - Step 2: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb - Step 3: start of application window 15-Mar (early app.), start of application window 15-Sep (late app.)
	Crop and growth stage: Grass/Alfalfa Application rate(s): 1x1800 g a.s./ha Interval (d): - Crop interception (%) :

	- Step 2: no interception - Step 3: groundspray, CAM 1 for R scenarios, interception set to 0 for D scenarios Application window: - Step 2: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb - Step 3: start of application window 15-Mar (early app.), start of application window 15-Sep (late app.)
	-

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	4.470	Drift	2.920
D6	Ditch	4.435	Drift	1.724
R1	Pond	0.163	Runoff	11.840
R1	Stream	2.954	Drift	80.070
R2	Stream	3.867	Drift	692.400
R2	Stream 2nd	3.969	Drift	548.800
R3	Stream	4.175	Drift	117.900
R4	Stream	2.918	Drift	50.870

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	3.256	Drift	4.735
D6	Ditch	3.285	Drift	10.560
R1	Pond	1.107	Runoff	44.060
R1	Stream	4.091	Runoff	271.300
R2	Stream	2.834	Drift	1953.500
R2	Stream 2nd	2.881	Drift	982.900
R3	Stream	3.113	Runoff	398.300
R4	Stream	5.530	Runoff	143.200

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	4.487	Drift	4.157
D6	Ditch	4.498	Drift	7.012
R1	Pond	0.403	Runoff	19.760
R1	Stream	2.955	Drift	156.200
R2	Stream	3.969	Drift	548.400
R2	Stream 2nd	3.923	Drift	757.800
R3	Stream	4.175	Drift	85.760
R4	Stream	2.904	Drift	238.200

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	3.265	Drift	4.984
D6	Ditch	3.339	Drift	22.470
R1	Pond	1.921	Runoff	70.280
R1	Stream	3.785	Runoff	417.900
R2	Stream	2.874	Drift	1746.200
R2	Stream 2nd	2.840	Drift	2133.100
R3	Stream	3.024	Drift	287.000
R4	Stream	4.687	Runoff	696.400

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035

Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	3.696	Drift	2.559
D4	Pond	0.144	Drift	2.289
D4	Stream	2.958	Drift	0.107
D6	Ditch	3.656	Drift	1.242
D6	Ditch 2nd	3.678	Drift	1.696
R1	Pond	0.164	Runoff	11.460
R1	Stream	2.560	Drift	78.060
R2	Stream	3.309	Drift	812.300
R3	Stream	3.619	Drift	87.340

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	2.680	Drift	3.925
D4	Pond	0.156	Drift	4.577
D4	Stream	2.242	Drift	0.408
D6	Ditch	2.686	Drift	3.967
D6	Ditch 2nd	2.666	Drift	2.637
R1	Pond	1.127	Runoff	46.840
R1	Stream	3.832	Runoff	291.900
R2	Stream	2.422	Drift	1865.200
R3	Stream	2.837	Runoff	190.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	3.694	Drift	2.419
D4	Pond	0.144	Drift	2.516
D4	Stream	3.144	Drift	0.208
D6	Ditch	3.722	Drift	7.772
D6	Ditch 2nd	3.733	Drift	13.850
R1	Pond	0.470	Runoff	23.210
R1	Stream	2.562	Drift	181.700

R2	Stream	3.441	Drift	642.100
R3	Stream	3.613	Drift	366.100

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	2.678	Drift	3.583
D4	Pond	0.190	Drainage	5.638
D4	Stream	2.315	Drift	0.817
D6	Ditch	2.698	Drift	5.663
D6	Ditch 2nd	2.706	Drift	10.120
R1	Pond	2.168	Runoff	80.510
R1	Stream	4.241	Runoff	486.300
R2	Stream	2.483	Drift	1854.600
R3	Stream	2.608	Drift	938.400

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	4.470	Drift	2.922
D4	Pond	0.149	Drift	2.356
D4	Stream	3.265	Drift	0.091
D6	Ditch	4.465	Drift	2.577
D6	Ditch 2nd	4.518	Drift	16.130
R1	Pond	0.165	Runoff	11.990
R1	Stream	2.953	Drift	82.610
R2	Stream	3.867	Drift	695.300
R3	Stream	4.174	Drift	108.400
R4	Stream	2.917	Drift	50.810

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	3.256	Drift	4.737
D4	Pond	0.149	Drift	4.813
D4	Stream	2.505	Drift	0.428
D6	Ditch	3.249	Drift	3.300
D6	Ditch 2^{nd}	3.356	Drift	25.580
R1	Pond	1.117	Runoff	44.590
R1	Stream	4.108	Runoff	271.500
R2	Stream	2.833	Drift	1954.600
R3	Stream	3.040	Runoff	392.100
R4	Stream	5.480	Runoff	142.400

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	4.468	Drift	2.767
D4	Pond	0.149	Drift	2.582
D4	Stream	3.534	Drift	0.191
D6	Ditch	4.518	Drift	15.930
D6	Ditch 2^{nd}	4.382	Drift	0.939
R1	Pond	0.451	Runoff	22.050
R1	Stream	2.955	Drift	180.700
R2	Stream	3.969	Drift	527.700
R3	Stream	4.168	Drift	156.500
R4	Stream	2.955	Drift	162.900

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486

Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	3.251	Drift	4.311
D4	Pond	0.184	Drainage	5.913
D4	Stream	2.655	Drift	0.826
D6	Ditch	3.327	Drift	20.760
D6	Ditch 2nd	3.301	Drift	15.810
R1	Pond	2.097	Runoff	76.570
R1	Stream	4.082	Runoff	488.300
R2	Stream	2.874	Drift	1634.100
R3	Stream	3.023	Drift	587.200
R4	Stream	4.846	Runoff	459.900

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D6	Ditch	4.425	Drift	1.500
R2	Stream	3.818	Drift	824.700
R3	Stream	4.155	Drift	116.300
R4	Stream	2.943	Drift	87.040

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D6	Ditch	3.263	Drift	4.758
R2	Stream	2.803	Drift	1889.000
R3	Stream	3.159	Runoff	236.900
R4	Stream	5.938	Runoff	559.600

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D6	Ditch	4.509	Drift	12.030
R2	Stream	3.969	Drift	922.200
R3	Stream	4.175	Drift	366.100
R4	Stream	2.955	Drift	224.000

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D6	Ditch	3.328	Drift	20.900
R2	Stream	2.873	Drift	2668.800
R3	Stream	3.023	Drift	938.300
R4	Stream	4.879	Runoff	616.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	4.470	Drift	2.893
D3	Ditch 2nd	4.482	Drift	3.723
D4	Pond	0.149	Drift	2.362
D4	Stream	3.412	Drift	0.124
D6	Ditch	4.518	Drift	16.040
R1	Pond	0.253	Runoff	19.090

R1	Pond 2nd	0.582	Runoff	27.450
R1	Stream	2.954	Drift	221.000
R1	Stream 2nd	2.930	Drift	434.800
R2	Stream	3.867	Drift	696.000
R2	Stream 2nd	3.969	Drift	481.300
R3	Stream	4.175	Drift	267.900
R3	Stream 2nd	4.175	Drift	132.700
R4	Stream	2.918	Drift	93.810
R4	Stream 2nd	2.902	Drift	324.200

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	3.256	Drift	4.691
D3	Ditch 2nd	3.263	Drift	6.189
D4	Pond	0.141	Drift	4.752
D4	Stream	2.550	Drift	0.428
D6	Ditch	3.331	Drift	21.330
R1	Pond	1.102	Runoff	53.800
R1	Pond 2nd	1.385	Runoff	67.510
R1	Stream	4.056	Runoff	373.700
R1	Stream 2nd	2.992	Runoff	848.000
R2	Stream	2.834	Drift	1958.400
R2	Stream 2nd	2.882	Drift	955.600
R3	Stream	3.039	Runoff	641.100
R3	Stream 2nd	3.040	Drift	456.900
R4	Stream	5.207	Runoff	180.600
R4	Stream 2nd	5.286	Runoff	783.600

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	4.486	Drift	4.078
D3	Ditch 2nd	4.447	Drift	1.914
D4	Pond	0.149	Drift	2.592
D4	Stream	3.605	Drift	0.223

D6	Ditch	4.518	Drift	16.620
R1	Pond	0.376	Runoff	22.340
R1	Pond 2nd	0.503	Runoff	26.370
R1	Stream	2.907	Drift	189.400
R1	Stream 2nd	2.952	Drift	266.700
R2	Stream	3.969	Drift	737.600
R2	Stream 2nd	3.908	Drift	818.100
R3	Stream	4.175	Drift	534.200
R3	Stream 2nd	4.164	Drift	366.000
R4	Stream	2.955	Drift	266.900
R4	Stream 2nd	2.955	Drift	361.100

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	3.264	Drift	5.137
D3	Ditch 2nd	3.247	Drift	3.929
D4	Pond	0.197	Drainage	5.764
D4	Stream	2.679	Drift	0.881
D6	Ditch	3.288	Drift	12.190
R1	Pond	1.855	Runoff	77.990
R1	Pond 2nd	2.178	Runoff	83.780
R1	Stream	3.624	Runoff	478.400
R1	Stream 2nd	3.986	Runoff	603.800
R2	Stream	2.873	Drift	2078.900
R2	Stream 2nd	2.829	Drift	1896.500
R3	Stream	3.078	Drift	1425.200
R3	Stream 2nd	3.015	Drift	938.200
R4	Stream	4.132	Runoff	724.500
R4	Stream 2nd	5.612	Runoff	1048.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	3.696	Drift	2.539
D4	Pond	0.144	Drift	2.286

D4	Stream	2.830	Drift	0.079
R1	Pond	0.232	Drift	10.630
R1	Stream	2.481	Drift	59.660
R3	Stream	3.619	Drift	80.850

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	2.682	Drift	4.167
D4	Pond	0.145	Drift	4.670
D4	Stream	2.165	Drift	0.314
R1	Pond	0.969	Runoff	39.310
R1	Stream	4.083	Runoff	218.400
R3	Stream	2.900	Runoff	187.600

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	3.694	Drift	2.415
D4	Pond	0.144	Drift	2.467
D4	Stream	3.239	Drift	0.314
R1	Pond	0.482	Runoff	22.080
R1	Stream	2.562	Drift	206.800
R3	Stream	3.610	Drift	366.100

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000

Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	2.678	Drift	4.166
D4	Pond	0.149	Drift	4.818
D4	Stream	2.374	Drift	0.635
R1	Pond	2.171	Runoff	72.980
R1	Stream	3.993	Runoff	546.800
R3	Stream	2.605	Drift	938.400

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	1.884	Drift	1.383
D4	Pond	0.119	Drift	1.900
D4	Stream	1.445	Drift	0.040
D5	Pond	0.119	Drift	1.971
D5	Stream	1.594	Drift	0.050
R1	Pond	0.119	Drift	1.954
R1	Stream	1.306	Drift	1.358
R2	Stream	1.722	Drift	8.698
R3	Stream	1.832	Drift	2.492
R4	Stream	1.297	Drift	8.887

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	1.353	Drift	2.910
D4	Pond	0.118	Drift	3.718
D4	Stream	1.167	Drift	0.191
D5	Pond	0.135	Drift	3.901
D5	Stream	1.317	Drift	0.502
R1	Pond	0.136	Drift	4.023
R1	Stream	2.042	Runoff	4.028
R2	Stream	1.249	Drift	21.500
R3	Stream	1.317	Drift	6.488

R4	Stream	2.881	Runoff	20.760

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D3	Ditch	1.894	Drift	2.541
D4	Pond	0.119	Drift	2.129
D4	Stream	1.674	Drift	0.203
D5	Pond	0.119	Drift	2.134
D5	Stream	1.849	Drift	0.540
R1	Pond	0.123	Drift	2.811
R1	Stream	1.307	Drift	3.388
R2	Stream	1.757	Drift	31.900
R3	Stream	1.848	Drift	34.250
R4	Stream	1.307	Drift	16.080

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D3	Ditch	1.355	Drift	3.481
D4	Pond	0.136	Drift	4.529
D4	Stream	1.192	Drift	0.554
D5	Pond	0.138	Drift	4.316
D5	Stream	1.317	Drift	1.032
R1	Pond	0.181	Runoff	7.712
R1	Stream	3.103	Runoff	8.543
R2	Stream	1.251	Drift	82.570
R3	Stream	1.880	Runoff	42.090
R4	Stream	4.414	Runoff	39.640

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000

Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D6	Ditch	1.900	Drift	5.841
R4	Stream	1.299	Drift	16.410

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D6	Ditch	1.384	Drift	11.430
R4	Stream	3.993	Runoff	45.660

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D6	Ditch	1.902	Drift	7.036
R4	Stream	1.459	Runoff	18.980

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000

Step 3				
D6	Ditch	1.387	Drift	12.460
R4	Stream	5.228	Runoff	46.770

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, early application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846
Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D6	Ditch	1.893	Drift	2.527
R1	Pond	0.119	Drift	1.973
R1	Stream	1.306	Drift	1.876
R2	Stream	1.721	Drift	8.911
R3	Stream	1.829	Drift	2.254
R4	Stream	1.294	Drift	13.700

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, early application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D6	Ditch	1.378	Drift	10.060
R1	Pond	0.139	Drift	4.314
R1	Stream	2.519	Runoff	5.782
R2	Stream	1.247	Drift	22.330
R3	Stream	1.317	Drift	5.986
R4	Stream	3.796	Runoff	38.840

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, late application (1 × 720 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	41.930	-	1570.000
Step 2				
Northern Europe	Mar-May	8.310	-	341.678
Northern Europe	Jun-Sep	8.310	-	341.678
Northern Europe	Oct-Feb	18.721	-	792.933
Southern Europe	Mar-May	15.251	-	642.035
Southern Europe	Jun-Sep	11.780	-	491.846

Southern Europe	Oct-Feb	15.251	-	642.035
Step 3				
D6	Ditch	1.902	Drift	7.036
R1	Pond	0.123	Drift	2.806
R1	Stream	1.307	Drift	3.413
R2	Stream	1.757	Drift	31.850
R3	Stream	1.848	Drift	34.270
R4	Stream	1.398	Runoff	16.920

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, late application (3 × 720 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	21.153	-	882.486
Northern Europe	Jun-Sep	21.153	-	882.486
Northern Europe	Oct-Feb	48.975	-	2090.000
Southern Europe	Mar-May	39.701	-	1690.000
Southern Europe	Jun-Sep	30.427	-	1280.000
Southern Europe	Oct-Feb	39.701	-	1690.000
Step 3				
D6	Ditch	1.684	Drainage	12.470
R1	Pond	0.179	Runoff	7.700
R1	Stream	2.997	Runoff	8.560
R2	Stream	1.251	Drift	82.570
R3	Stream	1.869	Runoff	42.070
R4	Stream	5.009	Runoff	41.540

PEC calculations for 1 x 1440 g/ha and 2 x 1440 g/ha

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	8.974	Drift	5.846
D6	Ditch	8.904	Drift	3.457
R1	Pond	0.372	Runoff	24.630
R1	Stream	5.932	Drift	124.200
R2	Stream	7.764	Drift	1301.300
R2	Stream 2^{nd}	7.968	Drift	1005.700
R3	Stream	8.381	Drift	189.900
R4	Stream	5.860	Drift	76.210

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	9.007	Drift	8.308
D6	Ditch	9.030	Drift	13.950
R1	Pond	1.004	Runoff	40.990
R1	Stream	5.936	Drift	250.900
R2	Stream	7.968	Drift	1013.000
R2	Stream 2nd	7.877	Drift	1388.900
R3	Stream	8.381	Drift	143.100
R4	Stream	5.833	Drift	372.700

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	7.422	Drift	5.125
D4	Pond	0.292	Drift	4.462
D4	Stream	5.941	Drift	0.229
D6	Ditch	7.342	Drift	2.511
D6	Ditch 2nd	7.385	Drift	3.416
R1	Pond	0.375	Runoff	23.780
R1	Stream	5.143	Drift	120.500
R2	Stream	6.646	Drift	1547.900
R3	Stream	7.267	Drift	134.400

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000

Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	7.417	Drift	4.846
D4	Pond	0.292	Drift	5.082
D4	Stream	6.314	Drift	0.502
D6	Ditch	7.473	Drift	15.430
D6	Ditch 2nd	7.496	Drift	27.250
R1	Pond	1.179	Runoff	48.470
R1	Stream	5.147	Drift	294.400
R2	Stream	6.909	Drift	1178.700
R3	Stream	7.255	Drift	614.100

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	8.974	Drift	5.849
D4	Pond	0.301	Drift	4.582
D4	Stream	6.557	Drift	0.215
D6	Ditch	8.963	Drift	5.196
D6	Ditch 2nd	9.070	Drift	31.720
R1	Pond	0.377	Runoff	24.820
R1	Stream	5.932	Drift	127.400
R2	Stream	7.764	Drift	1305.000
R3	Stream	8.380	Drift	173.500
R4	Stream	5.858	Drift	75.810

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	8.970	Drift	5.541
D4	Pond	0.301	Drift	5.238
D4	Stream	7.096	Drift	0.483
D6	Ditch	9.070	Drift	31.350
D6	Ditch 2nd	8.797	Drift	1.912
R1	Pond	1.130	Runoff	45.900

R1	Stream	5.936	Drift	296.000
R2	Stream	7.968	Drift	962.800
R3	Stream	8.367	Drift	265.900
R4	Stream	5.934	Drift	247.200

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D6	Ditch	8.884	Drift	3.024
R2	Stream	7.665	Drift	1568.500
R3	Stream	8.342	Drift	217.700
R4	Stream	5.911	Drift	129.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D6	Ditch	9.051	Drift	23.730
R2	Stream	7.968	Drift	1675.900
R3	Stream	8.381	Drift	614.100
R4	Stream	5.935	Drift	344.000

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	8.974	Drift	5.790

D3	Ditch 2nd	8.998	Drift	7.445
D4	Pond	0.301	Drift	4.601
D4	Stream	6.852	Drift	0.249
D6	Ditch	9.070	Drift	31.550
R1	Pond	0.638	Runoff	38.320
R1	Pond 2nd	1.448	Runoff	57.330
R1	Stream	5.933	Drift	348.600
R1	Stream 2nd	5.885	Drift	809.100
R2	Stream	7.765	Drift	1307.300
R2	Stream 2nd	7.968	Drift	863.100
R3	Stream	8.381	Drift	430.300
R3	Stream 2nd	8.381	Drift	240.400
R4	Stream	5.861	Drift	128.200
R4	Stream 2nd	5.828	Drift	572.400

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (μg/L)	Dominant entry route	Max PEC_{sed} (μg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	9.005	Drift	8.150
D3	Ditch 2nd	8.928	Drift	3.836
D4	Pond	0.302	Drift	5.248
D4	Stream	7.238	Drift	0.538
D6	Ditch	9.070	Drift	32.690
R1	Pond	0.951	Runoff	46.630
R1	Pond 2nd	1.272	Runoff	54.230
R1	Stream	5.840	Drift	310.700
R1	Stream 2nd	5.930	Drift	431.400
R2	Stream	7.968	Drift	1367.800
R2	Stream 2nd	7.846	Drift	1515.200
R3	Stream	8.381	Drift	988.600
R3	Stream 2nd	8.360	Drift	613.900
R4	Stream	5.934	Drift	444.000
R4	Stream 2nd	5.935	Drift	574.900

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (μg/L)	Dominant entry route	Max PEC_{sed} (μg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000

Step 3				
D3	Ditch	7.421	Drift	5.083
D4	Pond	0.292	Drift	4.448
D4	Stream	5.685	Drift	0.160
R1	Pond	0.518	Runoff	22.190
R1	Stream	4.984	Drift	97.000
R3	Stream	7.267	Drift	130.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	7.418	Drift	4.837
D4	Pond	0.292	Drift	4.962
D4	Stream	6.505	Drift	0.685
R1	Pond	1.219	Runoff	46.420
R1	Stream	5.146	Drift	354.500
R3	Stream	7.248	Drift	614.200

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	3.787	Drift	2.773
D4	Pond	0.240	Drift	3.704
D4	Stream	2.904	Drift	0.082
D5	Pond	0.240	Drift	3.854
D5	Stream	3.204	Drift	0.101
R1	Pond	0.240	Drift	3.813
R1	Stream	2.627	Drift	2.550
R2	Stream	3.462	Drift	14.680
R3	Stream	3.681	Drift	4.213
R4	Stream	2.609	Drift	13.100

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, early application (2 × 1440 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	167.718	-	6280.000
Step 2				
Northern Europe	Mar-May	30.666	-	1270.000
Northern Europe	Jun-Sep	30.666	-	1270.000
Northern Europe	Oct-Feb	69.948	-	2970.000
Southern Europe	Mar-May	56.854	-	2400.000
Southern Europe	Jun-Sep	43.760	-	1840.000
Southern Europe	Oct-Feb	56.854	-	2400.000
Step 3				
D3	Ditch	3.215	Drift	4.533
D4	Pond	0.263	Drift	5.839
D4	Stream	2.551	Drift	0.258
D5	Pond	0.266	Drift	6.065
D5	Stream	2.954	Drift	0.308
R1	Pond	0.249	Drift	6.226
R1	Stream	3.130	Runoff	5.558
R2	Stream	2.915	Drift	25.110
R3	Stream	3.111	Drift	6.997
R4	Stream	6.376	Runoff	21.990

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D3	Ditch	3.806	Drift	5.080
D4	Pond	0.240	Drift	4.241
D4	Stream	3.364	Drift	0.425
D5	Pond	0.240	Drift	4.162
D5	Stream	3.716	Drift	1.087
R1	Pond	0.250	Drift	5.742
R1	Stream	2.629	Drift	5.566
R2	Stream	3.530	Drift	54.590
R3	Stream	3.714	Drift	61.020
R4	Stream	2.981	Runoff	26.700

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to pome / stone fruit, early, late application (2 × 1440 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	167.718	-	6280.000
Step 2				
Northern Europe	Mar-May	30.666	-	1270.000

Northern Europe	Jun-Sep	30.666	-	1270.000
Northern Europe	Oct-Feb	69.948	-	2970.000
Southern Europe	Mar-May	56.854	-	2400.000
Southern Europe	Jun-Sep	43.760	-	1840.000
Southern Europe	Oct-Feb	56.854	-	2400.000
Step 3				
D3	Ditch	3.227	Drift	6.678
D4	Pond	0.276	Drift	7.236
D4	Stream	2.829	Drift	0.870
D5	Pond	0.280	Drift	6.719
D5	Stream	3.125	Drift	1.711
R1	Pond	0.283	Drift	10.790
R1	Stream	4.266	Runoff	9.910
R2	Stream	2.969	Drift	101.400
R3	Stream	3.123	Drift	61.630
R4	Stream	5.590	Runoff	45.430

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D6	Ditch	3.818	Drift	11.560
R4	Stream	3.222	Runoff	24.630

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, early application (2 × 1440 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	167.718	-	6280.000
Step 2				
Northern Europe	Mar-May	30.666	-	1270.000
Northern Europe	Jun-Sep	30.666	-	1270.000
Northern Europe	Oct-Feb	69.948	-	2970.000
Southern Europe	Mar-May	56.854	-	2400.000
Southern Europe	Jun-Sep	43.760	-	1840.000
Southern Europe	Oct-Feb	56.854	-	2400.000
Step 3				
D6	Ditch	3.265	Drift	18.720
R4	Stream	8.714	Runoff	40.940

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				

Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D6	Ditch	3.822	Drift	13.910
R4	Stream	3.675	Runoff	31.890

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to olives, late application (2 × 1440 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	167.718	-	6280.000
Step 2				
Northern Europe	Mar-May	30.666	-	1270.000
Northern Europe	Jun-Sep	30.666	-	1270.000
Northern Europe	Oct-Feb	69.948	-	2970.000
Southern Europe	Mar-May	56.854	-	2400.000
Southern Europe	Jun-Sep	43.760	-	1840.000
Southern Europe	Oct-Feb	56.854	-	2400.000
Step 3				
D6	Ditch	3.281	Drift	21.090
R4	Stream	6.773	Runoff	55.440

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, early application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D6	Ditch	3.805	Drift	5.053
R1	Pond	0.240	Drift	3.883
R1	Stream	2.626	Drift	3.581
R2	Stream	3.458	Drift	15.110
R3	Stream	3.675	Drift	3.807
R4	Stream	3.062	Runoff	20.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, early application (2 × 1440 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	167.718	-	6280.000
Step 2				
Northern Europe	Mar-May	30.666	-	1270.000
Northern Europe	Jun-Sep	30.666	-	1270.000
Northern Europe	Oct-Feb	69.948	-	2970.000

Southern Europe	Mar-May	56.854	-	2400.000
Southern Europe	Jun-Sep	43.760	-	1840.000
Southern Europe	Oct-Feb	56.854	-	2400.000
Step 3				
D6	Ditch	3.249	Drift	14.810
R1	Pond	0.249	Drift	6.561
R1	Stream	3.311	Runoff	7.697
R2	Stream	2.914	Drift	26.080
R3	Stream	3.105	Drift	6.279
R4	Stream	8.306	Runoff	34.980

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, late application (1 × 1440 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.859	-	3140.000
Step 2				
Northern Europe	Mar-May	16.619	-	683.356
Northern Europe	Jun-Sep	16.619	-	683.356
Northern Europe	Oct-Feb	37.443	-	1590.000
Southern Europe	Mar-May	30.501	-	1280.000
Southern Europe	Jun-Sep	23.560	-	983.693
Southern Europe	Oct-Feb	30.501	-	1280.000
Step 3				
D6	Ditch	3.822	Drift	13.910
R1	Pond	0.250	Drift	5.732
R1	Stream	2.629	Drift	5.581
R2	Stream	3.530	Drift	54.560
R3	Stream	3.714	Drift	61.100
R4	Stream	3.505	Runoff	28.410

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vines, early, late application (2 × 1440 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	167.718	-	6280.000
Step 2				
Northern Europe	Mar-May	30.666	-	1270.000
Northern Europe	Jun-Sep	30.666	-	1270.000
Northern Europe	Oct-Feb	69.948	-	2970.000
Southern Europe	Mar-May	56.854	-	2400.000
Southern Europe	Jun-Sep	43.760	-	1840.000
Southern Europe	Oct-Feb	56.854	-	2400.000
Step 3				
D6	Ditch	3.406	Drainage	21.120
R1	Pond	0.283	Drift	10.770
R1	Stream	4.123	Runoff	9.906
R2	Stream	2.969	Drift	101.400
R3	Stream	3.123	Drift	61.620
R4	Stream	6.437	Runoff	49.080

PEC calculations for 1 x 540 g/ha

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, early application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	3.347	Drift	2.188
D6	Ditch	3.321	Drift	1.291
R1	Pond	0.116	Runoff	8.727
R1	Stream	2.211	Drift	66.240
R2	Stream	2.895	Drift	530.500
R2	Stream 2nd	2.971	Drift	424.300
R3	Stream	3.126	Drift	95.670
R4	Stream	2.184	Drift	42.850

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, late application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	3.359	Drift	3.117
D6	Ditch	3.368	Drift	5.266
R1	Pond	0.273	Runoff	14.560
R1	Stream	2.212	Drift	127.100
R2	Stream	2.971	Drift	422.800
R2	Stream 2nd	2.937	Drift	585.900
R3	Stream	3.125	Drift	68.620
R4	Stream	2.174	Drift	195.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, early application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700

Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	2.767	Drift	1.918
D4	Pond	0.108	Drift	1.732
D4	Stream	2.214	Drift	0.080
D6	Ditch	2.737	Drift	0.928
D6	Ditch 2nd	2.753	Drift	1.269
R1	Pond	0.116	Runoff	8.456
R1	Stream	1.916	Drift	64.680
R2	Stream	2.477	Drift	619.700
R3	Stream	2.709	Drift	72.350

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, late application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	2.765	Drift	1.812
D4	Pond	0.108	Drift	1.889
D4	Stream	2.353	Drift	0.148
D6	Ditch	2.786	Drift	5.842
D6	Ditch 2nd	2.794	Drift	10.440
R1	Pond	0.318	Runoff	17.070
R1	Stream	1.917	Drift	147.800
R2	Stream	2.575	Drift	496.300
R3	Stream	2.705	Drift	292.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, early application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	3.347	Drift	2.190
D4	Pond	0.111	Drift	1.783
D4	Stream	2.444	Drift	0.068
D6	Ditch	3.343	Drift	1.928
D6	Ditch 2nd	3.383	Drift	12.160
R1	Pond	0.118	Runoff	8.860

R1	Stream	2.211	Drift	68.440
R2	Stream	2.895	Drift	533.100
R3	Stream	3.125	Drift	88.210
R4	Stream	2.183	Drift	42.880

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, late application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	3.345	Drift	2.073
D4	Pond	0.111	Drift	1.937
D4	Stream	2.645	Drift	0.134
D6	Ditch	3.383	Drift	12.010
D6	Ditch 2^{nd}	3.281	Drift	0.701
R1	Pond	0.306	Runoff	16.230
R1	Stream	2.212	Drift	146.000
R2	Stream	2.971	Drift	408.700
R3	Stream	3.120	Drift	124.400
R4	Stream	2.212	Drift	135.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, early application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D6	Ditch	3.313	Drift	1.122
R2	Stream	2.858	Drift	629.600
R3	Stream	3.111	Drift	89.410
R4	Stream	2.203	Drift	74.850

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, late application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259

Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D6	Ditch	3.376	Drift	9.061
R2	Stream	2.971	Drift	715.300
R3	Stream	3.125	Drift	292.500
R4	Stream	2.212	Drift	185.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, early application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	3.347	Drift	2.168
D3	Ditch 2nd	3.356	Drift	2.791
D4	Pond	0.111	Drift	1.787
D4	Stream	2.554	Drift	0.093
D6	Ditch	3.383	Drift	12.090
R1	Pond	0.171	Runoff	14.290
R1	Pond 2nd	0.398	Runoff	20.180
R1	Stream	2.211	Drift	180.800
R1	Stream 2nd	2.193	Drift	334.600
R2	Stream	2.895	Drift	533.500
R2	Stream 2nd	2.971	Drift	375.100
R3	Stream	3.125	Drift	217.400
R3	Stream 2nd	3.125	Drift	103.100
R4	Stream	2.184	Drift	81.580
R4	Stream 2nd	2.172	Drift	254.400

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, late application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	3.358	Drift	3.057
D3	Ditch 2nd	3.330	Drift	1.433
D4	Pond	0.111	Drift	1.944
D4	Stream	2.698	Drift	0.159

D6	Ditch	3.383	Drift	12.530
R1	Pond	0.254	Runoff	16.420
R1	Pond 2nd	0.341	Runoff	19.550
R1	Stream	2.176	Drift	152.800
R1	Stream 2nd	2.210	Drift	216.400
R2	Stream	2.971	Drift	568.200
R2	Stream 2nd	2.925	Drift	630.200
R3	Stream	3.125	Drift	413.100
R3	Stream 2nd	3.118	Drift	292.500
R4	Stream	2.212	Drift	214.300
R4	Stream 2nd	2.212	Drift	294.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, early application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	2.767	Drift	1.902
D4	Pond	0.108	Drift	1.731
D4	Stream	2.118	Drift	0.059
R1	Pond	0.167	Drift	7.810
R1	Stream	1.857	Drift	48.720
R3	Stream	2.709	Drift	65.840

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, late application (1 × 540 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	31.447	-	1180.000
Step 2				
Northern Europe	Mar-May	6.232	-	256.259
Northern Europe	Jun-Sep	6.232	-	256.259
Northern Europe	Oct-Feb	14.041	-	594.700
Southern Europe	Mar-May	11.438	-	481.526
Southern Europe	Jun-Sep	8.835	-	368.885
Southern Europe	Oct-Feb	11.438	-	481.526
Step 3				
D3	Ditch	2.765	Drift	1.809
D4	Pond	0.108	Drift	1.851
D4	Stream	2.425	Drift	0.234
R1	Pond	0.326	Runoff	16.200
R1	Stream	1.917	Drift	164.300
R3	Stream	2.702	Drift	292.500

PEC calculations for 1 x 1080 g/ha and 2 x 1080 g/ha

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, early application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	6.721	Drift	4.384
D6	Ditch	6.669	Drift	2.591
R1	Pond	0.264	Runoff	18.180
R1	Stream	4.442	Drift	103.800
R2	Stream	5.815	Drift	1003.500
R2	Stream 2nd	5.967	Drift	784.200
R3	Stream	6.277	Drift	156.500
R4	Stream	4.388	Drift	64.510

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, early application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	5.870	Drift	6.130
D6	Ditch	5.928	Drift	20.040
R1	Pond	0.943	Runoff	41.210
R1	Stream	4.183	Runoff	245.600
R2	Stream	5.027	Drift	1866.000
R2	Stream 2nd	5.157	Drift	991.600
R3	Stream	5.427	Drift	268.800
R4	Stream	5.145	Runoff	154.800

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, late application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000

Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	6.745	Drift	6.235
D6	Ditch	6.763	Drift	10.490
R1	Pond	0.690	Runoff	30.320
R1	Stream	4.445	Drift	207.000
R2	Stream	5.967	Drift	787.100
R2	Stream 2nd	5.899	Drift	1082.900
R3	Stream	6.277	Drift	116.200
R4	Stream	4.368	Drift	311.000

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, root, late application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	5.890	Drift	7.755
D6	Ditch	5.956	Drift	26.970
R1	Pond	1.814	Runoff	66.350
R1	Stream	3.840	Drift	363.300
R2	Stream	5.156	Drift	1677.700
R2	Stream 2nd	5.097	Drift	2078.800
R3	Stream	5.424	Drift	223.800
R4	Stream	3.945	Runoff	594.800

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, early application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	5.558	Drift	3.842
D4	Pond	0.218	Drift	3.385
D4	Stream	4.448	Drift	0.162
D6	Ditch	5.498	Drift	1.874
D6	Ditch 2nd	5.530	Drift	2.554
R1	Pond	0.265	Runoff	17.570
R1	Stream	3.851	Drift	100.900

R2	Stream	4.976	Drift	1186.200
R3	Stream	5.442	Drift	112.800

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, early application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	4.819	Drift	5.498
D4	Pond	0.241	Drift	5.348
D4	Stream	3.825	Drift	0.410
D6	Ditch	4.766	Drift	2.343
D6	Ditch 2nd	4.794	Drift	3.859
R1	Pond	1.126	Runoff	42.370
R1	Stream	4.041	Runoff	237.500
R2	Stream	4.337	Drift	1616.400
R3	Stream	4.682	Drift	175.600

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, late application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	5.554	Drift	3.633
D4	Pond	0.218	Drift	3.785
D4	Stream	4.728	Drift	0.344
D6	Ditch	5.596	Drift	11.610
D6	Ditch 2nd	5.613	Drift	20.590
R1	Pond	0.808	Runoff	35.750
R1	Stream	3.853	Drift	241.000
R2	Stream	5.174	Drift	918.400
R3	Stream	5.433	Drift	497.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to potatoes, late application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				

Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	4.815	Drift	4.817
D4	Pond	0.249	Drift	6.620
D4	Stream	4.067	Drift	0.809
D6	Ditch	4.851	Drift	10.090
D6	Ditch 2nd	4.866	Drift	17.930
R1	Pond	2.094	Runoff	78.100
R1	Stream	4.127	Runoff	451.300
R2	Stream	4.451	Drift	1741.800
R3	Stream	4.674	Drift	885.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, early application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	6.721	Drift	4.386
D4	Pond	0.225	Drift	3.480
D4	Stream	4.910	Drift	0.137
D6	Ditch	6.713	Drift	3.882
D6	Ditch 2nd	6.793	Drift	23.970
R1	Pond	0.267	Runoff	18.360
R1	Stream	4.442	Drift	106.800
R2	Stream	5.814	Drift	1006.900
R3	Stream	6.276	Drift	143.400
R4	Stream	4.386	Drift	64.290

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, early application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	5.870	Drift	6.134
D4	Pond	0.237	Drift	5.612

D4	Stream	4.497	Drift	0.417
D6	Ditch	5.862	Drift	5.093
D6	Ditch 2nd	6.011	Drift	35.060
R1	Pond	0.953	Runoff	41.770
R1	Stream	4.202	Runoff	245.800
R2	Stream	5.027	Drift	1869.200
R3	Stream	5.427	Drift	248.000
R4	Stream	5.300	Runoff	91.110

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, late application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	6.718	Drift	4.155
D4	Pond	0.225	Drift	3.893
D4	Stream	5.314	Drift	0.324
D6	Ditch	6.793	Drift	23.680
D6	Ditch 2nd	6.589	Drift	1.422
R1	Pond	0.775	Runoff	33.910
R1	Stream	4.445	Drift	242.100
R2	Stream	5.967	Drift	752.200
R3	Stream	6.266	Drift	214.200
R4	Stream	4.444	Drift	208.900

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, bulb, late application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	5.866	Drift	5.898
D4	Pond	0.257	Drift	6.862
D4	Stream	4.591	Drift	0.819
D6	Ditch	6.011	Drift	35.160
D6	Ditch 2nd	5.908	Drift	10.510
R1	Pond	2.014	Runoff	74.010
R1	Stream	3.954	Runoff	452.900
R2	Stream	5.156	Drift	1572.000
R3	Stream	5.424	Drift	472.400
R4	Stream	4.999	Runoff	382.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, early application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D6	Ditch	6.653	Drift	2.260
R2	Stream	5.740	Drift	1202.800
R3	Stream	6.248	Drift	168.100
R4	Stream	4.426	Drift	106.900

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, early application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D6	Ditch	5.810	Drift	2.826
R2	Stream	5.025	Drift	1636.200
R3	Stream	5.425	Drift	225.800
R4	Stream	6.236	Runoff	607.600

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, late application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D6	Ditch	6.779	Drift	17.910
R2	Stream	5.967	Drift	1311.600
R3	Stream	6.276	Drift	497.400
R4	Stream	4.444	Drift	289.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, fruiting, late application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D6	Ditch	6.017	Drift	36.470
R2	Stream	5.156	Drift	2597.700
R3	Stream	5.423	Drift	885.200
R4	Stream	5.824	Runoff	515.800

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, early application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	6.721	Drift	4.342
D3	Ditch 2nd	6.739	Drift	5.585
D4	Pond	0.225	Drift	3.492
D4	Stream	5.131	Drift	0.186
D6	Ditch	6.793	Drift	23.840
R1	Pond	0.435	Runoff	28.700
R1	Pond 2nd	0.994	Runoff	42.280
R1	Stream	4.442	Drift	289.900
R1	Stream 2nd	4.407	Drift	626.400
R2	Stream	5.815	Drift	1008.400
R2	Stream 2nd	5.967	Drift	679.400
R3	Stream	6.277	Drift	355.300
R3	Stream 2nd	6.277	Drift	188.400
R4	Stream	4.389	Drift	113.000
R4	Stream 2nd	4.364	Drift	453.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, early application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	5.870	Drift	6.073
D3	Ditch 2nd	5.886	Drift	8.529
D4	Pond	0.221	Drift	5.549
D4	Stream	4.497	Drift	0.436
D6	Ditch	5.996	Drift	33.170
R1	Pond	1.063	Runoff	52.770
R1	Pond 2nd	1.537	Runoff	74.940
R1	Stream	4.148	Runoff	371.200
R1	Stream 2nd	3.855	Drift	1012.600
R2	Stream	5.027	Drift	1872.000
R2	Stream 2nd	5.162	Drift	987.500
R3	Stream	5.426	Drift	551.700
R3	Stream 2nd	5.435	Drift	432.700
R4	Stream	5.023	Runoff	144.800
R4	Stream 2nd	5.758	Runoff	856.300

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, late application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	6.744	Drift	6.116
D3	Ditch 2nd	6.687	Drift	2.875
D4	Pond	0.225	Drift	3.904
D4	Stream	5.421	Drift	0.369
D6	Ditch	6.793	Drift	24.710
R1	Pond	0.650	Runoff	34.410
R1	Pond 2nd	0.868	Runoff	40.210
R1	Stream	4.373	Drift	254.000
R1	Stream 2nd	4.440	Drift	354.700
R2	Stream	5.967	Drift	1061.100
R2	Stream 2nd	5.876	Drift	1176.000
R3	Stream	6.276	Drift	767.500
R3	Stream 2nd	6.261	Drift	497.200
R4	Stream	4.444	Drift	360.700

R4	Stream 2nd	4.444	Drift	476.100

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to vegetables, leafy, late application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	5.889	Drift	6.417
D3	Ditch 2nd	5.846	Drift	4.775
D4	Pond	0.258	Drift	6.790
D4	Stream	4.684	Drift	0.880
D6	Ditch	5.932	Drift	21.670
R1	Pond	1.758	Runoff	76.920
R1	Pond 2nd	2.164	Runoff	82.350
R1	Stream	3.841	Drift	466.200
R1	Stream 2nd	4.336	Runoff	557.100
R2	Stream	5.156	Drift	1906.000
R2	Stream 2nd	5.077	Drift	2161.800
R3	Stream	5.480	Drift	1522.500
R3	Stream 2nd	5.410	Drift	885.000
R4	Stream	5.282	Runoff	683.800
R4	Stream 2nd	5.492	Runoff	935.600

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, early application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	5.557	Drift	3.811
D4	Pond	0.218	Drift	3.378
D4	Stream	4.257	Drift	0.119
R1	Pond	0.367	Drift	16.370
R1	Stream	3.731	Drift	79.280
R3	Stream	5.442	Drift	107.200

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, early application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	4.818	Drift	5.351
D4	Pond	0.229	Drift	5.442
D4	Stream	3.881	Drift	0.310
R1	Pond	0.997	Runoff	41.810
R1	Stream	4.166	Runoff	239.900
R3	Stream	4.682	Drift	168.000

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, late application (1 × 1080 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	62.894	-	2350.000
Step 2				
Northern Europe	Mar-May	12.465	-	512.517
Northern Europe	Jun-Sep	12.465	-	512.517
Northern Europe	Oct-Feb	28.082	-	1190.000
Southern Europe	Mar-May	22.876	-	963.053
Southern Europe	Jun-Sep	17.670	-	737.770
Southern Europe	Oct-Feb	22.876	-	963.053
Step 3				
D3	Ditch	5.555	Drift	3.627
D4	Pond	0.218	Drift	3.706
D4	Stream	4.871	Drift	0.492
R1	Pond	0.832	Runoff	34.130
R1	Stream	3.853	Drift	284.300
R3	Stream	5.428	Drift	497.500

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to sugar beets, late application (2 × 1080 g a.s./ha, with application interval of 28 days)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	125.789	-	4710.000
Step 2				
Northern Europe	Mar-May	23.000	-	952.489
Northern Europe	Jun-Sep	23.000	-	952.489
Northern Europe	Oct-Feb	52.461	-	2230.000
Southern Europe	Mar-May	42.640	-	1800.000
Southern Europe	Jun-Sep	32.820	-	1380.000
Southern Europe	Oct-Feb	42.640	-	1800.000
Step 3				
D3	Ditch	4.815	Drift	5.332
D4	Pond	0.253	Drift	5.943

D4	Stream	4.255	Drift	1.183
R1	Pond	2.145	Runoff	72.770
R1	Stream	4.299	Runoff	505.000
R3	Stream	4.669	Drift	885.500

PEC calculations for 1 x 1800 g/ha

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to grass/alfalfa, early application (1 × 1800 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1 Tier 1				
-	-	104.824	-	3920.000
Step 2 Tier 1				
Northern Europe	Mar-May	20.774	-	854.196
Northern Europe	Jun-Sep	20.774	-	854.196
Northern Europe	Oct-Feb	46.803	-	1980.000
Southern Europe	Mar-May	38.127	-	1610.000
Southern Europe	Jun-Sep	29.451	-	1230.000
Southern Europe	Oct-Feb	38.127	-	1610.000
Step 3				
D1	Ditch	11.290	Drift	16.390
D1	Stream	8.835	Drift	0.403
D2	Ditch	11.400	Drift	44.540
D2	Stream	10.130	Drift	39.440
D3	Ditch	11.250	Drift	8.796
D4	Pond	0.378	Drift	5.813
D4	Stream	8.594	Drift	0.316
D5	Pond	0.378	Drift	6.044
D5	Stream	9.276	Drift	0.347
R2	Stream	9.792	Drift	3.240
R3	Stream	10.430	Drift	4.223

FOCUS Step 1, 2, and 3 PEC_{sw} and PEC_{sed} for glyphosate following application to grass/alfalfa, late application (1 × 1800 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1 Tier 1				
-	-	104.824	-	3920.000
Step 2 Tier 1				
Northern Europe	Mar-May	20.774	-	854.196
Northern Europe	Jun-Sep	20.774	-	854.196
Northern Europe	Oct-Feb	46.803	-	1980.000
Southern Europe	Mar-May	38.127	-	1610.000
Southern Europe	Jun-Sep	29.451	-	1230.000
Southern Europe	Oct-Feb	38.127	-	1610.000
Step 3				
D1	Ditch	11.380	Drift	64.820
D1	Stream	9.951	Drift	6.614
D2	Ditch	11.400	Drift	62.270
D2	Stream	10.130	Drift	48.490
D3	Ditch	11.290	Drift	12.590
D4	Pond	0.378	Drift	6.426
D4	Stream	9.723	Drift	2.158
D5	Pond	0.378	Drift	6.386
D5	Stream	10.490	Drift	3.064
R2	Stream	9.925	Drift	12.970
R3	Stream	10.470	Drift	16.560

Metabolite AMPA Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 111.04 Soil and water metabolite Koc (mL/g): 2541 (geometric mean, n = 8) DT_{50} soil (d): 1040 (max laboratory normalized DT_{50}, n=10, to take into account pH-dependence) DT_{50} water/sediment/ system (d): 89.9 (geometric mean, total system, n = 7) *(correct value for future calculations: 93.1 d)* Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 27.1 Soil: 63.0 *(correct value for future calculations: 48.8)* *Should a refinement be needed, recommended soil DT50 for AMPA for Tier 2 PECsw calculations are:* Soil $pH_{water} \leq 6.5$: DT_{50} 663 d (geomean, n=4) Soil $pH_{water} > 6.5$: DT_{50} 43.0 d (geomean, n=5)
Application rate	Crop and growth stage: Root vegetable, Potatoes, Bulb vegetable, Fruiting vegetable, Leafy vegetable, Sugar beet Application rate(s): 1x540, 3x720, 2x1080, 1x1440 g a.s./ha Interval (d): 28 Crop interception (%) : no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb
	Crop and growth stage: Pome/stone fruits, Olives, Vines (Grass/Alfalfa was used as surrogate crop to account for low drift - groundspray application) Application rate(s): 3x720, 2x1440 g a.s./ha Interval (d): 28 Crop interception (%) : no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb
	Crop and growth stage: Grass/Alfalfa Application rate(s): 1x1800 g a.s./ha Interval (d): - Crop interception (%) : Step 2: no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to field crops, orchards and vines (1 × 720 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	33.498	-	821.787
Step 2				
Northern Europe	Mar-May	6.772	-	169.014

Northern Europe	Jun-Sep	6.772	-	169.014
Northern Europe	Oct-Feb	16.402	-	413.697
Southern Europe	Mar-May	13.192	-	332.136
Southern Europe	Jun-Sep	9.982	-	250.575
Southern Europe	Oct-Feb	13.192	-	332.136

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to field crops, orchards and vines (3 × 720 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	100.494	-	2470.000
Step 2				
Northern Europe	Mar-May	19.017	-	477.806
Northern Europe	Jun-Sep	19.017	-	477.806
Northern Europe	Oct-Feb	46.595	-	1180.000
Southern Europe	Mar-May	37.402	-	944.972
Southern Europe	Jun-Sep	28.209	-	711.389
Southern Europe	Oct-Feb	37.402	-	944.972

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to field crops, orchards and vines (1 × 1440 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	66.996	-	1640.000
Step 2				
Northern Europe	Mar-May	13.545	-	338.028
Northern Europe	Jun-Sep	13.545	-	338.028
Northern Europe	Oct-Feb	32.804	-	827.394
Southern Europe	Mar-May	26.384	-	664.272
Southern Europe	Jun-Sep	19.964	-	501.150
Southern Europe	Oct-Feb	26.384	-	664.272

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to orchards and vines (2 × 1440 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	133.991	-	3290.000
Step 2				
Northern Europe	Mar-May	26.200	-	656.086
Northern Europe	Jun-Sep	26.200	-	656.086
Northern Europe	Oct-Feb	63.817	-	1610.000
Southern Europe	Mar-May	51.278	-	1290.000
Southern Europe	Jun-Sep	38.739	-	974.709
Southern Europe	Oct-Feb	51.278	-	1290.000

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to field crops (1 × 540 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	25.123	-	616.340
Step 2				
Northern Europe	Mar-May	5.079	-	126.760
Northern Europe	Jun-Sep	5.079	-	126.760
Northern Europe	Oct-Feb	12.301	-	310.273
Southern Europe	Mar-May	9.894	-	249.102
Southern Europe	Jun-Sep	7.487	-	187.931
Southern Europe	Oct-Feb	9.894	-	249.102

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to field crops (1 × 1080 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	50.247	-	1230.000
Step 2				
Northern Europe	Mar-May	10.159	-	253.521
Northern Europe	Jun-Sep	10.159	-	253.521
Northern Europe	Oct-Feb	24.603	-	620.546
Southern Europe	Mar-May	19.788	-	498.204
Southern Europe	Jun-Sep	14.973	-	375.862
Southern Europe	Oct-Feb	19.788	-	498.204

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to field crops (2 × 1080 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	100.494	-	2470.000
Step 2				
Northern Europe	Mar-May	19.650	-	492.064
Northern Europe	Jun-Sep	19.650	-	492.064
Northern Europe	Oct-Feb	47.863	-	1210.000
Southern Europe	Mar-May	38.459	-	969.999
Southern Europe	Jun-Sep	29.054	-	731.032
Southern Europe	Oct-Feb	38.459	-	969.999

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for AMPA following application to grass/alfalfa (1 × 1800 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	83.745	-	2050.000
Step 2				
Northern Europe	Mar-May	16.931	-	422.535
Northern Europe	Jun-Sep	16.931	-	422.535
Northern Europe	Oct-Feb	41.005	-	1030.000
Southern Europe	Mar-May	32.980	-	830.340
Southern Europe	Jun-Sep	24.956	-	626.437
Southern Europe	Oct-Feb	32.980	-	830.340

Metabolite HMPA Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 112.02 Water metabolite Koc(mL/g): 10 (default value) for PECsw calculations 10 000 (default value) for PECsed calculations DT50 soil (d): 1000 (FOCUS default) DT50 water/sediment/ system (d): 1000 (FOCUS default) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 10 Soil: 0
Application rate	Crop and growth stage: Root vegetable, Potatoes, Bulb vegetable, Fruiting vegetable, Leafy vegetable, Sugar beet Application rate(s): 1x540, 3x720, 2x1080, 1x1440 g a.s./ha Interval (d): 28 Crop interception (%) : no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb
	Crop and growth stage: Pome/stone fruits, Olives, Vines (Grass/Alfalfa was used as surrogate crop to account for low drift - groundspray application) Application rate(s): 3x720, 2x1440 g a.s./ha Interval (d): 28 Crop interception (%) : no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb
	Crop and growth stage: Grass/Alfalfa Application rate(s): 1x1800 g a.s./ha Interval (d): - Crop interception (%) : Step 2: no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to field crops, orchards and vines (1 × 720 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) (based on Koc 10 L/kg)	Dominant entry route	Max PEC_{sed} (µg/kg) (based on Koc 10 000 L/kg)
Step 1				
-	-	16.128	-	113.90
Step 2				
Northern Europe	Mar-May	3.518	-	24.84

Northern Europe	Jun-Sep	3.518	-	24.84
Northern Europe	Oct-Feb	8.144	-	57.53
Southern Europe	Mar-May	6.602	-	46.63
Southern Europe	Jun-Sep	5.060	-	35.74
Southern Europe	Oct-Feb	6.602	-	46.63

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to field crops, orchards and vines (3 × 720 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) (based on Koc 10 L/kg)	Dominant entry route	Max PEC_{sed} (µg/kg) (based on Koc 10 000 L/kg)
Step 1				
-	-	48.385	-	341.71
Step 2				
Northern Europe	Mar-May	9.178	-	64.82
Northern Europe	Jun-Sep	9.178	-	64.82
Northern Europe	Oct-Feb	21.541	-	152.17
Southern Europe	Mar-May	17.420	-	123.05
Southern Europe	Jun-Sep	13.299	-	93.93
Southern Europe	Oct-Feb	17.420	-	123.05

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to field crops, orchards and vines (1 × 1440 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) (based on Koc 10 L/kg)	Dominant entry route	Max PEC_{sed} (µg/kg) (based on Koc 10 000 L/kg)
Step 1				
-	-	32.256	-	227.81
Step 2				
Northern Europe	Mar-May	7.036	-	49.68
Northern Europe	Jun-Sep	7.036	-	49.68
Northern Europe	Oct-Feb	16.289	-	115.05
Southern Europe	Mar-May	13.205	-	93.26
Southern Europe	Jun-Sep	10.120	-	71.47
Southern Europe	Oct-Feb	13.205	-	93.26

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to orchards and vines (2 × 1440 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) (based on Koc 10 L/kg)	Dominant entry route	Max PEC_{sed} (µg/kg) (based on Koc 10 000 L/kg)
Step 1				
-	-	64.513	-	455.62
Step 2				
Northern Europe	Mar-May	13.155	-	92.89
Northern Europe	Jun-Sep	13.155	-	92.89
Northern Europe	Oct-Feb	30.610	-	216.22
Southern Europe	Mar-May	24.791	-	175.11
Southern Europe	Jun-Sep	18.973	-	134.0
Southern Europe	Oct-Feb	24.791	-	175.11

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to field crops (1 × 540 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	12.096	-	85.43
Step 2				
Northern Europe	Mar-May	2.638	-	18.63
Northern Europe	Jun-Sep	2.638	-	18.63
Northern Europe	Oct-Feb	6.108	-	43.15
Southern Europe	Mar-May	4.952	-	34.97
Southern Europe	Jun-Sep	3.795	-	26.80
Southern Europe	Oct-Feb	4.952	-	34.97

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to field crops (1 × 1080 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) (based on Koc 10 L/kg)	Dominant entry route	Max PEC_{sed} (µg/kg) (based on Koc 10 000 L/kg)
Step 1				
-	-	24.192	-	170.86
Step 2				
Northern Europe	Mar-May	5.277	-	37.26
Northern Europe	Jun-Sep	5.277	-	37.26
Northern Europe	Oct-Feb	12.217	-	86.29
Southern Europe	Mar-May	9.903	-	69.95
Southern Europe	Jun-Sep	7.590	-	53.60
Southern Europe	Oct-Feb	9.903	-	69.95

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to field crops (2 × 1080 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) (based on Koc 10 L/kg)	Dominant entry route	Max PEC_{sed} (µg/kg) (based on Koc 10 000 L/kg)
Step 1				
-	-	48.385	-	341.71
Step 2				
Northern Europe	Mar-May	9.866	-	69.67
Northern Europe	Jun-Sep	9.866	-	69.67
Northern Europe	Oct-Feb	22.957	-	162.16
Southern Europe	Mar-May	18.594	-	131.33
Southern Europe	Jun-Sep	14.230	-	100.50
Southern Europe	Oct-Feb	18.594	-	131.33

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for HMPA following application to grass/alfalfa, (1 × 1800 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) (based on Koc 10 L/kg)	Dominant entry route	Max PEC_{sed} (µg/kg) (based on Koc 10 000 L/kg)
Step 1				
-	-	40.321	-	284.76
Step 2				
Northern Europe	Mar-May	8.795	-	62.10
Northern Europe	Jun-Sep	8.795	-	62.10

Northern Europe	Oct-Feb	20.361	-	143.82
Southern Europe	Mar-May	16.506	-	116.58
Southern Europe	Jun-Sep	12.650	-	89.34
Southern Europe	Oct-Feb	16.506	-	116.58

Metabolites P1a and M3.3 Parameters used in FOCUSsw step 1 and 2	Molecular weight (g/mol): 125 *(correct value for future calculations: 169.1)* Sediment metabolites Koc (mL/g): 10 000 (default value) for PECsed calculations (PECsw not required) DT50 soil (d): 1000 (FOCUS default) DT50 water/sediment/ system (d): 1000 (FOCUS default) Maximum occurrence observed (% molar basis with respect to the parent) Total Water and Sediment: 14.4 (worst-case between P1a and M3.3) Soil: 0
Application rate	Crop and growth stage: Root vegetable, Potatoes, Bulb vegetable, Fruiting vegetable, Leafy vegetable, Sugar beet Application rate(s): 1x540, 3x720, 2x1080, 1x1440 g a.s./ha Interval (d): 28 Crop interception (%) : no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb
	Crop and growth stage: Pome/stone fruits, Olives, Vines (Grass/Alfalfa was used as surrogate crop to account for low drift - groundspray application) Application rate(s): 3x720, 2x1440 g a.s./ha Interval (d): 28 Crop interception (%) : no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb
	Crop and growth stage: Grass/Alfalfa Application rate(s): 1x1800 g a.s./ha Interval (d): - Crop interception (%) : Step 2: no interception Application window: Northern and Southern Europe, Mar-May, Jun-Sept, Oct-Feb

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to field crops, orchards and vines (1 × 720 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L)*	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	-	-	183.026
Step 2				
Northern Europe	Mar-May	-	-	39.915
Northern Europe	Jun-Sep	-	-	39.915
Northern Europe	Oct-Feb	-	-	92.436
Southern Europe	Mar-May	-	-	74.929
Southern Europe	Jun-Sep	-	-	57.422
Southern Europe	Oct-Feb	-	-	74.929

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

* Only PECsed are acceptable and required for P1a and M3.3.

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to field crops, orchards and vines (3 × 720 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) *	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	-	-	549.077
Step 2				
Northern Europe	Mar-May	-	-	104.144
Northern Europe	Jun-Sep	-	-	104.144
Northern Europe	Oct-Feb	-	-	244.491
Southern Europe	Mar-May	-	-	197.709
Southern Europe	Jun-Sep	-	-	150.926
Southern Europe	Oct-Feb	-	-	197.709

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

* Only PECsed are acceptable and required for P1a and M3.3.

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to field crops, orchards and vines (1 × 1440 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) *	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	-	-	366.051
Step 2				
Northern Europe	Mar-May	-	-	79.829
Northern Europe	Jun-Sep	-	-	79.829
Northern Europe	Oct-Feb	-	-	184.872
Southern Europe	Mar-May	-	-	149.857
Southern Europe	Jun-Sep	-	-	114.843
Southern Europe	Oct-Feb	-	-	149.857

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

* Only PECsed are acceptable and required for P1a and M3.3.

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to orchards and vines (2 × 1440 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) *	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	-	-	732.102
Step 2				
Northern Europe	Mar-May	-	-	149.259

Northern Europe	Jun-Sep	-	-	149.259
Northern Europe	Oct-Feb	-	-	347.414
Southern Europe	Mar-May	-	-	281.362
Southern Europe	Jun-Sep	-	-	215.310
Southern Europe	Oct-Feb	-	-	281.362

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

* Only PECsed are acceptable and required for P1a and M3.3.

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to field crops (1 × 540 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) *	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-		-	-	137.269
Step 2				
Northern Europe	Mar-May	-	-	29.936
Northern Europe	Jun-Sep	-	-	29.936
Northern Europe	Oct-Feb	-	-	69.327
Southern Europe	Mar-May	-	-	56.197
Southern Europe	Jun-Sep	-	-	43.066
Southern Europe	Oct-Feb	-	-	56.197

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

* Only PECsed are acceptable and required for P1a and M3.3.

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to field crops (1 × 1080 g a.s./ha)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) *	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	-	-	274.538
Step 2				
Northern Europe	Mar-May	-	-	59.872
Northern Europe	Jun-Sep	-	-	59.872
Northern Europe	Oct-Feb	-	-	138.654
Southern Europe	Mar-May	-	-	112.393
Southern Europe	Jun-Sep	-	-	86.132
Southern Europe	Oct-Feb	-	-	112.393

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

* Only PECsed are acceptable and required for P1a and M3.3.

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to field crops (2 × 1080 g a.s./ha, with application interval of 28 days)[1]

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) *	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	-	-	549.077
Step 2				
Northern Europe	Mar-May	-	-	111.944
Northern Europe	Jun-Sep	-	-	111.944
Northern Europe	Oct-Feb	-	-	260.561
Southern Europe	Mar-May	-	-	211.022
Southern Europe	Jun-Sep	-	-	161.483
Southern Europe	Oct-Feb	-	-	211.022

[1] Since application is to weeds *via* ground spray, runoff/drainage and drift loadings of active substance and metabolites are equivalent for all crops selected for modelling

* Only PECsed are acceptable and required for P1a and M3.3.

FOCUS Step 1 and 2 PEC_{sw} and PEC_{sed} for P1a and M3.3 following application to grass/alfalfa (1 × 1800 g a.s./ha)

Scenario FOCUS	Period/ Waterbody	Max PEC_{sw} (µg/L) *	Dominant entry route	Max PEC_{sed} (µg/kg)
Step 1				
-	-	-	-	457.564
Step 2				
Northern Europe	Mar-May	-	-	99.787
Northern Europe	Jun-Sep	-	-	99.787
Northern Europe	Oct-Feb	-	-	231.089
Southern Europe	Mar-May	-	-	187.322
Southern Europe	Jun-Sep	-	-	143.554
Southern Europe	Oct-Feb	-	-	187.322

* Only PECsed are acceptable and required for P1a and M3.3.

<u>HardSPEC calculations</u>

Parent Parameters used in HardSPEC	Version 1.4.3.2 Molecular weight (g/mol): 169.1 Water solubility (mg/L): 100 000 K_{OC}/K_{OM} (mL/g): 4348 / 2522 (geometric mean, n = 10) DT_{50} soil (d): 161.1 days (max normalized DT_{50} laboratory - parent only fits - and field, n=12, to take into account pH-dependence) DT_{50} water/sediment (d): 143.3 (geometric mean, total system, n = 4) *Should a refinement be needed, recommended soil DT50 (from parent only fits) for glyphosate for Tier 2 PECsw calculations are:* Soil $pH_{water} \leq 6.5$: DT_{50} 70.0 d (geomean, n=6) Soil $pH_{water} > 6.5$: DT_{50} 6.2 d (geomean, n=6)
Application rate	Use: Railway Number of applications: 1 Interval (d): - Application rate(s): 3600 g a.s./ha Crop interception (%): no interception

	Acute (24 hrs) concentration		Application day PECsw from spray drift (µg L^{-1})
	Water phase (ug L^{-1})	Sediment phase (ug kg^{-1})	
Railway ditch leaching	9.458	34.240	9.458
Railway ditch runoff	9.458	34.781	9.458

Metabolite AMPA Parameters used in HardSPEC	Molecular weight (g/mol): 111.04 Soil and water metabolite Koc (mL/g): 2541 (geometric mean, n = 8) DT_{50} soil (d): 1040 (max laboratory normalized DT_{50}, n=10, to take into account pH-dependence) DT_{50} water/sediment/ system (d): 98.7 (geometric mean, total system, n = 7) *(correct value for future calculations: 93.1 d)* *Should a refinement be needed, recommended soil DT50 for AMPA for Tier 2 PECsw calculations are:* Soil $pH_{water} \leq 6.5$: DT_{50} 663 d (geomean, n=4) Soil $pH_{water} > 6.5$: DT_{50} 43.0 d (geomean, n=5)
Application rate	Use: Railway Number of applications: 1 Interval (d): - Application rate: 3600 g a.s./ha (corrected for molar ratio of 111.04/169.1, metabolite applied as parent substance)

	Acute (24 hrs) concentration		Application day PECsw from spray drift (µg L^{-1})
	Water phase (ug L^{-1})	Sediment phase (ug kg^{-1})	
Railway ditch leaching	6.210	18.390	6.210
Railway ditch runoff	6.210	19.469	6.210

Metabolite HMPA Parameters used in HardSPEC	Railway use PECsw/PECsed estimated from HardSPEC PECsw/PECsed of glyphosate, corrected for molar ratio (112.02/169.1) and maximum occurrence in water (10%)

	Acute (24 hrs) concentration		Application day PECsw from spray drift (µg L^{-1})
	Water phase (ug L^{-1})	Sediment phase (ug kg^{-1})	
Railway ditch leaching	0.627	2.268	0.627
Railway ditch runoff	0.627	2.304	0.627

Metabolites P1a and M3.3 Parameters used in HardSPEC	Railway use PECsed estimated from HardSPEC PECsed of glyphosate, corrected for maximum occurrence in sediment (14.4%, worst-case between P1a and M3.3) PECsw not required

	Acute (24 hrs) concentration		Application day PECsw from spray drift (µg L^{-1})
	Water phase (ug L^{-1})	Sediment phase (ug kg^{-1})	
Railway ditch leaching	-	4.931	-
Railway ditch runoff	-	5.008	-

Estimation of concentrations from other routes of exposure (Regulation (EU) N° 284/2013, Annex Part A, point 9.4)

Method of calculation	No data, not required

PEC

Maximum concentration	No data, not required

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Ecotoxicology

Effects on birds and other terrestrial vertebrates (Regulation (EU) N° 283/2013, Annex Part A, point 8.1 and Regulation (EU) N° 284/2013, Annex Part A, point 10.1)

Species	Test substance	Time scale	End point	Toxicity
Birds				
Colinus virginianus	Glyphosate K- salt	Acute oral	LD_{50}	> 2241 mg a.e.[1]/kg bw
Colinus virginianus	Glyphosate acid	Acute oral	LD_{50}	> 2000 mg a.e./kg bw
Colinus virginianus	Glyphosate technical	Acute oral	LD_{50}	> 2000 mg a.e./kg bw
Coturnix coturnix japonica	Glyphosate technical	Acute oral	LD_{50}	> 2000 mg a.e./kg bw
Coturnix coturnix japonica	Glyphosate technical	Acute oral	LD_{50}	> 2000 mg a.e./kg bw
Anas platyrhynchos	Glyphosate technical	Acute oral	LD_{50}	> 2000 mg a.e./kg bw
Anas platyrhynchos	Glyphosate technical	Acute oral	LD_{50}	> 2000 mg a.e./kg bw
Colinus virginianus[2]	Glyphosate acid	Acute oral	LD_{50}	**4334** mg a.e./kg bw
-	MON 52276	Acute oral	LD_{50}	No data
Colinus virginianus	AMPA	Acute oral	LD_{50}	> 2250 mg metabolite/kg bw
Colinus virginianus	Glyphosate acid	Short term	LDD_{50}	>1511 mg a.e./kg bw
Anas platyrhynchos	Glyphosate acid	Short term	LDD_{50}	>1715 mg a.e./kg bw
Colinus virginianus	Glyphosate acid	Long term	NOEC NOEL	2250 mg a.e./kg feed 201 mg a.e./kg bw d^{-1}
Anas platyrhynchos	Glyphosate acid	Long term	NOEC NOEL	1000 mg a.e./kg feed **117** mg a.e./kg bw d^{-1}
Mammals				
Rat and mouse[3]	Glyphosate acid	Acute	LD_{50}	>2000 mg a.e./kg bw
All mammals[4]	Glyphosate acid	Acute	LD_{50}	**3447** mg a.e./kg bw
Rat	MON 52276	Acute	LD_{50}	>5000 mg a.e./kg bw

Rat and mice	AMPA	Acute	LD_{50}	>5000 mg/kg bw
Rabbit	Glyphosate technical	Long-term	NOAEL	**150**-mg a.e./kg bw/d
Rat	AMPA	Long-term	NOAEL	150 mg/kg bw/d

Endocrine disrupting properties (Annex Part A, points 8.1.5)

For wild mammals, the same conclusion as drawn for humans applies (ED criteria not met).

A number of studies with different taxa and species were available, including among others an amphibian metamorphosis assay (AMA) and a Fish Short-Term Reproduction Assay (FSTRA). Many *in vivo* mechanistic, EATS-mediated and 'sensitive to but not diagnostic' parameters were measured in the available studies.

Overall, no convincing pattern of EATS-mediated adversity and/or endocrine activity was observed. Therefore, glyphosate does not meet the ED criteria as laid down in point 3.8.2 of Annex II to Regulation (EC) No 1107/2009, as amended by Commission Regulation (EU) 2018/605.

Additional higher tier studies (Annex Part A, points 10.1.1.2):

None available

Terrestrial vertebrate wildlife (birds, mammals, reptile and amphibians) (Annex Part A, points 8.1.4, 10.1.3):7

Birds

Avian studies from the open literature were considered less relevant but supplementary, but no robust endpoints could be derived from these studies, to be used in the risk assessment.

Mammals

Please refer to the section on mammalian toxicology.

Reptiles

No studies on reptiles were considered as 'relevant and reliable' or 'relevant and reliable with restrictions'.

Amphibians

Please refer to the section on aquatic organims

1 "a.e.": glyphosate acid equivalents

2 All acute oral bird studies resulted in endpoints > 2000 mg/kg bw. Therefore, an extrapolation factor of 2.167 as recommended in the Guidance Document on Risk Assessment for Birds and Mammals (EFSA Journal 2009; 7(12): 1438) was applied.

3 Lowest value of available data

4 Geometric mean of available data considering lethal and sub-lethal effects.

Toxicity/exposure ratios for terrestrial vertebrates (Regulation (EU) N° 284/2013, Part A, Annex point 10.1)

Risk envelope strategy - birds

GAP number and summary of use	Application rate considered (28-day interval unless otherwise stated)									
	1 × 540 g/ha	1 × 720 g/ha	1 × 1080 g/ha	2 × 720 g/ha	1 × 1440 g/ha	3 × 720 g/ha	1 × 1800 g/ha	2 × 1080 g/ha[1]	2 × 1440 g/ha	2 × 1800 g/ha (90 days apart)
Uses 1a-c: Applied to weeds; pre-sowing, pre-planting, pre emergence of field crops.		X	X		X					
Uses 2 a-c: Applied to weeds; post-harvest, pre-sowing, pre-planting of field crops.		X	X	X	X	X		X		
Use 3 a-b: Applied to cereal volunteers; post-harvest, pre-sowing, pre-planting of field crops.	X									
Use 4 a-c: Applied to weeds (post emergence) below trees in orchards.		X	X	X	X	X		X	X	
Use 5 a-c: Applied to weeds (post emergence) below vines in vineyards		X	X	X	X	X		X	X	
Use 6 a-b: Applied to weeds (post emergence) in field crops BBCH < 20		X	X							
Use 7 a-b: Applied to weeds (post emergence) around railway tracks							X			X
Use 8 and 9: Applied to invasive species (post emergence) in agricultural and non-agricultural areas							X			
Uses 10 a-c: Applied to couch grass; post-harvest, pre-sowing, pre-planting of field crops		X	X							

X = this use is covered by the application rate indicated.

[1] Due to the long spray interval of 28 days this use covers also the following possible application pattern: 2 × 1080 g a.e./ha plus 1 × 720 g a.e./ha (28 day interval between each application).

The use of glyphosate in field crops: Uses 1 a-c, 2 a-c, 3 a-b, 6 a-b, 10 a-c 1 × 1440 g/ha					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Grassland	Large herbivorous birds	Acute	43.9	98.7	10
Bare soil	Small granivorous birds	Acute	35.6	122.0	10
Bulb and onion like crops	Small omnivorous birds	Acute	229	19.0	10
Grassland	Large herbivorous birds	Long-term	12.4	9.4	5

The use of glyphosate in field crops: Uses 1 a-c, 2 a-c, 3 a-b, 6 a-b, 10 a-c 1 × 1440 g/ha					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Bare soil	Small granivorous birds	Long-term	8.70	13.4	5
Bulb and onion like crops	Small omnivorous birds	Long-term	49.5	**2.3**	5
Tier 1 (Birds) (surrogate crop scenario)					
Leafy vegetables BBCH 10-49	Small granivorous bird	Long-term	9.62	12.2	5
Leafy vegetables BBCH ≥ 50	Small granivorous bird	Long-term	2.90	40.3	5
Leafy vegetables BBCH 10-49	Small omnivorous bird	Long-term	8.32	14.1	5
Leafy vegetables BBCH ≥ 50	Small omnivorous bird	Long-term	2.52	46.4	5
Leafy vegetables Leaf development BBCH 10-19	Medium herbivorous/ granivorous bird	Long-term	17.3	6.8	5
Leafy vegetables BBCH 10-19	Small insectivorous bird	Long-term	8.62	13.6	5
Leafy vegetables BBCH ≥ 20	Small insectivorous bird	Long-term	7.40	15.8	5
Maize BBCH ≥ 40	Medium granivorous bird	Long-term	0.612	191	5
Maize BBCH 10-29 (to cover birds that visit the fields and consume treated grasses and weeds)	Medium herbivorous/granivorous bird	Long-term	17.3	6.8	5

The use of glyphosate in field crops: Uses 1 a-c, 2 a-c, 3 a-b, 6 a-b, 10 a-c 1 × 1440 g/ha					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Maize BBCH ≥ 40	Medium herbivorous/ granivorous bird	Long-term	4.35	26.9	5
Oilseed rape Late (with seeds) BBCH 30-99	Small insectivorous bird	Long-term	2.06	56.8	5
Oilseed rape Late (with seeds) BBCH 80-99	Small granivorous bird	Long-term	8.70	13.4	5
Bulbs and onion like crops BBCH ≥ 20	Small insectivorous bird	Long-term	7.40	15.8	5
Bulbs & onion like crops BBCH ≥ 40	Small omnivorous bird	Long-term	4.96	23.6	5
Cereals Late season- Seed heads	Small granivorous/ insectivorous bird	Long-term	3.59	32.6	5
Sunflower Late (Flowering, seed ripening) BBCH 61-92	Small granivorous/ insectivorous bird	Long-term	7.63	15.4	5
Bulbs and onion like crops BBCH 10-19	Small insectivorous bird	Long-term	6.47	18.1	5
Bulbs & onion like crops BBCH 10-39	Small omnivorous bird	Long-term	6.24	18.8	5
Leafy vegetables BBCH 10-49	Small granivorous bird	Long-term	7.21	16.2	5
Leafy vegetables Leaf development BBCH 10-19	Medium herbivorous/ granivorous bird	Long-term	13.0	9.0	5

The use of glyphosate in orchards (ground application): Uses 4 a-c 2 × 1440 g/ha (28-day interval between applications)					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Orchard	Small insectivorous birds	Acute	74.1	58.5	10
Orchard	Small insectivorous birds	Long-term	15.3	7.6	5
Tier 1 (Birds)					
Not required	-	-	-	-	-

The use of glyphosate in vineyards (ground application): Uses 5 a-c 2 × 1440 g/ha (28-day interval between applications)					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Vineyard	Small omnivorous birds	Acute	151.0	28.7	10
Vineyard	Small omnivorous birds	Long-term	32.7	**3.57**	5
Tier 1 (Birds) (surrogate scenario considering ground directed applications are not covered in EFSA (2009))					
Vineyard BBCH 10-19	Small insectivorous bird	Long-term	9.65	12.1	5
Vineyard BBCH 20-39	Small insectivorous bird	Long-term	8.31	14.1	5
Vineyard BBCH 10-19	Small granivorous bird	Long-term	5.79	20.2	5
Vineyard BBCH 20-39	Small granivorous bird	Long-term	4.79	24.4	5
Vineyard BBCH ≥ 40	Small granivorous bird	Long-term	2.85	41.1	5
Vineyard BBCH 10-19	Small omnivorous bird	Long-term	5.46	21.4	5

The use of glyphosate in vineyards (ground application): Uses 5 a-c 2 × 1440 g/ha (28-day interval between applications)					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Vineyard BBCH 20-39	Small omnivorous bird	Long-term	4.53	25.8	5
Vineyard BBCH ≥ 40	Small omnivorous bird	Long-term	2.77	42.2	5

The use of glyphosate on railway tracks: Uses 7a-b 2 × 1800 g/ha (90-day interval between applications)					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Grassland	Large herbivorous birds	Acute	54.9	78.9	10
Bare soil	Small granivorous birds	Acute	44.5	97.5	10
Bulb and onion like crops	Small omnivorous bird	Acute	286	15.2	10
Grassland	Large herbivorous birds	Long-term	15.5	7.5	5
Bare soil	Small granivorous birds	Long-term	10.9	10.7	5
Bulb and onion like crops	Small omnivorous bird	Long-term	61.8	**1.9**	5
Tier 1 (Birds)					
-	Small omnivorous bird	Long-term	Covered by the corresponding Tier 1 scenario for invasive species below.	-	-

The use of glyphosate in agricultural and non-agricultural areas to control invasive species: Uses 8, 9 1 × 1800 g/ha					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Birds)					
Grassland	Large herbivorous birds	Acute	54.9	78.9	10

The use of glyphosate in agricultural and non-agricultural areas to control invasive species: Uses 8, 9 **1 × 1800 g/ha**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Bare soil	Small granivorous birds	Acute	44.5	97.5	10
Bulb and onion like crops	Small omnivorous birds	Acute	286	15.2	10
Grassland	Large herbivorous birds	Long-term	15.5	7.5	5
Bare soil	Small granivorous birds	Long-term	10.9	10.7	5
Bulb and onion like crops	Small omnivorous birds	Long-term	61.8	**1.9**	5
Tier 1 (Birds) (surrogate crop-scenario)					
Cereals Early (shoots) autumn-winter BBCH 10 - 29	Large herbivorous bird	Long-term	15.5	7.5	5
Maize BBCH 10-29	Medium granivorous bird	Long-term	2.86	40.9	5
Leafy vegetables BBCH 10-19	Medium herbivorous/granivorous bird	Long-term	21.7	5.4	5
Leafy vegetables BBCH 10-49	Small granivorous bird	Long-term	12.0	9.8	5
Oilseed rape Late (with seeds) BBCH 30-99	Small insectivorous bird	Long-term	2.58	45.3	5
Hops BBCH 10-19	Small insectivorous bird	Long-term	8.68	13.5	5

The use of glyphosate in agricultural and non-agricultural areas to control invasive species: Uses 8, 9 **1 × 1800 g/ha**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Cereals Late post-emergence (May-June) BBCH 71 - 89	Small insectivorous bird	Long-term	21.4	5.5	5
Cereals Early autumn-winter BBCH 10-29	Large herbivorous bird	Long-term	15.5	7.5	5
Orchards Spring Summer	Small insectivorous bird	Long-term	17.4	6.7	5
Bulbs and onion like crops BBCH 10-19	Small insectivorous bird	Long-term	10.8	10.8	5
Bush and cane fruit. Whole season BBCH 00-79 Currants	Small insectivorous bird	Long-term	19.4	6.0	5
Vineyard BBCH 10-19	Small insectivorous bird	Long-term	11.0	10.6	5
Maize Leaf development BBCH 10-19	Small insectivorous / worm feeding species	Long-term	5.44	21.5	5
Bulbs and onion like crops BBCH 10-39	Small omnivorous bird	Long-term	10.4	11.3	5
Higher tier (Birds)					
Not needed	-	-	-	-	-

Risk envelope strategy - mammals

GAP number and summary of use	Application rate considered (28 day interval unless otherwise stated)									
	1 × 540 g/ha	**1 × 720 g/ha**	**1 × 1080 g/ha**	**2 × 720 g/ha**	**1 × 1440 g/ha**	**3 × 720 g/ha**	**1 × 1800 g/ha**	**2 × 1080 g/ha[A]**	**2 × 1440 g/ha**	**2 × 1800 g/ha (90 days apart)**
Uses 1a-c: Applied to weeds; pre-sowing, pre-planting, pre-emergence of field crops.		X	X		X					
Uses 2 a-c: Applied to weeds; post-harvest, pre-sowing, pre-planting of field crops.		X	X	X	X	X		X		
Use 3 a-b: Applied to cereal volunteers; post-harvest, pre-sowing, pre-planting of field crops.	X									
Use 4 a-c: Applied to weeds (post emergence) below trees in orchards.		X	X	X	X	X		X	X	
Use 5 a-c: Applied to weeds (post emergence) below vines in vineyards		X	X	X	X	X		X	X	
Use 6 a-b: Applied to weeds (post emergence) in field crops BBCH < 20		X	X							
Use 7 a-b: Applied to weeds (post emergence) around railway tracks							X			X
Use 8 and 9: Applied to invasive species (post emergence) in agricultural and non-agricultural areas							X			
Uses 10 a-c: Applied to couch grass; post-harvest, pre-sowing, pre-planting of field crops		X	X							

X = this use is covered by the application rate indicated.
[A] Due to the long spray interval of 28 days this use covers also the following possible application pattern: 2 × 1080 g a.s./ha plus 1 × 720 g a.s./ha (28 day interval between each application).

The use of glyphosate in field crops: Uses 1 a-c, 2 a-c, 3 a-b, 10 a-c 1 × 1440 g/ha					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Mammals)					
Bare soil	Small granivorous mammal	Acute	20.7	167	10
Bulb and onion like crops	Small herbivorous mammal	Acute	170	20.3	10

The use of glyphosate in field crops: Uses 1 a-c, 2 a-c, 3 a-b, 10 a-c 1 × 1440 g/ha					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Fruiting vegetables	Small herbivorous mammal	Acute	196	17.6	10
Bare soil	Small granivorous mammal	Long-term	5.04	29.8	5
Bulb and onion like crops	Small herbivorous mammal	Long-term	36.9	**4.1**	5
Fruiting vegetables	Small herbivorous mammal	Long-term	55.2	**2.7**	5
Tier 1 (Mammals) (surrogate crop-scenario)					
Grassland All season	Large herbivorous mammal	Long-term	13.2	11.4	5
Grassland Late	Small insectivorous mammal	Long-term	1.45	103	5
Grassland All season	Small herbivorous mammal	Long-term	55.2	**2.7**	5
Grassland Late season (seed heads)	Small omnivorous mammal	Long-term	5.04	29.8	5
Leafy vegetables BBCH 10 - 19	Small insectivorous mammal	Long-term	3.21	46.7	5
Leafy vegetables BBCH ≥ 20	Small insectivorous mammal	Long-term	1.45	103	5
Leafy vegetables BBCH 40 - 49	Small herbivorous mammal	Long-term	55.2	**2.7**	5
Leafy vegetables BBCH ≥ 50	Small herbivorous mammal	Long-term	16.6	9.0	5
Leafy vegetables All season	Large herbivorous mammal	Long-term	10.9	13.8	5
Leafy vegetables BBCH 10 - 49	Small omnivorous mammal	Long-term	5.95	25.2	5
Leafy vegetables BBCH ≥ 50	Small omnivorous mammal	Long-term	1.76	85.2	5
Bulbs and onion like crops BBCH ≥ 20	Small insectivorous mammal	Long-term	1.45	103	5

The use of glyphosate in field crops: Uses 6 a-b **1 x 1080 g/ha**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Mammals)					
Bare soil	Small granivorous mammal	Acute	15.6	221	10
Bulb and onion like crops	Small herbivorous mammal	Acute	128	26.9	10
Fruiting vegetables	Small herbivorous mammal	Acute	147	23.4	10
Bare soil	Small granivorous mammal	Long-term	3.78	39.7	5
Bulb and onion like crops	Small herbivorous mammal	Long-term	17.7	5.4	5
Fruiting vegetables	Small herbivorous mammal	Long-term	41.38	**3.6**	5
Tier 1 (Mammals) (surrogate crop scenario)					
Bulbs & onion like crops BBCH 10 – 19	Small insectivorous mammal	Long-term	2.40	62.5	5
Bulbs & onion like crops BBCH 10 – 39	Small omnivorous mammal	Long-term	4.46	33.6	5
Fruiting vegetables BBCH 10 – 49	Small herbivorous mammal	Long-term	41.4	**3.6**	5
Leafy vegetables All season	Large herbivorous mammal	Long-term	8.19	18.3	5

The use of glyphosate in field crops: Use 3 a-b 1 × 540 g/ha					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Mammals)					
Bare soil	Small granivorous mammal	Acute	7.78	443	10
Bulb and onion like crops	Small herbivorous mammal	Acute	63.9	53.9	10
Fruiting vegetables	Small herbivorous mammal	Acute	73.7	46.8	10
Bare soil	Small granivorous mammal	Long-term	1.89	79.4	5
Bulb and onion like crops	Small herbivorous mammal	Long-term	13.8	10.9	5
Fruiting vegetables	Small herbivorous mammal	Long-term	20.7	7.2	5

The use of glyphosate in orchards and vines (ground application): Uses 4 a-c, 5 a-c 2 × 1440 g/ha (28-day interval between applications)					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Mammals)					
Fruiting vegetables	Small herbivorous mammal	Acute	216	16	10
Fruiting vegetables	Small herbivorous mammal	Long-term	60.7	**2.5**	5
Tier 1 (Mammals)					
Orchards Application crop directed BBCH <10 or not crop directed	Small insectivorous mammal	Long-term	1.60	93.8	10
Orchards Application crop directed BBCH <10 or not crop directed	Small herbivorous mammal	Long-term	60.7	**2.5**	10

The use of glyphosate in orchards and vines (ground application): Uses 4 a-c, 5 a-c 2 × 1440 g/ha (28-day interval between applications)					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Orchards Application crop directed BBCH <10 or not crop directed	Large herbivorous mammal	Long-term	12.0	12.5	5
Orchards Application crop directed BBCH <10 or not crop directed	Small omnivorous mammal	Long-term	6.55	22.9	5
Vineyard Application ground directed	Large herbivorous mammal	Long-term	9.32	16.1	5
Vineyard BBCH 10-19	Large herbivorous mammal	Long-term	5.62	26.7	5
Vineyard BBCH 20 – 39	Large herbivorous mammal	Long-term	4.62	32.5	5
Vineyard BBCH ≥ 40	Large herbivorous mammal	Long-term	2.77	54.2	5
Vineyard BBCH 10 – 19	Small insectivorous mammal	Long-term	3.53	42.5	5
Vineyard BBCH ≥ 20	Small insectivorous mammal	Long-term	1.60	93.8	5
Vineyard Application ground directed	Small herbivorous mammal	Long-term	60.7	**2.5**	5
Vineyard Application ground directed	Small omnivorous mammal	Long-term	6.55	22.9	5

The use of glyphosate in orchards and vines (ground application): Uses 4 a-c, 5 a-c **1 × 720 g/ha**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Mammals)					
Orchards / vineyards post-emergence of weeds	Small herbivorous mammal	Acute	98.2	35.1	5
Orchards / vineyards post-emergence of weeds	Small herbivorous mammal	Long term	27.6	5.4	5

The use of glyphosate in railway tracks: Uses 7 a-b **1 × 1800 g/ha and 2 × 1800 g/ha, 90 days apart**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Mammals)					
Bare soil	Small granivorous mammal	Acute	28.5	121	10
Fruiting vegetables	Small herbivorous mammal	Acute	270	12.8	10
Bare soil	Small granivorous mammal	Long-term	6.30	23.8	5
Fruiting vegetables	Small herbivorous mammal	Long-term	69.0	**2.2**	5
Tier 1 (Mammals) (surrogate crop scenario)					
Grassland All season	Large herbivorous mammal	Long-term	16.5	9.1	5
Grassland Late	Small insectivorous mammal	Long-term	1.81	82.9	5
Grassland All season	Small herbivorous mammal	Long-term	69.0	**2.2**	5
Grassland Late season (seed heads)	Small omnivorous mammal	Long-term	6.30	23.8	5

The use of glyphosate in railway tracks: Uses 7 a-b **1 × 1800 g/ha and 2 × 1800 g/ha, 90 days apart**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Leafy vegetables BBCH 10 - 19	Small insectivorous mammal	Long-term	4.01	37.4	5
Leafy vegetables BBCH ≥ 20	Small insectivorous mammal	Long-term	1.81	82.9	5
Leafy vegetables BBCH 40 - 49	Small herbivorous mammal	Long-term	69.0	**2.2**	5
Leafy vegetables BBCH ≥ 50	Small herbivorous mammal	Long-term	20.7	7.2	5
Leafy vegetables All season	Large herbivorous mammal	Long-term	13.6	11.0	5
Leafy vegetables BBCH 10 – 49	Small omnivorous mammal	Long-term	7.44	20.2	5
Leafy vegetables BBCH ≥ 50	Small omnivorous mammal	Long-term	2.19	68.5	5
Higher tier					
Grassland and leafy vegetables	Small herbivorous mammal	Long-term	0.32*	469	5

*based on 0.47% drift rate to adjacent areas, no small mammals assumed present below the trains.

The use of glyphosate in invasives species: Uses 8 and 9 **1 × 1800 g/ha**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Screening Step (Mammals)					
Bare soil	Small granivorous mammal	Acute	25.9	133	10

The use of glyphosate in invasives species: Uses 8 and 9 **1 × 1800 g/ha**					
Crop scenario	Screening Indicator or Tier 1 generic focal species	Time scale	DDD (mg/kg bw per day)	TER	Trigger
Bush and cane fruit	Small herbivorous mammal	Acute	147	23.4	10
Bulbs and onion like crops	Small herbivorous mammal	Acute	213	16.2	10
Fruiting vegetables	Small herbivorous mammal	Acute	246	14.0	10
Bare soil	Small granivorous mammal	Long-term	6.30	23.8	5
Bush and cane fruit	Small herbivorous mammal	Long-term	41.4	**3.6**	5
Bulbs and onion like crops	Small herbivorous mammal	Long-term	46.1	**3.3**	5
Fruiting vegetables	Small herbivorous mammal	Long-term	69.0	**2.2**	5
Tier 1 (Mammals) (surrogate crop scenario)					
Bulbs & onion like crops BBCH 10 – 19	Small insectivorous mammal	Long-term	4.01	37.4	5
Bulbs & onion like crops BBCH 10 – 39	Small omnivorous mammal	Long-term	7.44	20.2	5
Cereals Early (shoots)	Large herbivorous mammal	Long-term	21.3	7.0	5
Fruiting vegetables BBCH 10 – 49	Small herbivorous mammal	Long-term	69.0	**2.2**	5
Higher tier					
Fruiting vegetables BBCH 10 – 49	Small herbivorous mammal	Long-term	10.4*	14.5	5

* based on 85% foliar interception from FOCUSgw. Note that this approach presumes that the treated plant itself is not attractive as a food source. Further, the refinement of foliar interception is not relevant for treatments to cut stems or less established plants. Interception value not suitable in the case of the uses to cut-stem (included in the GAP) or treatment of less established plants. In these cases a qualitative argumentation was agreed considering the application is via spot treatment and applications to cut-stem and young plants are not expected to be made to the extensive areas of the field.

Risk from bioaccumulation and food chain behaviour Since the log K_{OW} values of glyphosate, HMPA and AMPA do not exceed 3, formal assessment of the secondary poisoning risk to birds and mammals is not required.
Risk from consumption of contaminated water The <u>leaf scenario</u> does not apply to the proposed uses of MON 52276; water that is collected in leaf whorls after application and applies to leafy vegetables forming heads or with a morphology that facilitates collection of rain / irrigation water sufficiently to attract birds, i.e. for the before named crops at BBCH ≥ 41. *Puddle scenario*, Screening step Avian: 1800 / 117 = 15.4 which is less than the trigger of 50. No further assessment required. Mammal: 1800 / 150 = 12 which is less than the trigger of 50. No further assessment required.

Toxicity data for all aquatic tested species (Regulation (EU) N° 283/2013, Annex Part A, points 8.2 and Regulation (EU) N° 284/2013 Annex Part A, point 10.2)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Laboratory tests				
Fish				
Oncorhynchus mykiss	a.s. (Glyphosate K-salt)	Acute 96 hr (static)	Mortality, LC_{50} NOEC	>1193 mg a.e./$L_{(nom)}$ 149 mg a.e./$L_{(nom)}$
Oncorhynchus mykiss	a.s. (Glyphosate acid)	Acute 96 hr (static)	Mortality, LC_{50} NOEC	>100 mg a.e./$L_{(nom)}$ 32 mg a.e./$L_{(nom)}$
Oncorhynchus mykiss	a.s. (Glyphosate-isopropylammonium)	Acute 96 hr (static)	Mortality, LC_{50} NOEC	>1001 mg a.e./$L_{(nom)}$ 236 mg a.e./$L_{(nom)}$
Oncorhynchus mykiss	a.s. (Glyphosate technical)	Acute 96 hr (static)	Mortality, LC_{50} NOEC	>87.7 mg a.e./$L_{(gmm)}$ 87.7 mg a.e./$L_{(gmm)}$
Lepomis macrochirus	a.s. (Glyphosate acid)	Acute 96 hr (static)	Mortality, LC_{50} NOEC	**>32 mg a.e./$L_{(nom)}$** [1)] 32 mg a.e./$L_{(nom)}$ [1)]
Cyprinus carpio	a.s. (Glyphosate acid)	Acute 96 hr (semi-static)	Mortality, LC_{50} NOEC	>100 mg a.e./$L_{(nom)}$ 100 mg a.e./$L_{(nom)}$
Leuciscus idus	a.s. (Glyphosate-isopropylammonium)	Acute 96 hr (static)	Mortality, LC_{50} NOEC	>2282 mg a.e./$L_{(nom)}$ 2282 mg a.e./$L_{(nom)}$
Oncorhynchus mykiss	AMPA	Acute 96 hr (static)	Mortality, LC_{50}	>100 mg AMPA/$L_{(nom)}$
Oncorhynchus mykiss	AMPA	Acute 96 hr (static)	Mortality, LC_{50}	>180 mg AMPA/$L_{(nom)}$
Oncorhynchus mykiss	AMPA	Acute 96 hr (static)	Mortality, LC_{50}	520 mg AMPA/$L_{(nom)}$
Oncorhynchus mykiss	MON-52276	Acute 96 hr (flow-through)	Mortality, LC_{50}	>989 mg prep./L (>306 mg a.e./$L_{(mm)}$)
Cyprinus carpio	MON-52276	Acute 96 hr (flow-through)	Mortality, LC_{50}	>895 mg prep./L

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1] (>277 mg a.e../L $_{(mm)}$)
Oncorhynchus mykiss	a.s. (Glyphosate acid)	Chronic 85d (60d post hatch), flow-through	Growth parameters and hatching success NOEC	2.804 mg a.e./L (gm)
Brachydanio rerio	a.s. (Glyphosate acid)	Chronic (semi-static)	Mortality and behaviour NOEC	**1 mg a.e./L$_{(nom)}$** *
Danio rerio	a.s. (Glyphosate)	Chronic 21d	Egg rate, embryo mortalities and hatching success LOEC	13.9 mg a.e./L (mm)
Oncorhynchus mykiss	Glyphosate	Chronic	mortality, growth and reproduction, NOEC	1 µg glyphosate/L (only dose tested)
Pimephales promelas	AMPA	Chronic (flow-through)	Hatching success, survival or growth NOEC	12 mg AMPA/L$_{(mm)}$
Aquatic invertebrates				
Daphnia magna	a.s. (Glyphosate K – salt)	48 h (static)	Mortality, EC_{50}	278 mg a.e./L$_{(mm)}$
Daphnia magna	a.s. (Glyphosate-isopropylammonium)	48 h (static)	Mortality, EC_{50}	>471 mg a.e./L$_{(im)}$
Daphnia magna	a.s. (Glyphosate technical)	48 h (static)	Mortality, EC_{50}	>334 mg a.e./L$_{(im)}$
Daphnia magna	a.s. (Glyphosate acid)	48 h (static)	Mortality, EC_{50}	>100 mg a.e./L$_{(nom)}$
Daphnia magna	a.s. (Glyphosate acid)	48 h (static)	Mortality, EC_{50}	**40 mg a.e./L$_{(nom)}$**
Daphnia magna	a.s. (Glyphosate)	48 h (static)	Mortality, EC_{50}	>100 mg a.e./L$_{(nom)}$
Daphnia magna	a.s.	48 h (static)	Mortality, EC_{50}	>45.64 mg a.e./L$_{(nom)}$

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
	(Glyphosate-isopropylammonium)			
Daphnia magna	a.s. (Glyphosate technical)	48 h (static)	Mortality, EC_{50}	>62.5 mg a.e./$L_{(nom)}$
Daphnia magna	AMPA	48 h (static)	Mortality, EC_{50}	>100 mg AMPA/$L_{(nom)}$
Daphnia magna	AMPA	48 h (static)	Mortality, EC_{50}	>180 mg AMPA/$L_{(nom)}$
Daphnia magna	AMPA	48 h (static)	Mortality, EC_{50}	690 mg AMPA/$L_{(nom)}$
Daphnia magna	HMPA	48 h (static)	Mortality, EC_{50}	>100 mg HMPA/$L_{(nom)}$
Crassostrea gigas	a.s. (Glyphosate acid)	48 h (static)	Mortality, EC_{50}	**40 mg a.e./$L_{(nom)}$**
Mysidopsis bahia	a.s. (Glyphosate acid)	96 h	Mortality, EC_{50}	80 mg a.e./$L_{(nom)}$
Daphnia magna	a.s. (Glyphosate acid)	48 h (static)	Mortality, EC_{50}	199 mg a.e./$L_{(mm)}$[2)]
Daphnia magna	MON-52276	48 h (flow-through)	Mortality, EC_{50}	676 mg prep./L (209 mg a.e./L $_{(mm)}$)
Daphnia magna	a.s. (Glyphosate acid)	21 d (semi-static)	Reproduction, NOEC	**12.5 mg a.e./$L_{(nom)}$**
Daphnia magna	a.s. (Glyphosate)	21 d (semi-static)	Reproduction, NOEC	56 mg a.e./$L_{(nom)}$
Daphnia magna	a.s. (Glyphosate-isopropylammonium)	21 d (semi-static)	Reproduction, NOEC	42.90 mg a.e./$L_{(nom)}$
Daphnia magna	a.s. (Glyphosate)	21 d (semi-static)	Reproduction, NOEC	100 mg a.e./$L_{(nom)}$
Daphnia magna	a.s. (Glyphosate)	21 d (flow-through)	Reproduction, NOEC	41 mg a.e./$L_{(mm)}$

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Daphnia magna	AMPA	21 d (semi-static)	Reproduction, NOEC	15 mg AMPA/L$_{(nom)}$
Cherax quadricarinatus (juveniles)	a.s. (Glyphosate)	Chronic, 60 d (semi-static)	Mortality, weight gain, NOEC	10 mg a.e./L[3)]
Neohelice granulate (adult females)	a.s. (Glyphosate)	Chronic, 3 months pre-reproductive period	Weight gain, NOEC	<0.02 mg a.e./L[4)]
Neohelice granulate (adult males)	a.s. (Glyphosate)	Chronic, 30 d	Weight gain, NOEC	<1.27 mg a.e./L[5)]
Neohelice granulate (adult females)	a.s. (Glyphosate)	Chronic, 32 d	NOEC	<2.5 mg a.e./L [6)]
C. pulchellum larvae.	glyphosate	7 days, semi-static	Mortality, NOEC Growth rate, NOEC	2 mg/L (nom) (highest tested concentration) ## 1 mg/L (nom) [7)]
Sediment-dwelling organisms				
Chironomus riparius	a.s. (Glyphosate acid)	Water spiked (static)	NOEC	744 mg a.e./L
Chironomus riparius	a.s. (Glyphosate acid)	Sediment spiked (static)	NOEC $_{emergence}$ NOEC $_{development}$	740 mg a.e./kg sed. $_{(mm)}$ **154 mg a.e./kg sed.** $_{(mm)}$
Chironomus riparius	AMPA	Water spiked (static)	NOEC $_{all\ parameters}$	507.9 mg AMPA/L (nom)
Chironomus riparius	AMPA	Sediment spiked (static)	NOEC $_{all\ parameters}$	786.5 mg AMPA/kg(gmm)
Algae				
Pseudokirchneriella subcapitata (Raphidocelis subcapitata)	a.s. (Glyphosate-isopropylammonium)	96 h (static)	Growth rate: 72h ErC_{10} 72h ErC_{20} 72h ErC_{50} 72h NOErC	 2.62 mg a.e./L $_{(gmm)}$ 4.72 mg a.e./L $_{(gmm)}$ 14.5 mg a.e./L $_{(gmm)}$ 2.19 mg a.e./L $_{(gmm)}$

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			96h ErC_{10} 96h ErC_{20} 96h ErC_{50} 96h NOErC Yield: 72h EyC_{10} 72h EyC_{20} 72h EyC_{50} 72h NOEyC 96h EyC_{10} 96h EyC_{20} 96h EyC_{50} 96h NOEyC	4.4 mg a.e./L (gmm) 6.65 mg a.e./L (gmm) 14.7 mg a.e./L (gmm) 4.82 mg a.e./L (gmm) 1.77 mg a.e./L (gmm) 2.42 mg a.e./L (gmm) 4.4 mg a.e./L (gmm) 2.19 mg a.e./L (gmm) 2.17 mg a.e./L (gmm) 2.92 mg a.e./L (gmm) 5.11 mg a.e./L (gmm) 2.19 mg a.e./L (gmm)
Selenastrum caprocornutum *(Raphidocelis subcapitata)*	a.s. (Glyphosate acid)	120h (static)	Growth rate: 72h ErC_{50} 72h NOErC Yield: 72h EyC_{50} 72h NOEyC	 17.3 mg a.e./L (nom) 10 mg a.e./L (nom) 16.4 mg a.e./L (nom) 10 mg a.e./L (nom)
Pseudokirchneriella subcapitata *(Raphidocelis subcapitata)*	a.s. (Glyphosate)	72 h (static)	Growth rate: 72h ErC_{10} 72h ErC_{50}	 33 mg a.e./L (nom) 54 mg a.e./L (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			72h NOErC Biomass: 72h EbC_{10} 72h EbC_{50} 72h NOEbC	32 mg a.e./L (nom) 18 mg a.e./L (nom) 48 mg a.e./L (nom) 10 mg a.e./L (nom)
Selenasstrum capricornutum (Raphidocelis subcapitata)	a.s. (Glyphosate technical)	168 h (static)	Growth rate: 72h ErC_{10} 72h ErC_{20} 72h ErC_{50} Yield: 72h EyC_{10} 72h EyC_{20} 72h EyC_{50}	< 10 mg a.e./L (nom) 10.8 mg a.e./L (nom) 20.1 mg a.e./L (nom) < 10 mg a.e./L (nom) 10.25 mg a.e./L (nom) 12.11 mg a.e./L (nom)
Anabaena flos-aquae	a.s. (Glyphosate technical)	168 h (static)	Growth rate: 72h ErC_{50} 72-h NOErC 96h ErC_{50} 96-h NOErC Yield: 72h EyC_{50} 72-h NOEyC 96h EyC_{50}	33.4 mg a.e./L (nom) 10 mg a.e./L (nom) 20.2 mg a.e./L (nom) 10 mg a.e./L (nom) 16.4 mg a.e./L (nom) 10 mg a.e./L (nom) 11.8 mg a.e./L (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			96-h NOEyC	≥ 10 mg a.e./L (nom)
Navicula pelliculosa	a.s. (Glyphosate technical)	168 h (static)	Growth rate: 72h ErC_{50} 72h NOErC Yield: 72h EyC_{50} 72h NOEyC	 63.9 mg a.e./L (nom) 32 mg a.e./L (nom) 43.2 mg a.e./L (nom) 32 mg a.e./L (nom)
Skeletonema costatum	a.s. (Glyphosate acid)	120 h (static)	Growth rate: 72h ErC_{10} 72h ErC_{20} 72h ErC_{50} 72h NOErC Yield: 72h EyC_{10} 72h EyC_{20} 72h EyC_{50} 72h NOEyC	 1.87 mg a.e./L (nom) 2.98 mg a.e./L (nom) **13.5 mg a.e./L (nom)** 5.6 mg a.e./L (nom) 5.22 mg a.e./L (nom) 6.38 mg a.e./L (nom) 8.99 mg a.e./L (nom) 5.6 mg a.e./L (nom)
Pseudokirchneriella subcapitata *(Raphidocelis subcapitata)*	AMPA	72h (static)	Growth rate: 72h ErC_{10} 72h ErC_{20} 72h ErC_{50} 72h NOErC Yield: 72h EyC_{10} 72h EyC_{20}	 92.8 mg AMPA/L (nom) 119 mg AMPA/L (nom) 191 mg AMPA/L (nom) 100 mg AMPA/L (nom) 58.2 mg AMPA/L (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			72h E_yC_{50} 72h NOEyC	72.5 mg AMPA/L (nom) 110 mg AMPA/L (nom) 46 mg AMPA/L (nom)
Raphidocelis subcapitata	AMPA	72h (static)	Growth rate: 72h E_rC_{10} 72h E_rC_{20} 72h E_rC_{50} 72h NOErC Yield: 72h E_yC_{10} 72h E_yC_{20} 72h E_yC_{50} 72h NOEyC Biomass: 72h E_bC_{10} 72h E_bC_{20} 72h E_bC_{50} 72h NOEbC	 28.6 mg AMPA/L (mm) 29.7 mg AMPA/L (mm) 31.9 mg AMPA/L (mm) 15.5 mg AMPA/L (mm) 26.3 mg AMPA/L (mm) 27.1 mg AMPA/L (mm) 28.7 mg AMPA/L (mm) 15.5 mg AMPA/L (mm) 26.5 mg AMPA/L (mm) 27.3 mg AMPA/L (mm) 28.9 mg AMPA/L (mm) 15.5 mg AMPA/L (mm)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Skeletonema costatum	AMPA	72h (static)	Growth rate: 72h ErC_{10} 72h ErC_{20} 72h ErC_{50} 72h NOErC Yield: 72h EyC_{10} 72h EyC_{20} 72h EyC_{50} 72h NOEyC Biomass: 72h EbC_{10} 72h EbC_{20} 72h EbC_{50} 72h NOEbC	≥ 85.9 mg AMPA/L (mm) ≥ 85.9 mg AMPA/L (mm)) ≥ 85.9 mg AMPA/L (mm) 85.9 mg AMPA/L (mm) ≥ 85.9 mg AMPA/L (mm) ≥ 85.9 mg AMPA/L (mm)) ≥ 85.9 mg AMPA/L (mm) 85.9 mg AMPA/L (mm) ≥ 85.9 mg AMPA/L (mm) ≥ 85.9 mg AMPA/L (mm)) ≥ 85.9 mg AMPA/L (mm) 85.9 mg AMPA/L (mm)
Pseudokirchneriella subcapitata *(Raphidocelis subcapitata)*	HMPA	72h (static)	Growth rate: 72h ErC_{10} 72h ErC_{20} 72h ErC_{50} 72h NOErC Yield: 72h EyC_{10} 72h EyC_{20} 72h EyC_{50}	>120 mg HMPA/L (nom) >120 mg HMPA/L (nom) >120 mg HMPA/L (nom) 60 mg HMPA/L (nom) 57.8 mg HMPA/L (nom) 80.4 mg HMPA/L (nom) > 120 mg HMPA/L (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			72h NOEyC	60 mg HMPA/L (nom)
Raphidocelis subcapitata	MON-52276	96 h (static)	Growth rate 72h NOErC	27.1 mg MON 52276/L (8.4 mg a.e./L) (nom)
			72h ErC_{10}	80.9 mg MON 52276/L (25.1 mg a.e./L) (nom)
			72h ErC_{20}	128.3 mg MON 52276/L (39.8 mg a.e./L) (nom)
			72h ErC_{50}	≥ 271 mg MON 52276/L (84 mg a.e./L) (nom)
			96h NOErC	2.71 mg MON 52276/L (0.84 mg a.e./L) (nom)
			96h ErC_{10}	109.4 mg MON 52276/L (33.9 mg a.e./L) (nom)
			96h ErC_{20}	161.3 mg MON 52276/L (50 mg a.e./L) (nom)
			96h ErC_{50}	≥ 271 mg MON 52276/L (84 mg a.e./L) (nom)
			Yield 72h NOEyC	27.1 mg MON 52276/L (8.4 mg a.e./L) (nom)
			72h EyC_{10}	30.3 mg MON 52276/L (9.4 mg a.e./L) (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			72h EyC_{20}	49.3 mg MON 52276/L (15.3 mg a.e./L) (nom)
			72h EyC_{50}	102.4 mg MON 52276/L (31.7 mg a.e./L) (nom)
			96h NOEyC	8.57 mg MON 52276/L (2.65 mg a.e./L) (nom)
			96h EyC_{10}	28.6 mg MON 52276/L (8.9 mg a.e./L) (nom)
			96h EyC_{20}	50.4 mg MON 52276/L (15.6 mg a.e./L) (nom)
			96h EyC_{50}	118.9 mg MON 52276/L (36.9 mg a.e./L) (nom)
			Biomass 72h NOEbC	27.1 mg MON 52276/L (8.4 mg a.e./L) (nom)
			72h EbC_{10}	25.9 mg MON 52276/L (8.03 mg a.e./L) (nom)
			72h EbC_{20}	45.8 mg MON 52276/L (14.2 mg a.e./L) (nom)
			72h EbC_{50}	108.2 mg MON 52276/L (33.5 mg a.e./L) (nom)
			96h NOEbC	27.1 mg MON 52276/L (8.4 mg a.e./L) (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			96h EbC_{10} 96h EbC_{20} 96h EbC_{50}	31.1 mg MON 52276/L (9.6 mg a.e./L) (nom) 52.5 mg MON 52276/L (16.3 mg a.e./L) (nom) 115.5 mg MON 52276/L (35.8 mg a.e./L) (nom)
Higher plant				
Lemna minor	a.s. (Glyphosate-isopropylammonium)	7d (static)	<u>Fronds number</u> Growth rate: 7d ErC_{10} 7d ErC_{20} 7d ErC_{50} 7d NOErC Yield: 7d EyC_{10} 7d EyC_{20} 7d EyC_{50} 7d NOEyC <u>Dry weight</u> Yield: 7d EyC_{50} 7d NOEyC <u>Phytotoxicity</u> NOEC	 8.16 mg a.e./L (nom) 12.8 mg a.e./L (nom) 30.3 mg a.e./L (nom) 8.65 mg a.e./L (nom) 7.8 mg a.e./L (nom) 10.3 mg a.e./L (nom) 16.5 mg a.e./L (nom) 8.65 mg a.e./L (nom) 32.1 mg a.e./L (nom) 8.65 mg a.e./L (nom) 8.65 mg a.e./L (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Lemna gibba	a.s. (Glyphosate acid)	14d (semi-static)	Fronds number Growth rate: 7d ErC_{10} 7d ErC_{20} 7d ErC_{50} 7d NOErC Yield: 7d EyC_{10} 7d EyC_{20} 7d EyC_{50} 7d NOEyC Phytotoxicity NOEC	 13.3 mg a.e./L (nom) 18.7 mg a.e./L (nom) 36.0 mg a.e./L (nom) 12 mg a.e./L (nom) 10.5 mg a.e./L (nom) 14.2 mg a.e./L (nom) 24.0 mg a.e./L (nom) 6 mg a.e./L (nom) 1.5 mg a.e./L (nom)
Lemna gibba	a.s. (Glyphosate technical)	14d (semi-static)	Fronds number Growth rate: 7d ErC_{10} 7d ErC_{20} 7d ErC_{50} 7d NOErC Yield: 7d EyC_{10} 7d EyC_{20} 7d EyC_{50} 7d NOEyC	 20.8 mg a.e./L (mm) 31.9 mg a.e./L (mm) >49.4 mg a.e./L (mm) 16.6 mg a.e./L (mm) 18.2 mg a.e./L (mm) 20.3 mg a.e./L (mm) 25.0 mg a.e./L (mm) 16.6 mg a.e./L (mm)
Lemna gibba	a.s.	7d (static)	Fronds number Growth rate:	

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
	(Glyphosate technical)		7d ErC_{10} 7d ErC_{20} 7d ErC_{50} 7d NOErC Yield: 7d EyC_{10} 7d EyC_{20} 7d EyC_{50} 7d NOEyC Dry weight Growth rate: 7d ErC_{10} 7d ErC_{20} 7d ErC_{50} 7d NOErC Yield: 7d EyC_{10} 7d EyC_{20} 7d EyC_{50} 7d NOEyC Phytotoxicity 7d NOEC	3.79 mg a.e./L (nom) 8.01 mg a.e./L (nom) 28.7 mg a.e./L (nom) 3.05 mg a.e./L (nom) 2.50 mg a.e./L (nom) 4.37 mg a.e./L (nom) 11.3 mg a.e./L (nom) 3.05 mg a.e./L (nom) 5.29 mg a.e./L (nom) 18.4 mg a.e./L (nom) >100 mg a.e./L (nom) 9.77 mg a.e./L (nom) 2.50 mg a.e./L (nom) 5.86 mg a.e./L (nom) 25.1 mg a.e./L (nom) 3.05 mg a.e./L (nom) <3.05 mg a.e./L (nom)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
Myriophyllum spicatum	a.s. (Glyphosate)	14 d (static)	Shoot length Growth rate 14d NOErC 14d ErC_{10} 14d ErC_{20} 14d ErC_{50} Yield 14d NOEyC 14d EyC_{10} 14d EyC_{20} 14d EyC_{50} Shoot fresh weight Growth rate 14d NOErC 14d ErC_{10} 14d ErC_{20} 14d ErC_{50} Yield 14d NOEyC 14d EyC_{10} 14d EyC_{20} 14d EyC_{50} Shoot dry weight weight Growth rate	 12.7 mg a.e./L (gmm) 38.2 mg a.e./L (gmm) 68.3 mg a.e./L (gmm) 208 mg a.e./L (gmm) 4.69 mg a.e./L (gmm) 5.26 mg a.e./L (gmm) 11.5 mg a.e./L (gmm) 51.5 mg a.e./L (gmm) 4.69 mg a.e./L (gmm) 5.41 mg a.e./L (gmm) 17.4 mg a.e./L (gmm) 163 mg a.e./L (gmm) 4.69 mg a.e./L (gmm) 3.00 mg a.e./L (gmm) 8.19 mg a.e./L (gmm) 55.9 mg a.e./L (gmm)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			14d NOErC 14d ErC_{10} 14d ErC_{20} 14d ErC_{50} Yield 14d NOEyC 14d EyC_{10} 14d EyC_{20} 14d EyC_{50} Root length 14d NOEC	445 mg a.e./L (gmm) > 445 mg a.e./L (gmm) > 445 mg a.e./L (gmm) > 445 mg a.e./L (gmm) 445 mg a.e./L (gmm) > 445 mg a.e./L (gmm) > 445 mg a.e./L (gmm) > 445 mg a.e./L (gmm) 4.69 mg a.e./L (gmm)
Myriophyllum aquaticum	AMPA	14 d (static)	Shoot length Growth rate 14d ErC_{10} 14d ErC_{20} 14d ErC_{50} 14d NOErC Yield 14d EyC_{10} 14d EyC_{20} 14d EyC_{50} 14d NOEyC Shoot fresh weight Growth rate 14d ErC_{10}	 6.1 mg AMPA/L (mm) 22.5 mg AMPA/L (mm) > 94.6 mg AMPA/L (mm) 14.3 mg AMPA/L (mm) 1.3 mg AMPA/L (mm) 5.8 mg AMPA/L (mm) > 94.6 mg AMPA/L (mm) 5.43 mg AMPA/L (mm) 24.2 mg AMPA/L (mm)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			14d E_rC_{20} 14d E_rC_{50} 14d NOErC Yield 14d E_yC_{10} 14d E_yC_{20} 14d E_yC_{50} 14d NOEyC Shoot dry weight Growth rate 14d E_rC_{10} 14d E_rC_{20} 14d E_rC_{50} 14d NOErC Yield 14d E_yC_{10} 14d E_yC_{20} 14d E_yC_{50} 14d NOEyC Root length Growth rate 14d E_rC_{10} 14d E_rC_{20} 14d E_rC_{50} 14d NOErC	39 mg AMPA/L (mm) > 94.6 mg AMPA/L (mm) 14.3 mg AMPA/L (mm) 19.7 mg AMPA/L (mm) 30.6 mg AMPA/L (mm) 70.8 mg AMPA/L (mm) 14.3 mg AMPA/L (mm) 38.4 mg AMPA/L (mm) = 47.6 mg AMPA/L (mm) 72 mg AMPA/L (mm) 37.1 mg AMPA/L (mm) 33.9 mg AMPA/L (mm) 42 mg AMPA/L (mm) 63.2 mg AMPA/L (mm) 37.1 mg AMPA/L (mm) 17 mg AMPA/L (mm) 35.9 mg AMPA/L (mm) > 94.6 mg AMPA/L (mm) 14.3 mg AMPA/L (mm)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			Yield 14d EyC_{10} 14d EyC_{20} 14d EyC_{50} 14d NOEyC	 5.1 mg AMPA/L (mm) 9.5 mg AMPA/L (mm) 31.1 mg AMPA/L (mm) 2.23 mg AMPA/L (mm)
Lemna gibba	HMPA	7 d (semi-static)	Frond number/biomass/dry weight Growth rate 7d ErC_{10} 7d ErC_{20} 7d ErC_{50} 7d NOErC Yield 7d EyC_{10} 7d EyC_{20} 7d EyC_{50} 7d NOEyC	 > 123 mg HMPA/L (nom) > 123 mg HMPA/L (nom) > 123 mg HMPA/L (nom) 123 mg HMPA/L (nom) > 123 mg HMPA/L (nom) > 123 mg HMPA/L (nom) > 123 mg HMPA/L (nom) 123 mg HMPA/L (nom)

Lemna gibba	MON 52276	7 d (semi-static)	<u>Fronds number</u> Growth rate: 7d ErC_{50} 7d NOErC Yield: 7d EyC_{50} 7d NOEyC <u>Dry weight</u> Growth rate: 7d ErC_{10} 7d ErC_{20} 7d ErC_{50} 7d NOErC Yield: 7d EyC_{50} 7d NOEyC	 >150 mg prep./$L_{(nom)}$ (>46.35 mg a.e../L $_{(nom)}$ 19.1 mg prep./$L_{(nom)}$ (5.90 mg a.e../L $_{(nom)}$) 66.58 mg prep./$L_{(nom)}$ (20.57 mg a.e../L $_{(nom)}$) 19.1 mg prep./$L_{(nom)}$ (5.90 mg a.e../L $_{(nom)}$) 51.2 mg MON 52276/L (15.8 mg a.e./L) 110.1 mg MON 52276/L (34 mg a.e./L) > 150 mg MON 52276/L (36.51 mg a.e./L) 19.1 mg MON 52276/L 5.90 mg a.e./L) 118.16 mg prep./$L_{(nom)}$ (36.51 mg a.e../L $_{(nom)}$) 19.1 mg prep./$L_{(nom)}$

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
				(5.90 mg a.e../L $_{(nom)}$)
Myriophyllum aquaticum	MON 52276	14d (static)	Shoot length Growth rate 14d ErC_{10} 14d ErC_{20} 14d ErC_{50} 14d NOErC Yield 14d EyC_{10} 14d EyC_{20} 14d EyC_{50} 14d NOEyC Shoot fresh weight Growth rate 14d ErC_{10} 14d ErC_{20} 14d ErC_{50} 14d NOErC	3.46 mg prep./L (1.07 mg a.e./L) $_{(mm)}$ 12.42 mg prep./L (3.81 mg a.e./L) $_{(mm)}$ 139.5 mg prep./L (42.79 mg a.e./L) $_{(mm)}$ 3.59 mg prep./L (1.1 mg a.e./L) $_{(mm)}$ 1.39 mg prep./L (0.43 mg a.e./L) $_{(mm)}$ 4.60 mg prep./L (1.41) mg a.e./L) $_{(mm)}$ 43.81 mg prep./L (13.44) mg a.e./L) $_{(mm)}$ 3.59 mg prep./L (1.1 mg a.e./L) $_{(mm}$ <0.98 mg prep./L (<0.3 mg a.e./L) $_{(mm)}$ 2.15 mg prep./L (0.66 mg a.e./L) $_{(mm)}$ 33.67 mg prep./L (**10.33 mg a.e./L**) $_{(mm)}$ < 0.98 mg prep./L (< 0.3 mg a.e./L) $_{(mm)}$

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			Yield	
			14d EyC_{10}	<0.98 mg prep./L (<0.3 mg a.e./L) (mm)
			14d EyC_{20}	1.27 mg prep./L (0.39 mg a.e./L) (mm)
			14d EyC_{50}	14.47 mg prep./L (4.44 mg a.e./L) (mm)
			14d NOEyC	< 0.98 mg prep./L (< 0.3 mg a.e./L) (mm)
			Shoot dry weight	
			Growth rate	
			14d ErC_{10}	1.42 mg prep./L (0.44 mg a.e./L) (mm)
			14d ErC_{20}	10.52 mg prep./L (3.23 mg a.e./L) (mm)
			14d ErC_{50}	467.1 mg prep./L (143.3 mg a.e./L) (mm)
			Yield	
			14d EyC_{10}	< 0.98 mg prep./L (< 0.3 mg a.e./L) (mm)
			14d EyC_{50}	>473 mg prep./L (>145 mg a.e./L) (mm)
			Root length	
			Growth rate	
			14d ErC_{10}	7.22 mg prep./L (2.23 mg a.e./L) (mm)
			14d ErC_{20}	20.63 mg prep./L (6.33 mg a.e./L) (mm)
			14d ErC_{50}	151.6 mg prep./L (46.5 mg a.e./L) (mm)
			14d NOErC	3.59 mg prep./L 1.1 mg a.e./L) (mm)

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
			Yield 14d EyC_{10} 14d EyC_{20} 14d EyC_{50} 14d NOEyC	3.40 mg prep./L (1.05 mg a.e./L) (mm) 6.16 mg prep./L (1.89 mg a.e./L) (mm) 19.04 mg prep./L (5.84 mg a.e./L) (mm) 3.59 mg prep./L (1.1 mg a.e./L) (mm)
Amphibians				
Leptodactylus latrans (tadpoles Gs 25 and 36)	glyphosate	Acute 96 hr (static)	Mortality, LC_{50} Development and growth (Gs 25) LOEC Morphological abnormalities (Gs 25 and 36) LOEC	>300 mg glyphosate/L (nom) 15 mg glyphosate/L (nom) 30 mg glyphosate/L (nom)
Leptodactylus latrans (tadpoles Gs 36)	glyphosate	Acute 96 hr (semi-static)	Mortality, LC_{50} Liver effects incl. lipidosis, LOEC	>300 mg glyphosate/L (nom) 15 mg glyphosate/L (nom)
Rana pipiens (tadpoles Gs 25)	glyphosate	Acute 96 hr (static)	Mortality, LC_{50}	>17.9 mg a.e./L(initial measured)
Lithobates sylvaticus (tadpoles Gs 25)	glyphosate	Acute 96 h exposure (1 pulse, observations during ~42 days (until Gs 42))	Mortality, SVL NOEC Bw ↑ (Gs 31), LOEC (NOEC not determined)	2.89 mg a.e./L(nom) 2.89 mg a.e./L(nom)
Lithobates sylvaticus (tadpoles Gs 25)	glyphosate	Acute 96 h exposure (2 pulses, 2 weeks	SVL↓ Condition factor↑ (at Gs 36-38) LOEC	

Group	Test substance	Time-scale (Test type)	End point	Toxicity[1]
		apart), observations during ~42 days (until Gs 42))	(NOEC not determined)	2.89 mg a.e./L$_{(nom)}$
Xenopus laevis (tadpoles Gs 46)	glyphosate	Acute 96 h (semi-static, 24 h interval)	Body length, NOEC	403 mg glyphosate/L$_{(measured)}$
Further testing on aquatic organisms None				
Potential endocrine disrupting properties (Annex Part A, point 8.2.3) For wild mammals, the same conclusion as drawn for humans applies (ED criteria not met). A number of studies with different taxa and species were available, including among others an amphibian metamorphosis assay (AMA) and a Fish Short-Term Reproduction Assay (FSTRA). Many *in vivo* mechanistic, EATS-mediated and 'sensitive to but not diagnostic' parameters were measured in the available studies. Overall, no convincing pattern of EATS-mediated adversity and/or endocrine activity was observed. Therefore, glyphosate does not meet the ED criteria as laid down in point 3.8.2 of Annex II to Regulation (EC) No 1107/2009, as amended by Commission Regulation (EU) 2018/605.				

[1] (nom) nominal concentration; (mm) arithmetic mean measured concentration; (gmm) geometric mean measured concentration; (im) initial measured concentration; prep.: preparation; a.e.: acid equivalent

* Valid and reliable with restriction (analytical report not available, suitability of the methods could not be checked)

1) Study is considered valid with restriction due to effect of low pH at the highest tested concentrations

2) The study was considered to be "supportive" by the RMS, due to the level of detail used in reporting the results. EFSA nonetheless considered the levels of detail enough for considering the endpoint as "reliable with restrictions". The divergence of views has no impact on the risk assessment.

3) A large spacing factor was used in the study. Significant effects were observed at the next higher concentration (40 mg a.e./L, 33-35% effect). Thus, the endpoint of 12.5 mg/L selected for chronic effects to aquatic invertebrates (from a standard test with *Daphnia magna*) should also be protective of the effects observed in this study, despite this provided a slightly lower NOEC (10 mg/L).

4) The observed effect was not dose-related and the maximum magnitude was still very low: about 4% of body weight gain. This is not considered to have effects at the population level.

5) The observed effect was very low: about 2% of body weight gain. This is not considered to have effects at the population level.

6) A very low incidence of morphological abnormalities was seen. This is not considered to have effects at the population level

7) The stage studied in the publication is only "final instar larvae" (no measurement up to emergence). The influence of such parameter on actual emergence is unknown, and thus its influence at the population level.

Toxicity endpoints for aquatic organisms obtained with formulations other than the representative one, but considered relevant for the representative formulation.

Group	Test Substance	Time scale	Endpoint	Toxicity
Danio rerio	Roundup GC Liquid	Chronic 21days	Embryo mortality, EC_{10} (visually determined)	> 12.8 mg glyphosate acid equivalent/L

			Hatching success (54 hpf),	
			NOEC	0.44 mg glyphosate acid equivalent/L (close to 0% effects, visually determined)
			LOEC	12.8 mg glyphosate acid equivalent/L (about 35% increase in hatching, visually determined)

Bioconcentration in fish (Annex Part A, point 8.2.2.3)

	Active substance	AMPA	HMPA
$\log P_{O/W}$	-6.28 at 25 °C (at pH buffers at 7)	-4.71 at 25 °C (at pH buffers at 7)	≤-3.2 at 22 °C (at pH buffers at 7)
Steady-state bioconcentration factor (BCF) (total wet weight/normalised to 5% lipid content)	No BCF validated*, **	N/A	N/A
Uptake/depuration kinetics BCF (total wet weight/normalised to 5% lipid content)			
Annex VI Trigger for the bioconcentration factor			
Clearance time (days) (CT_{50})			
(CT_{90})			
Level and nature of residues (%) in organisms after the 14 day depuration phase			
Higher tier study			

* based on total ^{14}C or on specific compounds

** A BCF study was not triggered in view of the low logPow (<3). Studies conducted with bluegill sunfish were available, but reliable BCF values could not be derived. The studies do however provide evidence that the potential for bioaccumulation of glyphosate is low.

Toxicity/exposure ratios for the most sensitive aquatic organisms (Regulation (EU) N° 284/2013, Annex Part A, point 10.2)

The PEC/RAC presented below is sufficient to conclude on the risk to aquatic macrophytes due to exposure via surface water. Nonetheless, exposure to emerged parts via contact due to spray drift is is not addressed in the risk assessment illustrated in the following tables. Such an assessment could not be finalized in lack of a reliable endpoint for glyphosate and MON 52276.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	31.447	0.098	0.314	0.079	0.025	0.023	0.030	1180	0.077
Step 2									
N-Europe	14.041	0.044	0.140	0.035	0.011	0.010	0.014	594.700	0.039
S-Europe	11.438	0.036	0.114	0.029	0.009	0.008	0.011	481.526	0.031
Step 3									
D3/ditch	3.359	0.010	0.034	0.008	0.003	0.002	0.003	3.117	0.000
D6/ditch	3.368	0.011	0.034	0.008	0.003	0.002	0.003	5.266	0.000

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/pond	0.273	0.001	0.003	0.001	0.000	0.000	0.000	14.560	0.001
R1/stream	2.212	0.007	0.022	0.006	0.002	0.002	0.002	127.100	0.008
R2/stream	2.971	0.009	0.030	0.007	0.002	0.002	0.003	530.500	0.034
R2/stream 2nd	2.971	0.009	0.030	0.007	0.002	0.002	0.003	585.900	0.038
R3/stream	3.126	0.010	0.031	0.008	0.003	0.002	0.003	95.670	0.006
R4/stream	2.184	0.007	0.022	0.005	0.002	0.002	0.002	195.500	0.013

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	31.447	0.098	0.314	0.079	0.025	0.023	0.030	1180	0.077
Step 2									
N-Europe	14.041	0.044	0.140	0.035	0.011	0.010	0.014	594.700	0.039
S-Europe	11.438	0.036	0.114	0.029	0.009	0.008	0.011	481.526	0.031
Step 3									
D3/ditch	2.767	0.009	0.028	0.007	0.002	0.002	0.003	1.918	0.000
D4/pond	0.108	0.000	0.001	0.000	0.000	0.000	0.000	1.889	0.000
D4/stream	2.353	0.007	0.024	0.006	0.002	0.002	0.002	0.148	0.000
D6/ditch	2.786	0.009	0.028	0.007	0.002	0.002	0.003	5.842	0.000
D6/ditch 2nd	2.794	0.009	0.028	0.007	0.002	0.002	0.003	10.440	0.001
R1/pond	0.318	0.001	0.003	0.001	0.000	0.000	0.000	17.070	0.001
R1/stream	1.917	0.006	0.019	0.005	0.002	0.001	0.002	147.800	0.010
R2/stream	2.575	0.008	0.026	0.006	0.002	0.002	0.002	619.700	0.040
R3/stream	2.709	0.008	0.027	0.007	0.002	0.002	0.003	292.500	0.019

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	31.447	0.098	0.314	0.079	0.025	0.023	0.030	1180	0.077
Step 2									
N-Europe	14.041	0.044	0.140	0.035	0.011	0.010	0.014	594.700	0.039

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	11.438	0.036	0.114	0.029	0.009	0.008	0.011	481.526	0.031
Step 3									
D3/ditch	3.347	0.010	0.033	0.008	0.003	0.002	0.003	2.190	0.000
D4/pond	0.111	0.000	0.001	0.000	0.000	0.000	0.000	1.937	0.000
D4/stream	2.645	0.008	0.026	0.007	0.002	0.002	0.003	0.134	0.000
D6/ditch	3.383	0.011	0.034	0.008	0.003	0.003	0.003	12.010	0.001
D6/ditch 2nd	3.383	0.011	0.034	0.008	0.003	0.003	0.003	12.160	0.001
R1/pond	0.306	0.001	0.003	0.001	0.000	0.000	0.000	16.230	0.001
R1/stream	2.212	0.007	0.022	0.006	0.002	0.002	0.002	146	0.009
R2/stream	2.971	0.009	0.030	0.007	0.002	0.002	0.003	533.100	0.035
R3/stream	3.125	0.010	0.031	0.008	0.003	0.002	0.003	124.400	0.008
R4/stream	2.212	0.007	0.022	0.006	0.002	0.002	0.002	135.300	0.009

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	31.447	0.098	0.314	0.079	0.025	0.023	0.030	1180	0.077
Step 2									
N-Europe	14.041	0.044	0.140	0.035	0.011	0.010	0.014	594.700	0.039
S-Europe	11.438	0.036	0.114	0.029	0.009	0.008	0.011	481.526	0.031
Step 3									
D6/ditch	3.376	0.011	0.034	0.008	0.003	0.003	0.003	9.061	0.001
R2/stream	2.971	0.009	0.030	0.007	0.002	0.002	0.003	715.300	0.046
R3/stream	3.125	0.010	0.031	0.008	0.003	0.002	0.003	292.500	0.019
R4/stream	2.212	0.007	0.022	0.006	0.002	0.002	0.002	185.300	0.012

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	31.447	0.098	0.314	0.079	0.025	0.023	0.030	1180	0.077
Step 2									
N-Europe	14.041	0.044	0.140	0.035	0.011	0.010	0.014	594.700	0.039
S-Europe	11.438	0.036	0.114	0.029	0.009	0.008	0.011	481.526	0.031
Step 3									
D3/ditch	3.358	0.010	0.034	0.008	0.003	0.002	0.003	3.057	0.000
D3/ditch 2nd	3.356	0.010	0.034	0.008	0.003	0.002	0.003	2.791	0.000
D4/pond	0.111	0.000	0.001	0.000	0.000	0.000	0.000	1.944	0.000
D4/stream	2.698	0.008	0.027	0.007	0.002	0.002	0.003	0.159	0.000
D6/ditch	3.383	0.011	0.034	0.008	0.003	0.003	0.003	12.530	0.001
R1/pond	0.254	0.001	0.003	0.001	0.000	0.000	0.000	16.420	0.001

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 540 g a.s./ha). ***Uses 3 a –b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/pond 2nd	0.398	0.001	0.004	0.001	0.000	0.000	0.000	20.180	0.001
R1/stream	2.211	0.007	0.022	0.006	0.002	0.002	0.002	180.800	0.012
R1/stream 2nd	2.210	0.007	0.022	0.006	0.002	0.002	0.002	334.600	0.022
R2/stream	2.971	0.009	0.030	0.007	0.002	0.002	0.003	568.200	0.037
R2/stream 2nd	2.971	0.009	0.030	0.007	0.002	0.002	0.003	630.200	0.041
R3/stream	3.125	0.010	0.031	0.008	0.003	0.002	0.003	413.100	0.027
R3/stream 2nd	3.125	0.010	0.031	0.008	0.003	0.002	0.003	292.500	0.019
R4/stream	2.212	0.007	0.022	0.006	0.002	0.002	0.002	214.300	0.014
R4/stream 2nd	2.212	0.007	0.022	0.006	0.002	0.002	0.002	294.500	0.019

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (1 × 540 g a.s./ha). ***Uses 3 a-b.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	31.447	0.098	0.314	0.079	0.025	0.023	0.030	1180	0.077
Step 2									
N-Europe	14.041	0.044	0.140	0.035	0.011	0.010	0.014	594.700	0.039
S-Europe	11.438	0.036	0.114	0.029	0.009	0.008	0.011	481.526	0.031
Step 3									
D3/ditch	2.767	0.009	0.028	0.007	0.002	0.002	0.003	1.902	0.000
D4/pond	0.108	0.000	0.001	0.000	0.000	0.000	0.000	1.851	0.000
D4/stream	2.425	0.008	0.024	0.006	0.002	0.002	0.002	0.234	0.000
R1/pond	0.326	0.001	0.003	0.001	0.000	0.000	0.000	16.200	0.001
R1/stream	1.917	0.006	0.019	0.005	0.002	0.001	0.002	164.300	0.011
R3/stream	2.709	0.008	0.027	0.007	0.002	0.002	0.003	292.500	0.019

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (1 × 540 g a.s./ha). *Uses 3 a-b.*

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 540 g a.s./ha). *Uses 3 a-b.*

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	25.123	0.025	0.021	0.004	0.017	0.008	0.003	616.340	0.008
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	12.301	0.012	0.010	0.002	0.008	0.004	0.002	310.273	0.004
S-Europe	9.894	0.010	0.008	0.001	0.007	0.003	0.001	249.102	0.003

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 540 g a.s./ha). *Uses 3 a-b.*

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 540 g a.s./ha). *Uses 3 a-b.*

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		**-**	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $^{\$}$
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	12.096	0.038	0.012	0.001	<0.001	85.43	0.055
Step 2							
N-Europe	6.108	0.019	0.006	<0.001	<0.001	43.15	0.028
S-Europe	4.952	0.015	0.005	<0.001	<0.001	34.97	0.023

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 540 g a.s./ha). ***Uses 3 a-b.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		**-**	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 540 g a.s./ha). ***Uses 3 a-b.***

Group	**Sed. dwell. prolonged**	
Test species		***Chironomus riparius***
Endpoint **(µg/L)**		NOEC* 78650
AF		10
RAC (µg/L)		7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	137.269	0.017
Step 2		
N-Europe	69.327	0.009
S-Europe	56.197	0.007

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 540 g a.s./ha). ***Uses 3 a-b.***

Group	Sed. dwell. prolonged	
Test species		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D3/ditch	4.487	0.014	0.045	0.011	0.004	0.003	0.004	4.984	0.000
D6/ditch	4.498	0.014	0.045	0.011	0.004	0.003	0.004	22.470	0.001
R1/pond	1.921	0.006	0.019	0.005	0.002	0.001	0.002	70.280	0.005
R1/stream	4.091	0.013	0.041	0.010	0.003	0.003	0.004	417.900	0.027
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	1953.500	0.127
R2/stream 2^{nd}	3.969	0.012	0.040	0.010	0.003	0.003	0.004	2133.100	0.139

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c*.**

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R3/stream	4.175	0.013	0.042	0.010	0.003	0.003	0.004	398.300	0.026
R4/stream	5.530	0.017	0.055	0.014	0.004	0.004	0.005	696.400	0.045

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c*.**

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c*****.**

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D3/ditch	3.696	0.012	0.037	0.009	0.003	0.003	0.004	3.925	0.000
D4/pond	0.190	0.001	0.002	0.000	0.000	0.000	0.000	5.638	0.000
D4/stream	3.144	0.010	0.031	0.008	0.003	0.002	0.003	0.817	0.000
D6/ditch	3.722	0.012	0.037	0.009	0.003	0.003	0.004	7.772	0.001
D6/ditch 2nd	3.733	0.012	0.037	0.009	0.003	0.003	0.004	13.850	0.001
R1/pond	2.168	0.007	0.022	0.005	0.002	0.002	0.002	80.510	0.005
R1/stream	4.241	0.013	0.042	0.011	0.003	0.003	0.004	486.300	0.032
R2/stream	3.441	0.011	0.034	0.009	0.003	0.003	0.003	1865.200	0.121
R3/stream	3.619	0.011	0.036	0.009	0.003	0.003	0.004	938.400	0.061

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D3/ditch	4.470	0.014	0.045	0.011	0.004	0.003	0.004	4.737	0.000
D4/pond	0.184	0.001	0.002	0.000	0.000	0.000	0.000	5.913	0.000
D4/stream	3.534	0.011	0.035	0.009	0.003	0.003	0.003	0.826	0.000
D6/ditch	4.518	0.014	0.045	0.011	0.004	0.003	0.004	20.760	0.001
D6/ditch 2nd	4.518	0.014	0.045	0.011	0.004	0.003	0.004	25.580	0.002
R1/pond	2.097	0.007	0.021	0.005	0.002	0.002	0.002	76.570	0.005

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	4.108	0.013	0.041	0.010	0.003	0.003	0.004	488.300	0.032
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	1954.600	0.127
R3/stream	4.174	0.013	0.042	0.010	0.003	0.003	0.004	587.200	0.038
R4/stream	5.480	0.017	0.055	0.014	0.004	0.004	0.005	459.900	0.030

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D6/ditch	4.509	0.014	0.045	0.011	0.004	0.003	0.004	20.900	0.001
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	2668.800	0.173
R3/stream	4.175	0.013	0.042	0.010	0.003	0.003	0.004	938.300	0.061
R4/stream	5.938	0.019	0.059	0.015	0.005	0.004	0.006	616.500	0.040

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint		LC_{50}	NOEC	EC_{50}	NOEC	ErC_{50}	E_rC_{50}	**Endpoint**	NOEC

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
(µg/L)		32000	1000	40000	12500	13500	10330	**(µg/kg)**	154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D3/ditch	4.486	0.014	0.045	0.011	0.004	0.003	0.004	5.137	0.000
D3/ditch 2nd	4.482	0.014	0.045	0.011	0.004	0.003	0.004	6.189	0.000
D4/pond	0.197	0.001	0.002	0.000	0.000	0.000	0.000	5.764	0.000
D4/stream	3.605	0.011	0.036	0.009	0.003	0.003	0.003	0.881	0.000
D6/ditch	4.518	0.014	0.045	0.011	0.004	0.003	0.004	21.330	0.001
R1/pond	1.855	0.006	0.019	0.005	0.001	0.001	0.002	77.990	0.005
R1/pond 2nd	2.178	0.007	0.022	0.005	0.002	0.002	0.002	83.780	0.005

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	4.056	0.013	0.041	0.010	0.003	0.003	0.004	478.400	0.031
R1/stream 2nd	3.986	0.012	0.040	0.010	0.003	0.003	0.004	848	0.055
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	2078.900	0.135
R2/stream 2nd	3.969	0.012	0.040	0.010	0.003	0.003	0.004	1896.500	0.123
R3/stream	4.175	0.013	0.042	0.010	0.003	0.003	0.004	1425.200	0.093
R3/stream 2nd	4.175	0.013	0.042	0.010	0.003	0.003	0.004	938.200	0.061
R4/stream	5.207	0.016	0.052	0.013	0.004	0.004	0.005	724.500	0.047
R4/stream 2nd	5.612	0.018	0.056	0.014	0.004	0.004	0.005	1048.500	0.068

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D3/ditch	3.696	0.012	0.037	0.009	0.003	0.003	0.004	4.167	0.000
D4/pond	0.149	0.000	0.001	0.000	0.000	0.000	0.000	4.818	0.000
D4/stream	3.239	0.010	0.032	0.008	0.003	0.002	0.003	0.635	0.000
R1/pond	2.171	0.007	0.022	0.005	0.002	0.002	0.002	72.980	0.005
R1/stream	4.083	0.013	0.041	0.010	0.003	0.003	0.004	546.800	0.036
R3/stream	3.619	0.011	0.036	0.009	0.003	0.003	0.004	938.400	0.061

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D3/ditch	1.894	0.006	0.019	0.005	0.002	0.001	0.002	3.481	0.000
D4/pond	0.136	0.000	0.001	0.000	0.000	0.000	0.000	4.529	0.000
D4/stream	1.674	0.005	0.017	0.004	0.001	0.001	0.002	0.554	0.000
D5/pond	0.138	0.000	0.001	0.000	0.000	0.000	0.000	4.316	0.000
D5/stream	1.849	0.006	0.018	0.005	0.001	0.001	0.002	1.032	0.000
R1/pond	0.181	0.001	0.002	0.000	0.000	0.000	0.000	7.712	0.001
R1/stream	3.103	0.010	0.031	0.008	0.002	0.002	0.003	8.543	0.001
R2/stream	1.757	0.005	0.018	0.004	0.001	0.001	0.002	82.570	0.005
R3/stream	1.880	0.006	0.019	0.005	0.002	0.001	0.002	42.090	0.003
R4/stream	4.414	0.014	0.044	0.011	0.004	0.003	0.004	39.640	0.003

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in olives (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D6/ditch	1.902	0.006	0.019	0.005	0.002	0.001	0.002	12.460	0.001
R4/stream	5.228	0.016	0.052	0.013	0.004	0.004	0.005	46.770	0.003

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	48.975	0.153	0.490	0.122	0.039	0.036	0.047	2090	0.136
S-Europe	39.701	0.124	0.397	0.099	0.032	0.029	0.038	1690	0.110
Step 3									
D6/ditch	1.902	0.006	0.019	0.005	0.002	0.001	0.002	12.470	0.001
R1/pond	0.179	0.001	0.002	0.000	0.000	0.000	0.000	7.700	0.001
R1/stream	2.997	0.009	0.030	0.007	0.002	0.002	0.003	8.560	0.001
R2/stream	1.757	0.005	0.018	0.004	0.001	0.001	0.002	82.570	0.005
R3/stream	1.869	0.006	0.019	0.005	0.001	0.001	0.002	42.070	0.003
R4/stream	5.009	0.016	0.050	0.013	0.004	0.004	0.005	41.540	0.003

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		Fish acute	Fish prolonged	Inverteb. acute	Inverteb. prolonged	Algae	Aquatic macrophytes		Sed. dwell. prolonged
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		Fish acute	Fish prolonged	Inverteb. acute	Inverteb. prolonged	Algae	Aquatic macrophytes		Sed. dwell. prolonged
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	100.494	0.100	0.084	0.015	0.067	0.032	0.014	2470	0.031
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	46.595	0.047	0.039	0.007	0.031	0.015	0.006	1180	0.015
S-Europe	37.402	0.037	0.031	0.005	0.025	0.012	0.005	944.972	0.012

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	100.494	0.100	0.084	0.015	0.067	0.032	0.014	2470	0.031
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	46.595	0.047	0.039	0.007	0.031	0.015	0.006	1180	0.015

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	37.402	0.037	0.031	0.005	0.025	0.012	0.005	944.972	0.012

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	100.494	0.100	0.084	0.015	0.067	0.032	0.014	2470	0.031
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
N-Europe	46.595	0.047	0.039	0.007	0.031	0.015	0.006	1180	0.015
S-Europe	37.402	0.037	0.031	0.005	0.025	0.012	0.005	944.972	0.012

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
Endpoint **(µg/L)**		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint** **(µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	48.385	0.151	0.048	0.004	0.004	341.71	0.222
Step 2							
N-Europe	21.541	0.067	0.022	0.002	0.002	152.17	0.099

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
S-Europe	17.420	0.054	0.017	0.001	0.001	123.05	0.080

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	48.385	0.151	0.048	0.004	0.004	341.71	0.222
Step 2							

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
N-Europe	21.541	0.067	0.022	0.002	0.002	152.17	0.099
S-Europe	17.420	0.054	0.017	0.001	0.001	123.05	0.080

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

$ added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
Endpoint **(µg/L)**		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint** **(µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
	48.385	0.151	0.048	0.004	0.004	341.71	0.222
Step 2							
N-Europe	21.541	0.067	0.022	0.002	0.002	152.17	0.099
S-Europe	17.420	0.054	0.017	0.001	0.001	123.05	0.080

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint (µg/L)		NOEC* 78650
AF		10
RAC (µg/L)		7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
	549.077	0.070
Step 2		
N-Europe	244.491	0.031
S-Europe	197.709	0.025

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	549.077	0.070
Step 2		

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
N-Europe	244.491	0.031
S-Europe	197.709	0.025

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	549.077	0.070
Step 2		
N-Europe	244.491	0.031
S-Europe	197.709	0.025

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (3 × 720 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**
* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	52.461	0.164	0.525	0.131	0.042	0.039	0.051	2230	0.145
S-Europe	42.640	0.133	0.426	0.107	0.034	0.032	0.041	1800	0.117
Step 3									
D3/ditch	6.745	0.021	0.067	0.017	0.005	0.005	0.007	7.755	0.001
D6/ditch	6.763	0.021	0.068	0.017	0.005	0.005	0.007	26.970	0.002
R1/pond	1.814	0.006	0.018	0.005	0.001	0.001	0.002	66.350	0.004
R1/stream	4.445	0.014	0.044	0.011	0.004	0.003	0.004	363.300	0.024
R2/stream	5.967	0.019	0.060	0.015	0.005	0.004	0.006	1866	0.121
R2/stream 2nd	5.967	0.019	0.060	0.015	0.005	0.004	0.006	2078.800	0.135

Group		Fish acute	Fish prolonged	Inverteb. acute	Inverteb. prolonged	Algae	Aquatic macrophytes		Sed. dwell. prolonged
Test species		*Lepomis macrochirus*	*Brachydanio rerio*	*Crassostrea gigas / Daphnia magna*	*Daphnia magna*	*Skeletonema costatum*	*Myriophyllum aquaticum*		*Chironomus riparius*
R3/stream	6.277	0.020	0.063	0.016	0.005	0.005	0.006	268.800	0.017
R4/stream	5.145	0.016	0.051	0.013	0.004	0.004	0.005	594.800	0.039

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		Fish acute	Fish prolonged	Inverteb. acute	Inverteb. prolonged	Algae	Aquatic macrophytes		Sed. dwell. prolonged
Test species		*Lepomis macrochirus*	*Brachydanio rerio*	*Crassostrea gigas / Daphnia magna*	*Daphnia magna*	*Skeletonema costatum*	*Myriophyllum aquaticum*		*Chironomus riparius*
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 2									
N-Europe	52.461	0.164	0.525	0.131	0.042	0.039	0.051	2230	0.145
S-Europe	42.640	0.133	0.426	0.107	0.034	0.032	0.041	1800	0.117
Step 3									
D3/ditch	5.558	0.017	0.056	0.014	0.004	0.004	0.005	5.498	0.000
D4/pond	0.249	0.001	0.002	0.001	0.000	0.000	0.000	6.620	0.000
D4/stream	4.728	0.015	0.047	0.012	0.004	0.004	0.005	0.809	0.000
D6/ditch	5.596	0.017	0.056	0.014	0.004	0.004	0.005	11.610	0.001
D6/ditch 2nd	5.613	0.018	0.056	0.014	0.004	0.004	0.005	20.590	0.001
R1/pond	2.094	0.007	0.021	0.005	0.002	0.002	0.002	78.100	0.005
R1/stream	4.127	0.013	0.041	0.010	0.003	0.003	0.004	451.300	0.029
R2/stream	5.174	0.016	0.052	0.013	0.004	0.004	0.005	1741.800	0.113
R3/stream	5.442	0.017	0.054	0.014	0.004	0.004	0.005	885.300	0.057

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	52.461	0.164	0.525	0.131	0.042	0.039	0.051	2230	0.145
S-Europe	42.640	0.133	0.426	0.107	0.034	0.032	0.041	1800	0.117
Step 3									
D3/ditch	6.721	0.021	0.067	0.017	0.005	0.005	0.007	6.134	0.000
D4/pond	0.257	0.001	0.003	0.001	0.000	0.000	0.000	6.862	0.000
D4/stream	5.314	0.017	0.053	0.013	0.004	0.004	0.005	0.819	0.000
D6/ditch	6.793	0.021	0.068	0.017	0.005	0.005	0.007	35.160	0.002
D6/ditch 2nd	6.793	0.021	0.068	0.017	0.005	0.005	0.007	35.060	0.002
R1/pond	2.014	0.006	0.020	0.005	0.002	0.001	0.002	74.010	0.005

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	4.445	0.014	0.044	0.011	0.004	0.003	0.004	452.900	0.029
R2/stream	5.967	0.019	0.060	0.015	0.005	0.004	0.006	1869.200	0.121
R3/stream	6.276	0.020	0.063	0.016	0.005	0.005	0.006	472.400	0.031
R4/stream	5.300	0.017	0.053	0.013	0.004	0.004	0.005	382.300	0.025

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	52.461	0.164	0.525	0.131	0.042	0.039	0.051	2230	0.145
S-Europe	42.640	0.133	0.426	0.107	0.034	0.032	0.041	1800	0.117
Step 3									
D6/ditch	6.779	0.021	0.068	0.017	0.005	0.005	0.007	36.470	0.002
R2/stream	5.967	0.019	0.060	0.015	0.005	0.004	0.006	2597.700	0.169
R3/stream	6.276	0.020	0.063	0.016	0.005	0.005	0.006	885.200	0.057
R4/stream	6.236	0.019	0.062	0.016	0.005	0.005	0.006	607.600	0.039

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint		LC_{50}	NOEC	EC_{50}	NOEC	ErC_{50}	E_rC_{50}	**Endpoint**	NOEC

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
(µg/L)		32000	1000	40000	12500	13500	10330	**(µg/kg)**	154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	52.461	0.164	0.525	0.131	0.042	0.039	0.051	2230	0.145
S-Europe	42.640	0.133	0.426	0.107	0.034	0.032	0.041	1800	0.117
Step 3									
D3/ditch	6.744	0.021	0.067	0.017	0.005	0.005	0.007	6.417	0.000
D3/ditch 2nd	6.739	0.021	0.067	0.017	0.005	0.005	0.007	8.529	0.001
D4/pond	0.258	0.001	0.003	0.001	0.000	0.000	0.000	6.790	0.000
D4/stream	5.421	0.017	0.054	0.014	0.004	0.004	0.005	0.880	0.000
D6/ditch	6.793	0.021	0.068	0.017	0.005	0.005	0.007	33.170	0.002
R1/pond	1.758	0.005	0.018	0.004	0.001	0.001	0.002	76.920	0.005
R1/pond 2nd	2.164	0.007	0.022	0.005	0.002	0.002	0.002	82.350	0.005

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	4.442	0.014	0.044	0.011	0.004	0.003	0.004	466.200	0.030
R1/stream 2nd	4.440	0.014	0.044	0.011	0.004	0.003	0.004	1012.600	0.066
R2/stream	5.967	0.019	0.060	0.015	0.005	0.004	0.006	1906	0.124
R2/stream 2nd	5.967	0.019	0.060	0.015	0.005	0.004	0.006	2161.800	0.140
R3/stream	6.277	0.020	0.063	0.016	0.005	0.005	0.006	1522.500	0.099
R3/stream 2nd	6.277	0.020	0.063	0.016	0.005	0.005	0.006	885	0.057
R4/stream	5.282	0.017	0.053	0.013	0.004	0.004	0.005	683.800	0.044
R4/stream 2nd	5.758	0.018	0.058	0.014	0.005	0.004	0.006	935.600	0.061

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	125.789	0.393	**1.258**	0.314	0.101	0.093	0.122	4710	0.306
Step 2									
N-Europe	52.461	0.164	0.525	0.131	0.042	0.039	0.051	2230	0.145
S-Europe	42.640	0.133	0.426	0.107	0.034	0.032	0.041	1800	0.117
Step 3									
D3/ditch	5.557	0.017	0.056	0.014	0.004	0.004	0.005	5.351	0.000
D4/pond	0.253	0.001	0.003	0.001	0.000	0.000	0.000	5.943	0.000
D4/stream	4.871	0.015	0.049	0.012	0.004	0.004	0.005	1.183	0.000
R1/pond	2.145	0.007	0.021	0.005	0.002	0.002	0.002	72.770	0.005
R1/stream	4.299	0.013	0.043	0.011	0.003	0.003	0.004	505	0.033
R3/stream	5.442	0.017	0.054	0.014	0.004	0.004	0.005	885.500	0.058

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	100.494	0.100	0.084	0.015	0.067	0.032	0.014	2470	0.031
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	47.863	0.048	0.040	0.007	0.032	0.015	0.007	1210	0.015
S-Europe	38.459	0.038	0.032	0.006	0.026	0.012	0.005	969.999	0.012

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $^{\$}$
Endpoint (μg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (μg/kg)**	NOEC 15400 μg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (μg/L)		320	1000	12000	12300	**RAC (μg/kg)**	1540 μg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (μg/L)**					**$PEC_{sed,max}$ (μg/kg)**	
Step 1							
	48.385	0.151	0.048	0.004	0.004	341.71	0.222
Step 2							
N-Europe	22.957	0.072	0.023	0.002	0.002	162.16	0.105
S-Europe	18.594	0.058	0.019	0.002	0.002	131.33	0.085

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint (µg/L)	**Endpoint (µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	549.077	0.070
Step 2		
N-Europe	260.561	0.033
S-Europe	211.022	0.027

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (2 × 1080 g a.s./ha, with application interval of 28 days). ***Uses 2 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	9.007	0.028	0.090	0.023	0.007	0.007	0.009	8.308	0.001
D6/ditch	9.030	0.028	0.090	0.023	0.007	0.007	0.009	13.950	0.001
R1/pond	1.004	0.003	0.010	0.003	0.001	0.001	0.001	40.990	0.003
R1/stream	5.936	0.019	0.059	0.015	0.005	0.004	0.006	250.900	0.016
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1301.300	0.085
R2/stream 2nd	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1388.900	0.090

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R3/stream	8.381	0.026	0.084	0.021	0.007	0.006	0.008	189.900	0.012
R4/stream	5.860	0.018	0.059	0.015	0.005	0.004	0.006	372.700	0.024

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	7.422	0.023	0.074	0.019	0.006	0.005	0.007	5.125	0.000
D4/pond	0.292	0.001	0.003	0.001	0.000	0.000	0.000	5.082	0.000
D4/stream	6.314	0.020	0.063	0.016	0.005	0.005	0.006	0.502	0.000
D6/ditch	7.473	0.023	0.075	0.019	0.006	0.006	0.007	15.430	0.001
D6/ditch 2nd	7.496	0.023	0.075	0.019	0.006	0.006	0.007	27.250	0.002
R1/pond	1.179	0.004	0.012	0.003	0.001	0.001	0.001	48.470	0.003
R1/stream	5.147	0.016	0.051	0.013	0.004	0.004	0.005	294.400	0.019
R2/stream	6.909	0.022	0.069	0.017	0.006	0.005	0.007	1547.900	0.101
R3/stream	7.267	0.023	0.073	0.018	0.006	0.005	0.007	614.100	0.040

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	8.974	0.028	0.090	0.022	0.007	0.007	0.009	5.849	0.000
D4/pond	0.301	0.001	0.003	0.001	0.000	0.000	0.000	5.238	0.000
D4/stream	7.096	0.022	0.071	0.018	0.006	0.005	0.007	0.483	0.000
D6/ditch	9.070	0.028	0.091	0.023	0.007	0.007	0.009	31.350	0.002
D6/ditch 2nd	9.070	0.028	0.091	0.023	0.007	0.007	0.009	31.720	0.002
R1/pond	1.130	0.004	0.011	0.003	0.001	0.001	0.001	45.900	0.003

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	5.936	0.019	0.059	0.015	0.005	0.004	0.006	296	0.019
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1305	0.085
R3/stream	8.380	0.026	0.084	0.021	0.007	0.006	0.008	265.900	0.017
R4/stream	5.934	0.019	0.059	0.015	0.005	0.004	0.006	247.200	0.016

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D6/ditch	9.051	0.028	0.091	0.023	0.007	0.007	0.009	23.730	0.002
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1675.900	0.109
R3/stream	8.381	0.026	0.084	0.021	0.007	0.006	0.008	614.100	0.040
R4/stream	5.935	0.019	0.059	0.015	0.005	0.004	0.006	344	0.022

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint		LC_{50}	NOEC	EC_{50}	NOEC	ErC_{50}	E_rC_{50}	**Endpoint**	NOEC

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
(µg/L)		32000	1000	40000	12500	13500	10330	**(µg/kg)**	154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	9.005	0.028	0.090	0.023	0.007	0.007	0.009	8.150	0.001
D3/ditch 2nd	8.998	0.028	0.090	0.022	0.007	0.007	0.009	7.445	0.000
D4/pond	0.302	0.001	0.003	0.001	0.000	0.000	0.000	5.248	0.000
D4/stream	7.238	0.023	0.072	0.018	0.006	0.005	0.007	0.538	0.000
D6/ditch	9.070	0.028	0.091	0.023	0.007	0.007	0.009	32.690	0.002
R1/pond	0.951	0.003	0.010	0.002	0.001	0.001	0.001	46.630	0.003
R1/pond 2nd	1.448	0.005	0.014	0.004	0.001	0.001	0.001	57.330	0.004

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	5.933	0.019	0.059	0.015	0.005	0.004	0.006	348.600	0.023
R1/stream 2nd	5.930	0.019	0.059	0.015	0.005	0.004	0.006	809.100	0.053
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1367.800	0.089
R2/stream 2nd	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1515.200	0.098
R3/stream	8.381	0.026	0.084	0.021	0.007	0.006	0.008	988.600	0.064
R3/stream 2nd	8.381	0.026	0.084	0.021	0.007	0.006	0.008	613.900	0.040
R4/stream	5.934	0.019	0.059	0.015	0.005	0.004	0.006	444	0.029
R4/stream 2nd	5.935	0.019	0.059	0.015	0.005	0.004	0.006	574.900	0.037

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	7.421	0.023	0.074	0.019	0.006	0.005	0.007	5.083	0.000
D4/pond	0.292	0.001	0.003	0.001	0.000	0.000	0.000	4.962	0.000
D4/stream	6.505	0.020	0.065	0.016	0.005	0.005	0.006	0.685	0.000
R1/pond	1.219	0.004	0.012	0.003	0.001	0.001	0.001	46.420	0.003
R1/stream	5.146	0.016	0.051	0.013	0.004	0.004	0.005	354.500	0.023
R3/stream	7.267	0.023	0.073	0.018	0.006	0.005	0.007	614.200	0.040

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (μg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (μg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (μg/L)		320	100	400	1250	1350	1033	**RAC (μg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (μg/L)**							**$PEC_{sed,max}$ (μg/kg)**	
Step 1									
	167.718	0.524	**1.677**	0.419	0.134	0.124	0.162	6280	0.408
Step 2									
N-Europe	69.948	0.219	0.699	0.175	0.056	0.052	0.068	2970	0.193

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	56.854	0.178	0.569	0.142	0.045	0.042	0.055	2400	0.156
Step 3									
D3/ditch	3.806	0.012	0.038	0.010	0.003	0.003	0.004	6.678	0.000
D4/pond	0.276	0.001	0.003	0.001	0.000	0.000	0.000	7.236	0.000
D4/stream	3.364	0.011	0.034	0.008	0.003	0.002	0.003	0.870	0.000
D5/pond	0.280	0.001	0.003	0.001	0.000	0.000	0.000	6.719	0.000
D5/stream	3.716	0.012	0.037	0.009	0.003	0.003	0.004	1.711	0.000
R1/pond	0.283	0.001	0.003	0.001	0.000	0.000	0.000	10.790	0.001
R1/stream	4.266	0.013	0.043	0.011	0.003	0.003	0.004	9.910	0.001
R2/stream	3.530	0.011	0.035	0.009	0.003	0.003	0.003	101.400	0.007
R3/stream	3.714	0.012	0.037	0.009	0.003	0.003	0.004	61.630	0.004
R4/stream	6.376	0.020	0.064	0.016	0.005	0.005	0.006	45.430	0.003

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	167.718	0.524	**1.677**	0.419	0.134	0.124	0.162	6280	0.408
Step 2									
N-Europe	69.948	0.219	0.699	0.175	0.056	0.052	0.068	2970	0.193
S-Europe	56.854	0.178	0.569	0.142	0.045	0.042	0.055	2400	0.156
Step 3									
D6/ditch	3.822	0.012	0.038	0.010	0.003	0.003	0.004	21.120	0.001
R1/pond	0.283	0.001	0.003	0.001	0.000	0.000	0.000	10.770	0.001
R1/stream	4.123	0.013	0.041	0.010	0.003	0.003	0.004	9.906	0.001
R2/stream	3.530	0.011	0.035	0.009	0.003	0.003	0.003	101.400	0.007
R3/stream	3.714	0.012	0.037	0.009	0.003	0.003	0.004	61.620	0.004
R4/stream	8.306	0.026	0.083	0.021	0.007	0.006	0.008	49.080	0.003

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in olives (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	167.718	0.524	**1.677**	0.419	0.134	0.124	0.162	6280	0.408
Step 2									
N-Europe	69.948	0.219	0.699	0.175	0.056	0.052	0.068	2970	0.193

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in olives (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	56.854	0.178	0.569	0.142	0.045	0.042	0.055	2400	0.156
Step 3									
D6/ditch	3.822	0.012	0.038	0.010	0.003	0.003	0.004	21.090	0.001
R4/stream	8.714	0.027	0.087	0.022	0.007	0.006	0.008	55.440	0.004

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
	66.996	0.067	0.056	0.010	0.045	0.021	0.009	1640	0.021
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	32.804	0.033	0.027	0.005	0.022	0.010	0.005	827.394	0.011
S-Europe	26.384	0.026	0.022	0.004	0.018	0.008	0.004	664.272	0.008

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint** (µg/kg)	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
	133.991	0.134	0.112	0.019	0.089	0.042	0.019	3290	0.042
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	63.817	0.064	0.053	0.009	0.043	0.020	0.009	1610	0.020
S-Europe	51.278	0.051	0.043	0.007	0.034	0.016	0.007	1290	0.016

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	133.991	0.134	0.112	0.019	0.089	0.042	0.019	3290	0.042
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	63.817	0.064	0.053	0.009	0.043	0.020	0.009	1610	0.020
S-Europe	51.278	0.051	0.043	0.007	0.034	0.016	0.007	1290	0.016

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** ***$***
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
	32.256	0.101	0.032	0.003	0.003	227.81	0.148
Step 2							
N-Europe	16.289	0.051	0.016	0.001	0.001	115.05	0.075
S-Europe	13.205	0.041	0.013	0.001	0.001	93.26	0.061

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	64.513	0.202	0.065	0.005	0.005	455.62	0.296
Step 2							
N-Europe	30.610	0.096	0.031	0.003	0.002	216.22	0.140
S-Europe	24.791	0.077	0.025	0.002	0.002	175.11	0.114

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use in of MON 52276 vines (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint** (µg/kg)	NOEC 15400 µg/kg sed.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use in of MON 52276 vines (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	64.513	0.202	0.065	0.005	0.005	455.62	0.296
Step 2							
N-Europe	30.610	0.096	0.031	0.003	0.002	216.22	0.140
S-Europe	24.791	0.077	0.025	0.002	0.002	175.11	0.114

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	366.051	0.047
Step 2		
N-Europe	184.872	0.024
S-Europe	149.857	0.019

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 4 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (2 × 1440 g a.s./ha, with application interval of 28 days). *Uses 4 a-c.*

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	732.102	0.093
Step 2		
N-Europe	347.414	0.044
S-Europe	281.362	0.036

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (2 × 1440 g a.s./ha, with application interval of 28 days). *Uses 5 a-c.*

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (2 × 1440 g a.s./ha, with application interval of 28 days). ***Uses 5 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	732.102	0.093
Step 2		
N-Europe	347.414	0.044
S-Europe	281.362	0.036

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**
* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). ***Uses 8 and 9.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). ***Uses 8 and 9.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	104.824	0.328	**1.048**	0.262	0.084	0.078	0.101	3920	0.255
Step 2									
N-Europe	46.803	0.146	0.468	0.117	0.037	0.035	0.045	1980	0.129
S-Europe	38.127	0.119	0.381	0.095	0.031	0.028	0.037	1610	0.105
Step 3									
D1/ditch	11.380	0.036	0.114	0.028	0.009	0.008	0.011	64.820	0.004
D1/stream	9.951	0.031	0.100	0.025	0.008	0.007	0.010	6.614	0.000
D2/ditch	11.400	0.036	0.114	0.029	0.009	0.008	0.011	62.270	0.004
D2/stream	10.130	0.032	0.101	0.025	0.008	0.008	0.010	48.490	0.003
D3/ditch	11.290	0.035	0.113	0.028	0.009	0.008	0.011	12.590	0.001
D4/pond	0.378	0.001	0.004	0.001	0.000	0.000	0.000	6.426	0.000
D4/stream	9.723	0.030	0.097	0.024	0.008	0.007	0.009	2.158	0.000
D5/pond	0.378	0.001	0.004	0.001	0.000	0.000	0.000	6.386	0.000
D5/stream	10.490	0.033	0.105	0.026	0.008	0.008	0.010	3.064	0.000
R2/stream	9.925	0.031	0.099	0.025	0.008	0.007	0.010	12.970	0.001
R3/stream	10.470	0.033	0.105	0.026	0.008	0.008	0.010	16.560	0.001

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). *Uses 8 and 9.*

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). *Uses 8 and 9.*

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint **(µg/L)**		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint** **(µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	83.745	0.084	0.070	0.012	0.056	0.026	0.012	2050	0.026
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	41.005	0.041	0.034	0.006	0.027	0.013	0.006	1030	0.013
S-Europe	32.980	0.033	0.027	0.005	0.022	0.010	0.005	830.340	0.011

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). ***Uses 8 and 9.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). ***Uses 8 and 9***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	40.321	0.126	0.040	0.003	0.003	284.76	0.185
Step 2							
N-Europe	20.361	0.064	0.020	0.002	0.002	143.82	0.093
S-Europe	16.506	0.052	0.017	0.001	0.001	116.58	0.076

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). ***Uses 8 and 9***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

$ added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). ***Uses 8 and 9***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	457.564	0.058
Step 2		
N-Europe	231.089	0.029

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in grass/alfalfa, (1 × 1800 g a.s./ha). ***Uses 8 and 9***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
S-Europe	187.322	0.024

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**
* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D3/ditch	4.487	0.014	0.045	0.011	0.004	0.003	0.004	4.157	0.000
D6/ditch	4.498	0.014	0.045	0.011	0.004	0.003	0.004	7.012	0.000
R1/pond	0.403	0.001	0.004	0.001	0.000	0.000	0.000	19.760	0.001
R1/stream	2.955	0.009	0.030	0.007	0.002	0.002	0.003	156.200	0.010
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	692.400	0.045
R2/stream 2nd	3.969	0.012	0.040	0.010	0.003	0.003	0.004	757.800	0.049

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R3/stream	4.175	0.013	0.042	0.010	0.003	0.003	0.004	117.900	0.008
R4/stream	2.918	0.009	0.029	0.007	0.002	0.002	0.003	238.200	0.015

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D3/ditch	3.696	0.012	0.037	0.009	0.003	0.003	0.004	2.559	0.000
D4/pond	0.144	0.000	0.001	0.000	0.000	0.000	0.000	2.516	0.000
D4/stream	3.144	0.010	0.031	0.008	0.003	0.002	0.003	0.208	0.000
D6/ditch	3.722	0.012	0.037	0.009	0.003	0.003	0.004	7.772	0.001
D6/ditch 2nd	3.733	0.012	0.037	0.009	0.003	0.003	0.004	13.850	0.001
R1/pond	0.470	0.001	0.005	0.001	0.000	0.000	0.000	23.210	0.002
R1/stream	2.562	0.008	0.026	0.006	0.002	0.002	0.002	181.700	0.012
R2/stream	3.441	0.011	0.034	0.009	0.003	0.003	0.003	812.300	0.053
R3/stream	3.619	0.011	0.036	0.009	0.003	0.003	0.004	366.100	0.024

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D3/ditch	4.470	0.014	0.045	0.011	0.004	0.003	0.004	2.922	0.000
D4/pond	0.149	0.000	0.001	0.000	0.000	0.000	0.000	2.582	0.000
D4/stream	3.534	0.011	0.035	0.009	0.003	0.003	0.003	0.191	0.000
D6/ditch	4.518	0.014	0.045	0.011	0.004	0.003	0.004	15.930	0.001
D6/ditch 2nd	4.518	0.014	0.045	0.011	0.004	0.003	0.004	16.130	0.001
R1/pond	0.451	0.001	0.005	0.001	0.000	0.000	0.000	22.050	0.001

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	2.955	0.009	0.030	0.007	0.002	0.002	0.003	180.700	0.012
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	695.300	0.045
R3/stream	4.174	0.013	0.042	0.010	0.003	0.003	0.004	156.500	0.010
R4/stream	2.955	0.009	0.030	0.007	0.002	0.002	0.003	162.900	0.011

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D6/ditch	4.509	0.014	0.045	0.011	0.004	0.003	0.004	12.030	0.001
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	922.200	0.060
R3/stream	4.175	0.013	0.042	0.010	0.003	0.003	0.004	366.100	0.024
R4/stream	2.955	0.009	0.030	0.007	0.002	0.002	0.003	224	0.015

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint		LC_{50}	NOEC	EC_{50}	NOEC	ErC_{50}	E_rC_{50}	**Endpoint**	NOEC

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
(µg/L)		32000	1000	40000	12500	13500	10330	**(µg/kg)**	154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D3/ditch	4.486	0.014	0.045	0.011	0.004	0.003	0.004	4.078	0.000
D3/ditch 2nd	4.482	0.014	0.045	0.011	0.004	0.003	0.004	3.723	0.000
D4/pond	0.149	0.000	0.001	0.000	0.000	0.000	0.000	2.592	0.000
D4/stream	3.605	0.011	0.036	0.009	0.003	0.003	0.003	0.223	0.000
D6/ditch	4.518	0.014	0.045	0.011	0.004	0.003	0.004	16.620	0.001
R1/pond	0.376	0.001	0.004	0.001	0.000	0.000	0.000	22.340	0.001
R1/pond 2nd	0.582	0.002	0.006	0.001	0.000	0.000	0.001	27.450	0.002

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	2.954	0.009	0.030	0.007	0.002	0.002	0.003	221	0.014
R1/stream 2nd	2.952	0.009	0.030	0.007	0.002	0.002	0.003	434.800	0.028
R2/stream	3.969	0.012	0.040	0.010	0.003	0.003	0.004	737.600	0.048
R2/stream 2nd	3.969	0.012	0.040	0.010	0.003	0.003	0.004	818.100	0.053
R3/stream	4.175	0.013	0.042	0.010	0.003	0.003	0.004	534.200	0.035
R3/stream 2nd	4.175	0.013	0.042	0.010	0.003	0.003	0.004	366	0.024
R4/stream	2.955	0.009	0.030	0.007	0.002	0.002	0.003	266.900	0.017
R4/stream 2nd	2.955	0.009	0.030	0.007	0.002	0.002	0.003	361.100	0.023

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets, (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D3/ditch	3.696	0.012	0.037	0.009	0.003	0.003	0.004	2.539	0.000
D4/pond	0.144	0.000	0.001	0.000	0.000	0.000	0.000	2.467	0.000
D4/stream	3.239	0.010	0.032	0.008	0.003	0.002	0.003	0.314	0.000
R1/pond	0.482	0.002	0.005	0.001	0.000	0.000	0.000	22.080	0.001
R1/stream	2.562	0.008	0.026	0.006	0.002	0.002	0.002	206.800	0.013
R3/stream	3.619	0.011	0.036	0.009	0.003	0.003	0.004	366.100	0.024

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets, (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (1 × 720 g a.s./ha). ***Uses 4 a –c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (1 × 720 g a.s./ha). ***Uses 4 a –c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D3/ditch	1.894	0.006	0.019	0.005	0.002	0.001	0.002	2.541	0.000
D4/pond	0.119	0.000	0.001	0.000	0.000	0.000	0.000	2.129	0.000
D4/stream	1.674	0.005	0.017	0.004	0.001	0.001	0.002	0.203	0.000
D5/pond	0.119	0.000	0.001	0.000	0.000	0.000	0.000	2.134	0.000
D5/stream	1.849	0.006	0.018	0.005	0.001	0.001	0.002	0.540	0.000
R1/pond	0.123	0.000	0.001	0.000	0.000	0.000	0.000	2.811	0.000
R1/stream	1.307	0.004	0.013	0.003	0.001	0.001	0.001	3.388	0.000
R2/stream	1.757	0.005	0.018	0.004	0.001	0.001	0.002	31.900	0.002
R3/stream	1.848	0.006	0.018	0.005	0.001	0.001	0.002	34.250	0.002
R4/stream	1.307	0.004	0.013	0.003	0.001	0.001	0.001	16.080	0.001

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in olives (1 × 720 g a.s./ha). ***Uses 4 a –c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D6/ditch	1.902	0.006	0.019	0.005	0.002	0.001	0.002	7.036	0.000
R4/stream	1.459	0.005	0.015	0.004	0.001	0.001	0.001	18.980	0.001

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	41.930	0.131	0.419	0.105	0.034	0.031	0.041	1570	0.102
Step 2									
N-Europe	18.721	0.059	0.187	0.047	0.015	0.014	0.018	792.933	0.051
S-Europe	15.251	0.048	0.153	0.038	0.012	0.011	0.015	642.035	0.042
Step 3									
D6/ditch	1.902	0.006	0.019	0.005	0.002	0.001	0.002	7.036	0.000
R1/pond	0.123	0.000	0.001	0.000	0.000	0.000	0.000	2.806	0.000
R1/stream	1.307	0.004	0.013	0.003	0.001	0.001	0.001	3.413	0.000
R2/stream	1.757	0.005	0.018	0.004	0.001	0.001	0.002	31.850	0.002
R3/stream	1.848	0.006	0.018	0.005	0.001	0.001	0.002	34.270	0.002
R4/stream	1.398	0.004	0.014	0.003	0.001	0.001	0.001	16.920	0.001

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (μg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (μg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (μg/L)		1000	1200	6900	1500	3190	7200	**RAC (μg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (μg/L)**							**$PEC_{sed,max}$ (μg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	33.498	0.033	0.028	0.005	0.022	0.011	0.005	821.787	0.010
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	16.402	0.016	0.014	0.002	0.011	0.005	0.002	413.697	0.005
S-Europe	13.192	0.013	0.011	0.002	0.009	0.004	0.002	332.136	0.004

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 720 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	33.498	0.033	0.028	0.005	0.022	0.011	0.005	821.787	0.010
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	16.402	0.016	0.014	0.002	0.011	0.005	0.002	413.697	0.005
S-Europe	13.192	0.013	0.011	0.002	0.009	0.004	0.002	332.136	0.004

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 720 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	33.498	0.033	0.028	0.005	0.022	0.011	0.005	821.787	0.010
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	16.402	0.016	0.014	0.002	0.011	0.005	0.002	413.697	0.005

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	13.192	0.013	0.011	0.002	0.009	0.004	0.002	332.136	0.004

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	16.128	0.050	0.016	0.001	0.001	113.90	0.074
Step 2							
N-Europe	8.144	0.025	0.008	<0.001	<0.001	57.53	0.037
S-Europe	6.602	0.021	0.007	<0.001	<0.001	46.63	0.030

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 720 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	16.128	0.050	0.016	0.001	0.001	113.90	0.074

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 720 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
Step 2							
N-Europe	8.144	0.025	0.008	<0.001	<0.001	57.53	0.037
S-Europe	6.602	0.021	0.007	<0.001	<0.001	46.63	0.030

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
Endpoint (**µg/L**)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint** (**µg/kg**)	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	16.128	0.050	0.016	0.001	0.001	113.90	0.074
Step 2							
N-Europe	8.144	0.025	0.008	<0.001	<0.001	57.53	0.037
S-Europe	6.602	0.021	0.007	<0.001	<0.001	46.63	0.030

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 for the use of MON 52276 in field crops[1] (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 for the use of MON 52276 in field crops[1] (1 × 720 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	183.026	0.023
Step 2		
N-Europe	92.436	0.012
S-Europe	74.929	0.010

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 720 g a.s./ha). ***Uses 4 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint (µg/L)	**Endpoint (µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 720 g a.s./ha). ***Uses 4 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Step 1		
	183.026	0.023
Step 2		
N-Europe	92.436	0.012
S-Europe	74.929	0.010

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Step 1		
	183.026	0.023

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 720 g a.s./ha). ***Uses 5 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Step 2		
N-Europe	92.436	0.012
S-Europe	74.929	0.010

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**
* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, root (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	9.007	0.028	0.090	0.023	0.007	0.007	0.009	8.308	<0.001
D6/ditch	9.030	0.028	0.090	0.023	0.007	0.007	0.009	13.950	<0.001
R1/pond	1.004	0.003	0.010	0.003	0.001	0.001	0.001	40.990	0.003
R1/stream	5.936	0.019	0.059	0.015	0.005	0.004	0.006	250.900	0.016
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1301.300	0.085
R2/stream 2nd	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1388.900	0.091

Group		Fish acute	Fish prolonged	Inverteb. acute	Inverteb. prolonged	Algae	Aquatic macrophytes		Sed. dwell. prolonged
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R3/stream	8.381	0.026	0.084	0.021	0.007	0.006	0.008	189.900	0.012
R4/stream	5.860	0.018	0.059	0.015	0.005	0.004	0.006	372.700	0.024

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		Fish acute	Fish prolonged	Inverteb. acute	Inverteb. prolonged	Algae	Aquatic macrophytes		Sed. dwell. prolonged
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in potatoes (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	7.422	0.023	0.074	0.019	0.006	0.005	0.007	5.125	<0.001
D4/pond	0.292	0.001	0.003	0.001	0.000	0.000	0.000	5.082	<0.001
D4/stream	6.314	0.020	0.063	0.016	0.005	0.005	0.006	0.502	<0.001
D6/ditch	7.473	0.023	0.075	0.019	0.006	0.006	0.007	15.430	0.001
D6/ditch 2nd	7.496	0.023	0.075	0.019	0.006	0.006	0.007	27.250	0.002
R1/pond	1.179	0.004	0.012	0.003	0.001	0.001	0.001	48.470	0.003
R1/stream	5.147	0.016	0.051	0.013	0.004	0.004	0.005	294.400	0.019
R2/stream	6.909	0.022	0.069	0.017	0.006	0.005	0.007	1547.900	0.102
R3/stream	7.267	0.023	0.073	0.018	0.006	0.005	0.007	614.100	0.040

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	E_rC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	8.974	0.028	0.090	0.022	0.007	0.007	0.009	5.849	<0.001
D4/pond	0.301	0.001	0.003	0.001	0.000	0.000	0.000	5.238	<0.001
D4/stream	7.096	0.022	0.071	0.018	0.006	0.005	0.007	0.483	<0.001
D6/ditch	9.070	0.028	0.091	0.023	0.007	0.007	0.009	31.350	0.002
D6/ditch 2nd	9.070	0.028	0.091	0.023	0.007	0.007	0.009	31.720	0.002
R1/pond	1.130	0.004	0.011	0.003	0.001	0.001	0.001	45.900	0.003

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, bulb (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	5.936	0.019	0.059	0.015	0.005	0.004	0.006	296	0.019
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1305	0.086
R3/stream	8.380	0.026	0.084	0.021	0.007	0.006	0.008	265.900	0.017
R4/stream	5.934	0.019	0.059	0.015	0.005	0.007	0.006	247.200	0.016

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, fruiting (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D6/ditch	9.051	0.028	0.091	0.023	0.007	0.007	0.009	23.730	0.002
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1675.900	0.110
R3/stream	8.381	0.026	0.084	0.021	0.007	0.006	0.008	614.100	0.040
R4/stream	5.935	0.019	0.059	0.015	0.005	0.004	0.006	344	0.023

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint		LC_{50}	NOEC	EC_{50}	NOEC	ErC_{50}	E_rC_{50}	**Endpoint**	NOEC

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
(µg/L)		32000	1000	40000	12500	13500	10330	**(µg/kg)**	154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	9.005	0.028	0.090	0.023	0.007	0.007	0.009	8.150	<0.001
D3/ditch 2nd	8.998	0.028	0.090	0.022	0.007	0.007	0.009	7.445	<0.001
D4/pond	0.302	0.001	0.003	0.001	0.000	0.000	0.000	5.248	<0.001
D4/stream	7.238	0.023	0.072	0.018	0.006	0.005	0.007	0.538	<0.001
D6/ditch	9.070	0.028	0.091	0.023	0.007	0.007	0.009	32.690	0.002
R1/pond	0.951	0.003	0.010	0.002	0.001	0.001	0.001	46.630	0.003
R1/pond 2nd	1.448	0.005	0.014	0.004	0.001	0.001	0.001	57.330	0.004

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vegetables, leafy (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
R1/stream	5.933	0.019	0.059	0.015	0.005	0.004	0.006	348.600	0.023
R1/stream 2nd	5.930	0.019	0.059	0.015	0.005	0.004	0.006	809.100	0.053
R2/stream	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1367.800	0.090
R2/stream 2nd	7.968	0.025	0.080	0.020	0.006	0.006	0.008	1515.200	0.099
R3/stream	8.381	0.026	0.084	0.021	0.007	0.006	0.008	988.600	0.065
R3/stream 2nd	8.381	0.026	0.084	0.021	0.007	0.007	0.008	613.900	0.040
R4/stream	5.934	0.019	0.059	0.015	0.005	0.007	0.006	444	0.029
R4/stream 2nd	5.935	0.019	0.059	0.015	0.005	0.000	0.006	574.900	0.038

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2 Tier 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	7.421	0.023	0.074	0.019	0.006	0.005	0.007	5.083	<0.001
D4/pond	0.292	0.001	0.003	0.001	0.000	0.000	0.000	4.962	<0.001
D4/stream	6.505	0.020	0.065	0.016	0.005	0.005	0.006	0.685	<0.001
R1/pond	1.219	0.004	0.012	0.003	0.001	0.001	0.001	46.420	0.003
R1/stream	5.146	0.016	0.051	0.013	0.004	0.004	0.005	354.500	0.023
R3/stream	7.267	0.023	0.073	0.018	0.006	0.005	0.007	614.200	0.040

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in sugar beets (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in pome/stone fruit (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D3/ditch	3.806	0.012	0.038	0.010	0.003	0.003	0.004	5.080	<0.001
D4/pond	0.240	0.001	0.002	0.001	0.000	0.000	0.000	4.241	<0.001
D4/stream	3.364	0.011	0.034	0.008	0.003	0.002	0.003	0.425	<0.001
D5/pond	0.240	0.001	0.002	0.001	0.000	0.000	0.000	4.162	<0.001
D5/stream	3.716	0.012	0.037	0.009	0.003	0.003	0.004	1.087	<0.001
R1/pond	0.250	0.001	0.003	0.001	0.000	0.000	0.000	5.742	<0.001
R1/stream	2.629	0.008	0.026	0.007	0.002	0.002	0.003	5.566	<0.001
R2/stream	3.530	0.011	0.035	0.009	0.003	0.003	0.003	54.590	0.004
R3/stream	3.714	0.012	0.037	0.009	0.003	0.003	0.004	61.020	0.004
R4/stream	2.981	0.009	0.030	0.007	0.002	0.002	0.003	26.700	0.002

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D6/ditch	3.822	0.012	0.038	0.010	0.003	0.003	0.004	13.910	<0.001
R1/pond	0.250	0.001	0.003	0.001	0.000	0.000	0.000	5.732	<0.001
R1/stream	2.629	0.008	0.026	0.007	0.002	0.002	0.003	5.581	<0.001
R2/stream	3.530	0.011	0.035	0.009	0.003	0.003	0.003	54.560	0.004
R3/stream	3.714	0.012	0.037	0.009	0.003	0.003	0.004	61.100	0.004
R4/stream	3.505	0.011	0.035	0.009	0.003	0.003	0.003	28.410	0.002

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in olives (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 32000	NOEC 1000	EC_{50} 40000	NOEC 12500	ErC_{50} 13500	E_rC_{50} 10330	**Endpoint (µg/kg)**	NOEC 154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1									
	83.859	0.262	0.839	0.210	0.067	0.062	0.081	3140	0.204
Step 2									
N-Europe	37.443	0.117	0.374	0.094	0.030	0.028	0.036	1590	0.103

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for Glyphosate for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in olives (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Lepomis macrochirus***	***Brachydanio rerio***	***Crassostrea gigas / Daphnia magna***	***Daphnia magna***	***Skeletonema costatum***	***Myriophyllum aquaticum***		***Chironomus riparius***
S-Europe	30.501	0.095	0.305	0.076	0.024	0.023	0.030	1280	0.083
Step 3									
D6/ditch	3.822	0.012	0.038	0.010	0.003	0.003	0.004	13.910	<0.001
R4/stream	3.675	0.011	0.037	0.009	0.003	0.003	0.004	31.890	0.002

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
	66.996	0.067	0.056	0.010	0.045	0.021	0.009	1640	0.021
Step 2 (DT$_{50\ wat/sed}$ = 89.9 d)									
N-Europe	32.804	0.033	0.027	0.005	0.022	0.010	0.005	827.394	0.011
S-Europe	26.384	0.026	0.022	0.004	0.018	0.008	0.004	664.272	0.008

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint **(µg/L)**		LC$_{50}$ 100000	NOEC 12000	EC$_{50}$ 690000	NOEC 15000	E$_r$C$_{50}$ 31900	E$_r$C$_{50}$ 72000	**Endpoint** **(µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**PEC$_{sw,max}$ (µg/L)**							**PEC$_{sed,max}$ (µg/kg)**	
Step 1 (DT$_{50\ wat/sed}$ = 89.9 d)									

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
	66.996	0.067	0.056	0.010	0.045	0.021	0.009	1640	0.021
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	32.804	0.033	0.027	0.005	0.022	0.010	0.005	827.394	0.011
S-Europe	26.384	0.026	0.022	0.004	0.018	0.008	0.004	664.272	0.008

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Endpoint (µg/L)		LC_{50} 100000	NOEC 12000	EC_{50} 690000	NOEC 15000	E_rC_{50} 31900	E_rC_{50} 72000	**Endpoint (µg/kg)**	NOEC 786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	6900	1500	3190	7200	**RAC (µg/kg)**	78650
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**							**$PEC_{sed,max}$ (µg/kg)**	

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for AMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Fish prolonged**	**Inverteb. acute**	**Inverteb. prolonged**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		***Oncorhynchus mykiss***	***Pimephales promelas***	***Daphnia magna***	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Myriophyllum aquaticum***		***Chironomus riparius***
Step 1 ($DT_{50\ wat/sed}$ = 89.9 d)									
	66.996	0.067	0.056	0.010	0.045	0.021	0.009	1640	0.021
Step 2 ($DT_{50\ wat/sed}$ = 89.9 d)									
N-Europe	32.804	0.033	0.027	0.005	0.022	0.010	0.005	827.394	0.011
S-Europe	26.384	0.026	0.022	0.004	0.018	0.008	0.004	664.272	0.008

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
	32.256	0.101	0.032	0.003	0.003	227.81	0.148
Step 2							
N-Europe	16.289	0.051	0.016	0.001	0.001	115.05	0.075
S-Europe	13.205	0.041	0.013	0.001	0.001	93.26	0.061

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** [$]
Endpoint (µg/L)		LC_{50} 32000	EC_{50} 100000	E_rC_{50} 120000	E_rC_{50} 123000	**Endpoint (µg/kg)**	NOEC 15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
FOCUS Scenario	**$PEC_{sw,max}$ (µg/L)**					**$PEC_{sed,max}$ (µg/kg)**	
Step 1							
	32.256	0.101	0.032	0.003	0.003	227.81	0.148
Step 2							
N-Europe	16.289	0.051	0.016	0.001	0.001	115.05	0.075
S-Europe	13.205	0.041	0.013	0.001	0.001	93.26	0.061

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in pome/stone fruit and olives

$ added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
Endpoint		LC_{50}	EC_{50}	E_rC_{50}	E_rC_{50}	**Endpoint**	NOEC
(µg/L)		32000	100000	120000	123000	**(µg/kg)**	15400 µg/kg sed.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for HMPA for each organism group based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Fish acute**	**Inverteb. acute**	**Algae**	**Aquatic macrophytes**		**Sed. dwell. prolonged**
Test species		-	***Daphnia magna***	***Pseudokirchneriella subcapitata***	***Lemna gibba***		***Chironomus riparius*** $
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	1000	12000	12300	**RAC (µg/kg)**	1540 µg/kg sed.
FOCUS Scenario	**PEC$_{sw,max}$ (µg/L)**					**PEC$_{sed,max}$ (µg/kg)**	
Step 1							
	32.256	0.101	0.032	0.003	0.003	227.81	0.148
Step 2							
N-Europe	16.289	0.051	0.016	0.001	0.001	115.05	0.075
S-Europe	13.205	0.041	0.013	0.001	0.001	93.26	0.061

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

$ added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). ***Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint	**Endpoint**	NOEC*

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in field crops[1] (1 × 1440 g a.s./ha). *Covers uses 1 a-c, 2 a-c, 6 a-b, 10 a-c.*

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
(μg/L)	**(μg/kg)**	78650
AF	**AF**	10
RAC (μg/L)	**RAC (μg/kg)**	7865
FOCUS Scenario	**$PEC_{sed,max}$ (μg/kg)**	
Step 1		
	366.051	0.047
Step 2		
N-Europe	184.872	0.024
S-Europe	149.857	0.019

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

[1] covering all corresponding uses in root vegetables, potatoes, bulb vegetables, fruiting vegetables, leafy vegetables and sugar beets

* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 1440 g a.s./ha). *Uses 4 a-c.*

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(μg/L)**	**Endpoint** **(μg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (μg/L)	**RAC (μg/kg)**	7865

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in orchards[1] (1 × 1440 g a.s./ha). ***Uses 4 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
FOCUS Scenario	**PEC$_{sed,max}$ (µg/kg)**	
Step 1		
	366.051	0.047
Step 2		
N-Europe	184.872	0.024
S-Europe	149.857	0.019

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**
[1] covering all corresponding uses in pome/stone fruit and olives
* considered ten times more toxic than AMPA

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Endpoint **(µg/L)**	**Endpoint** **(µg/kg)**	NOEC* 78650
AF	**AF**	10
RAC (µg/L)	**RAC (µg/kg)**	7865
FOCUS Scenario	**PEC$_{sed,max}$ (µg/kg)**	
Step 1		
	366.051	0.047

Aquatic organisms: acceptability of risk (PEC/RAC < 1) for P1a and M3.3 for sediment dwellers based on FOCUS Steps 1, 2 and 3 calculations for the use of MON 52276 in vines (1 × 1440 g a.s./ha). ***Uses 5 a-c.***

Group		**Sed. dwell. prolonged**
Test species		***Chironomus riparius***
Step 2		
N-Europe	184.872	0.024
S-Europe	149.857	0.019

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**
* considered ten times more toxic than AMPA

PEC/RACs for glyphosate – railways at 1 x 3600 g a.s./ha (covers uses 7a-7b)

		fish acute	**fish chronic**	**Aquatic invertebrates**	**Aquatic invertebrates prolonged**	**Algae**	**Higher plant**		**Sed. dwell. prolonged**
		Lepomis macrochirus	*Brachydanio rerio*	*Crassostrea gigas / Daphnia magna*	*Daphnia magna*	*Skeletonema costatum*	*Myriophyllum aquaticum*		***Chironomus riparius***
		LC_{50}	NOEC	EC_{50}	NOEC	IC_{50}	ErC_{50}		NOEC
		32000 µg/L	1000 µg/L	40000 µg/L	12500 µg/L	13500 µg/L	10330 µg/L		154000
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		320	100	400	1250	1350	1033	**RAC (µg/kg)**	15400
Scenario	**PEC global max (µg L)**							**$PEC_{sed,max}$ (µg/kg)**	
Railway ditch	9.458	0.03	0.09	0.02	0.01	0.01	0.01	34.781	0.002

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

PEC/RACs for AMPA – railways at 1 x 3600 g a.s./ha (covers uses 7a-7b)

		fish acute	**fish chronic**	**Aquatic invertebrates**	**Aquatic invertebrates prolonged**	**Algae**	**Higher plant**		**Sed. dwell. prolonged**
		Oncorhynchus mykiss	*Pimephales promelas*	*Daphnia magna*	*Daphnia magna*	*Pseudokirchneriella subcapitata*	*Myriophyllum aquaticum*		***Chironomus riparius***
		LC_{50}	NOEC	EC_{50}	NOEC	ErC_{50}	ErC_{50}		NOEC
		100000 µg/L	12000 µg/L	~~100000~~ 690000 µg/L	15000 µg/L	~~191000~~ 31900 µg/L	72000 µg/L		786500
AF		100	10	100	10	10	10	**AF**	10
RAC (µg/L)		1000	1200	~~1000~~ 6900	1500	~~19100~~ 3190	7200	**RAC (µg/kg)**	78650
Scenario	**PEC global max (µg L)**							**$PEC_{sed,max}$ (µg/kg)**	
Railway ditch	6.210	0.01	0.01	~~0.006~~ 0.001	0.004	~~0.0003~~ 0.002	0.001	19.469	0.000

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

PEC/RACs for HMPA – railways at 1 x 3600 g a.s./ha (covers uses 7a-7b)

		Fish*	**Aquatic invertebrates**	**Algae**	**Higher plant**		**Sed. dwell. prolonged**
		-	*Daphnia magna*	*Pseudokirchneriella subcapitata*	*Lemna gibba*		***Chironomus riparius*** [$]
		LC_{50}	EC_{50}	ErC_{50}	EC_{50}	**Endpoint**	NOEC
		32000	> 100000 µg/L	> 120000 µg/L	> 123000 µg/L	**(µg/kg)**	15400 µg/kg sed.
AF		100	100	10	10	**AF**	10
RAC (µg/L)		320	> 1000	> 12000	> 12300	**RAC (µg/kg)**	1540 µg/kg sed.
Scenario	**PEC global max (µg L)**					**$PEC_{sed,max}$ (µg/kg)**	
Railway ditch	0.627	0.002	< 0.001	< 0.0001	< 0.0001	2.304	0.0015

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

* considered not more toxic than the active substance

[$] added following open point of section 4 (expert consultation 4.2): "*RMS to update the PEC sediment calculations for HMPA using a default Koc value of 10000 mL/g and to include the metabolite HMPA in the residue definition for sediment in both an update to the RAR and the list of endpoints.*" As worst case the metabolite was considered 10 times more toxic than glyphosate.

PEC/RACs for P1a and M3.3 – railways at 1 x 3600 g a.s./ha (covers uses 7a-7b)

		Sed. dwell. prolonged
		Chironomus riparius
		NOEC
		78650*
AF		10
RAC (µg/L)		7865
Scenario	**$PEC_{sed,max}$ (µg/kg)**	
Railway ditch	5.008	0.001

AF: Assessment factor; PEC: Predicted environmental concentration; RAC: Regulatory acceptable concentration; PEC/RAC ratios above the relevant trigger of 1 are shown in **bold**

* considered ten times more toxic than the parent metabolite AMPA

Effects on bees (Regulation (EU) N° 283/2013, Annex Part A, point 8.3.1 and Regulation (EU) N° 284/2013 Annex Part A, point 10.3.1)*

* This section does reflect the EFSA Guidance Document on bees (EFSA, 2013) which has not yet been noted by the Standing Committee on Plants, Animals, Food and Feed.

Species	Test substance	Time scale/type of endpoint	End point	Toxicity
Apis mellifera L.	Glyphosate K-salt	Acute	Oral toxicity (LD_{50})	>104 µg a.e./bee
Apis mellifera L.	Glyphosate acid	Acute	Oral toxicity (LD_{50})	>182 µg a.e./bee
Apis mellifera L.	Glyphosate	Acute	Oral toxicity (LD_{50})	>40 µg a.e./bee
Apis mellifera L.	Glyphosate acid	Acute	Oral toxicity (LD_{50})	>200 µg a.e./bee
Apis mellifera L.	Glyphosate	Acute	Oral toxicity (LD_{50})	>116.67 µg a.e./bee
Apis mellifera L.	MON 52276	Acute	Oral toxicity (LD_{50})	>77 µg a.s. a.e./bee
Bombus terrestris	Glyphosate-isopropylammonium (in MON 0139)	Acute	Oral toxicity (LD_{50})	>412 µg a.e./bee
Apis mellifera L.	Glyphosate K-salt	Acute	Contact toxicity (LD_{50})	>100 µg a.e./bee
Apis mellifera L.	a.s.,	Acute	Contact toxicity (LD_{50})	>103 µg a.e./bee
Apis mellifera L.	Glyphosate acid	Acute	Contact toxicity (LD_{50})	>200 µg a.e./bee
Apis mellifera L.	Glyphosate	Acute	Contact toxicity (LD_{50})	>100 µg a.e./bee
Bombus terrestris	Glyphosate-isopropylammonium	Acute	Contact toxicity (LD_{50})	>461 µg a.e./bee
Osmia bicornis	Glyphosate-isopropylammonium	Acute	Contact toxicity (LD_{50})	>461 µg a.e./bee
Apis mellifera L.	MON 52276	Acute	Contact toxicity (LD_{50})	>100 µg a.e./bee
Apis mellifera L.	Glyphosate-isopropylammonium (in MON 0139)	Adult Chronic	10 d-LDD_{50} 10 d-NOEDD	>179.9 µg a.e./bee/day 179.9 µg a.e./bee/day
Apis mellifera L.	Glyphosate-isopropylammonium (in MON 0139)	Bee brood development	22 d-ED_{10} 22 d-NOED	75.6 µg a.e. /larva/developmental period 80 µg a.e./larva/ developmental period

Literature data on bees

Species	Test substance	Time scale/type of endpoint	Effects
Apis mellifera[#]	glyphosate	Chronic oral, 7 days (from day 3 to day 10 after emergence)	no effect on survival of bees at 0.01 or 0.1 µg glyphosate/L

Literature data eligible for risk assessment

Potential for accumulative toxicity: not studied
Semi-field test (cage and tunnel test) Residues in honey bee colony after application at 8 L product/ha (2.88 kg a.e./ha) during flowering of *phacelia* and in the presence of foraging bees in semi-field conditions: - nectar samples from forager bees ranged from 2.78 to 31.3 mg a.e./kg - pollen samples from the pollen trap ranged from 87.2 to 629 mg a.e./kg Estimated total daily intake of glyphosate residues (via nectar + pollen) of the colony: - 269.3 mg a.e. (based on day 1 maximum mean residues), - 141.8 mg a.e. (based on mean residues over days 1-3).
Field tests A bee brood feeding test (*Apis mellifera*) with Glyphosate-isopropylammonium (in MON 0139) concluded a NOAEL of 301 mg a.e./L based on the nominal test concentration or 266 mg a.e./kg based on the measured concentration.

Risk assessment for all representative uses at 1800 g a.s./ha

Species	Test substance	Risk quotient	HQ/ETR	Trigger
Based on European Commission, 2002				
Apis mellifera L.	a.s.	HQcontact	< 18	50
Apis mellifera L.	a.s.	HQoral	< 23.4	50
Based on EFSA, 2013 screening				
Apis mellifera L.	a.s.	HQ acute adult contact	<18	42
Apis mellifera L.	a.s.	ETR acute adult oral	<0.18	0.2
Apis mellifera L.	a.s.	ETRchronic adult oral	**<0.076**	0.03
Apis mellifera L.	a.s.	ETRlarvae*	0.1	0.2
Bombus terrestris	a.s.	HQcontact	<3.9	7
Bombus terrestris	a.s.	ETRoral	**<0.05**	0.036
Osmia bicornis	a.s.	HQcontact	<3.9	8

*considering ED_{10} of 75.6 µg a.e./larva/developmental period

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First Tier risk assessment for adult chronic oral exposure

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 in orchard crops and vines at 1440 g a.e./ha

Intended use	Orchard crops, vines (Uses: 4a, 5a)
Application method	downward spraying
Crop Category	under crop application[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	Weeds	weed <10	1	0.27	<0.01	0.03
			weed ≥10	1	2.9	<0.02	
		field margin	weed <10	0.0092	2.9	<0.01	
			weed ≥10	0.0092	2.9	<0.01	
		adjacent crop	weed <10	0.0033	5.8	<0.01	
			weed ≥10	0.0033	5.8	<0.01	
		next crop	weed <10	1	0.54	<0.01	
			weed ≥10	1	0.54	<0.01	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 in orchard crops and vines at 1080 g a.e./ha

Intended use	Orchard crops, vines (Uses: 4a, 4b, 5a, 5b)
Application method	downward spraying
Crop category	under crop application[1]
Active substance	Glyphosate
Use pattern	1-3 x 1080 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	Weeds	weed <10	1	0.27	<0.001	0.03
			weed ≥10	1	2.9	<0.013	
		field margin	weed <10	0.0092	2.9	<0.001	
			weed ≥10	0.0092	2.9	<0.001	
		adjacent crop	weed <10	0.0033	5.8	<0.001	
			weed ≥10	0.0033	5.8	<0.001	
		next crop	weed <10	1	0.54	<0.002	
			weed ≥10	1	0.54	<0.002	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator
[2] Max. single application rate of 1080 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 in orchard crops and vines at 720 g a.e./ha

Intended use	Orchard crops, vines (Uses: 4b, 4c, 5b, 5c)
Application method	downward spraying
Crop Category	under crop application[1]
Active substance	Glyphosate
Use pattern	1-3 x 720 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	Weeds	weed <10	1	0.27	<0.001	0.03
			weed ≥10	1	2.9	<0.008	
		field margin	weed <10	0.0092	2.9	<0.001	
			weed ≥10	0.0092	2.9	<0.001	
		adjacent crop	weed <10	0.0033	5.8	<0.001	
			weed ≥10	0.0033	5.8	<0.001	
		next crop	weed <10	1	0.54	<0.002	
			weed ≥10	1	0.54	<0.002	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator
[2] Max. single application rate of 720 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 – railway tracks at 1800 g a.e./ha

Intended use	Railway tracks (Uses: 7a, 7b)
Application method	downward spraying
Crop Category	under crop application[1]
Active substance	Glyphosate
Use pattern	1-2 x 1800 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	Weeds	weed <10	1	0.27	<0.002	0.03
			weed ≥10	1	2.9	<0.021	
		field margin	weed <10	0.0092	2.9	<0.001	
			weed ≥10	0.0092	2.9	<0.001	
		adjacent crop	weed <10	0.0033	5.8	<0.001	
			weed ≥10	0.0033	5.8	<0.001	
		next crop	weed <10	1	0.54	<0.004	
			weed ≥10	1	0.54	<0.004	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] As no definite scenario for railway tracks is provided by the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator, the under crop application scenario was considered to address uses on railway tracks
[2] Max. single application rate of 1800 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 – invasive plant species in agricultural and non-agricultural areas at 1800 g a.e./ha

Intended use	invasive plant species in agricultural and non-agricultural areas (Uses: 8, 9)
Application method	downward spraying
Crop Category	under crop application[1]
Active substance	Glyphosate
Use pattern	1 x 1800 g a.e./ha

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	Weeds	weed <10	1	0.27	<0.002	0.03
			weed >10	1	2.9	<0.021	
		field margin	weed <10	0.0092	2.9	<0.001	
			weed >10	0.0092	2.9	<0.001	
		adjacent crop	weed <10	0.0033	5.8	<0.001	
			weed >10	0.0033	5.8	<0.001	
		next crop	weed <10	1	0.54	<0.004	
			weed >10	1	0.54	<0.004	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] As no definite scenario for invasive weeds is provided by the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator, under crop application: giant hogweed (*Heracleum* spp.) and Japanese knotweed (*Reynoutria japonica*)

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 – pre-sowing, pre-planting and post-harvest uses at 1440 g a.e./ha

Intended use	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet (Uses: 1a, 2a)
Application method	downward spraying
Crop category	bare soil application – crop attractive for pollen and nectar[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	<10	1	0.54	<0.003	0.03
		Weeds	<10	1	0.27	<0.002	
		field margin	<10	0.0092	2.9	<0.001	
		adjacent crop	<10	0.0033	5.8	<0.001	
		next crop	<10	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator (technical note: for post-harvest uses, bare soil was selected however the given crop at BBCH > 70 is meant to cover those situations. The result is the same as exposure via the treated crop is null).
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 - pre-sowing, pre-planting and post-harvest uses at 1080 g a.e./ha

Intended use	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet, Legume vegetables (Uses: 1b, 2a, 2b, 2c, 6a, 10a)
Application method	downward spraying
Crop category	bare soil application – crop attractive for pollen and nectar[1]
Active substance	Glyphosate
Use pattern	1-3 x 1080 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	<10	1	0.54	<0.002	0.03
		Weeds	<10	1	0.27	<0.001	
		field margin	<10	0.0092	2.9	<0.001	
		adjacent crop	<10	0.0033	5.8	<0.001	
		next crop	<10	1	0.54	<0.002	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator (technical note: for post-harvest uses, bare soil was selected however the given crop at BBCH > 70 is meant to cover those situations. The result is the same as exposure via the treated crop is null).
[2] Max. single application rate of 1080 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 - pre-sowing, pre-planting and post-harvest uses at 720 g a.e./ha

Intended use	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet, Legume vegetables (Uses: 1c, 2b, 6b, 10b, 10c)
Application method	downward spraying
Crop category	bare soil application – crop attractive for pollen and nectar[1]
Active substance	Glyphosate
Use pattern	1-3 x 720 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	<10	1	0.54	<0.002	0.03
		Weeds	<10	1	0.27	<0.001	
		field margin	<10	0.0092	2.9	<0.001	
		adjacent crop	<10	0.0033	5.8	<0.001	
		next crop	<10	1	0.54	<0.002	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category in the first tier oral assessment according to the EFSA GD on the Risk Assessment on Bees (2013)
[2] Max. single application rate of 720 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 – fruiting vegetables

Intended use	Fruiting vegetables, (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	fruiting vegetables 1, fruiting vegetables 2[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Fruiting vegetables 1							
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.54	<0.003	0.03
			10 - 49[3]	1	5.8	<**0.033**	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 49[3]	1	2.9	<0.017	
			≥ 70	0.3	2.9	<0.005	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 49[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 49[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	

Intended use	Fruiting vegetables, (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	fruiting vegetables 1, fruiting vegetables 2[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**E_f**	**SV**	**ETR**	**Trigger**
			10 - 49[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	
Fruiting vegetables 2							
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.012	<0.000	0.03
			10 - 49[3]	1	0.92	<0.005	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 49[3]	1	2.9	<0.017	
			≥ 70	0.3	2.9	<0.005	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 49[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 49[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			10 - 49[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.
Note: The treated crop scenario at BBCH ≥ 70 is not relevant for uses restricted to pre-sowing, pre-planting, pre-emergence and early post applications.

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 - root vegetables

Intended use	Root vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	Root vegetables[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.54	<0.003	0.03
			10 - 39[3]	1	5.8	<**0.033**	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 39[3]	1	2.9	<0.017	
			≥ 70	0.3	2.9	<0.005	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 39[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 39[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			10 - 39[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator, e.g. fruiting vegetables 2 = tomatoes, eggplants
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

Note: The treated crop scenario at BBCH ≥ 70 is not relevant for uses restricted to pre-sowing, pre-planting, pre-emergence and early post applications.

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 –tuber vegetables

Intended use	Tuber vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	potatoes[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.012	<0.000	0.03
			10 - 39[3]	1	0.92	<0.005	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 39[3]	1	2.9	<0.017	
			≥ 70	0.3	2.9	<0.005	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 39[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 39[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			10 - 39[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator, e.g. fruiting vegetables 2 = tomatoes, eggplants
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.
Note: The treated crop scenario at BBCH ≥ 70 is not relevant for uses restricted to pre-sowing, pre-planting, pre-emergence and early post applications.

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 – Bulb vegetables

Intended use	Bulb vegetables (Uses: 1, 2, 3, 6, 10)						
Application method	downward spraying						
Crop category	bulb vegetables[1]						
Active substance	Glyphosate						
Use pattern	1-2 x 1440 g a.e./ha[2]						
Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**Ef**	**SV**	**ETR**	**Trigger**
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.54	<0.003	0.03
			10 - 39[3]	1	5.8	<**0.033**	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 39[3]	1	2.9	<0.017	
			≥ 70	0.6	2.9	<0.010	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 39[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 39[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			10 - 39[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.
Note: The treated crop scenario at BBCH ≥ 70 is not relevant for uses restricted to pre-sowing, pre-planting, pre-emergence and early post applications.

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 - Brassica, leafy and stem vegetables

Intended use		Brassica, leafy vegetables, stem vegetables (Uses: 1, 2, 3, 6, 10)					
Application method		downward spraying					
Crop category		leafy vegetables, lettuce[1]					
Active substance		Glyphosate					
Use pattern		1-3 x 1440 g a.e./ha[2]					
Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**Ef**	**SV**	**ETR**	**Trigger**
Leafy vegetables							
		treated crop	< 10	1	0.54	<0.003	0.03

Intended use	Brassica, leafy vegetables, stem vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	leafy vegetables, lettuce[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day		10 - 49[3]	1	5.8	<**0.033**	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 49[3]	1	2.9	<0.017	
			≥ 70	0.3	2.9	<0.005	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 49[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 49[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			10 - 49[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	
Lettuce							
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.012	<0.000	0.03
			10 - 49[3]	1	0.92	<0.005	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 49[3]	1	2.9	<0.017	
			≥ 70	0.3	2.9	<0.005	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 49[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 49[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			10 – 49[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.

[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,

[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.
Note: The treated crop scenario at BBCH ≥ 70 is not relevant for uses restricted to pre-sowing, pre-planting, pre-emergence and early post applications.

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 - Sugar beet

Intended use	Sugar beet (Uses: 1, 2, 3, 10)
Application method	downward spraying
Crop category	sugar beet[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.54	<0.003	0.03
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			≥ 70	0.25	2.9	<0.004	
		field margin	< 10	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
Note: The treated crop scenario at BBCH ≥ 70 is not relevant for uses restricted to pre-sowing, pre-planting, pre-emergence and early post applications.

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 - legume vegetables

Intended use	Legume vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	pulses[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Adult chronic oral toxicity	LDD_{50} > 179.9 µg a.e./bee/day	treated crop	< 10	1	0.54	<0.003	0.03
			10 - 49[3]	1	5.8	<**0.033**	
			≥ 70	1	0	<0.000	
		Weeds	< 10	1	2.9	<0.017	
			10 - 49[3]	1	2.9	<0.017	
			≥ 70	0.3	2.9	<0.005	
		field margin	< 10	0.0092	2.9	<0.000	
			10 - 49[3]	0.0092	2.9	<0.000	
			≥ 70	0.0092	2.9	<0.000	
		adjacent crop	< 10	0.0033	5.8	<0.000	
			10 - 49[3]	0.0033	5.8	<0.000	
			≥ 70	0.0033	5.8	<0.000	
		next crop	< 10	1	0.54	<0.003	
			10 - 49[3]	1	0.54	<0.003	
			≥ 70	1	0.54	<0.003	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.

[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,

[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.

[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

Note: The treated crop scenario at BBCH ≥ 70 is not relevant for uses restricted to pre-sowing, pre-planting, pre-emergence and early post applications.

First-tier assessment (oral exposure) of the risk for honey bees due to the use of MON 52276 on fruiting, root, bulb and leafy vegetables and pulses for "treated crop" scenario at all application rates for uses 6a and 6b

Crop	Fruiting vegetables 1, Root vegetables, Bulb vegetables, Leafy vegetables, Pulses (uses 6a and 6b)					
Application method	downward spraying					
Active substance	Glyphosate					
Toxicity value	LDD_{50} > 179.9 µg a.e./bee/day					
Scenario	**BBCH stage**	**Max. single application rate (kg a.e./ha)**	**E_f**	**SV**	**ETR**	**Trigger**
Treated crop	BBCH 10-39 or BBCH 10-49	1.08	1	5.8	<0.025	0.03
		0.72	1	5.8	<0.017	

First Tier risk assessment for acute oral exposure of bumble bees

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 in orchard crops and vines at 1440 g a.e./ha

Intended use		Orchard crops, vines (Uses: 4a, 5a)					
Application method		downward spraying					
Crop Category		under crop application[1]					
Active substance		Glyphosate					
Use pattern		1-2 x 1440 g a.e./ha[2]					
Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**E_f**	**SV**	**ETR**	**Trigger**
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	weeds	weed <10	1	0.46	<0.01	0.036
			weed ≥10	1	6.5	<0.023	
		field margin	weed <10	0.0092	6.5	<0.01	
			weed ≥10	0.0092	6.5	<0.01	
		adjacent crop	weed <10	0.0033	11.2	<0.01	
			weed ≥10	0.0033	11.2	<0.01	
		next crop	weed <10	1	0.9	<0.01	
			weed ≥10	1	0.9	<0.01	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 – railway tracks at 1800 g a.e./ha

Intended use	Railway tracks (Uses: 7a, 7b)
Application method	downward spraying
Crop Category	under crop application[1]
Active substance	Glyphosate
Use pattern	1-2 x 1800 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	weeds	weed <10	1	0.46	<0.002	0.036
			weed ≥10	1	6.5	<0.028	
		field margin	weed <10	0.0092	6.5	<0.001	
			weed ≥10	0.0092	6.5	<0.001	
		adjacent crop	weed <10	0.0033	11.2	<0.001	
			weed ≥10	0.0033	11.2	<0.001	
		next crop	weed <10	1	0.9	<0.004	
			weed ≥10	1	0.9	<0.004	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] As no definite scenario for railway tracks is provided by the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator, the under crop application was considered to address uses on railway tracks
[2] Max. single application rate of 1800 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 – invasive plant species in agricultural and non-agricultural areas at 1800 g a.e./ha

Intended use	invasive plant species in agricultural and non-agricultural areas (Uses: 8, 9)
Application method	downward spraying
Crop Category	under crop application [1]
Active substance	Glyphosate
Use pattern	1 x 1800 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	weeds	weed <10	1	0.46	<0.002	0.036
			weed >10	1	6.5	<0.028	
		field margin	weed <10	0.0092	6.5	<0.001	
			weed >10	0.0092	6.5	<0.001	
		adjacent crop	weed <10	0.0033	11.2	<0.001	
			weed >10	0.0033	11.2	<0.001	
		next crop	weed <10	1	0.9	<0.004	
			weed >10	1	0.9	<0.004	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] As no definite scenario for invasive weeds is provided by the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator, under crop application: giant hogweed (*Heracleum* spp.), Japanese knotweed (*Reynoutria japonica*)
[2] Max. single application rate of 1800 g a.e./ha considered for risk calculation

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 –pre-sowing, pre-planting and post-harvest uses at 1440 g a.e./ha

Intended use	Root & tuber vegetables, Bulb vegetables, Fruiting vegetables, Brassica, Leafy vegetables, Stem vegetables, Sugar beet (Uses: 1a, 2a)
Application method	downward spraying
Crop category	bare soil application – crop attractive for pollen and nectar[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	<10	1	0.9	<0.004	0.036
		weeds	<10	1	0.46	<0.002	
		field margin	<10	0.0092	6.5	<0.001	
		adjacent crop	<10	0.0033	11.2	<0.001	
		next crop	<10	1	0.9	<0.004	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.

[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator

[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower application rates.

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 – fruiting vegetables

Intended use	Fruiting vegetables, (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	fruiting vegetables 1, fruiting vegetables 2[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	E_f	SV	ETR	Trigger
Fruiting vegetables 1							
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.9	<0.0031	0.036
			10 - 49[3]	1	11.2	**<0.0391**	
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			10 - 49[3]	1	6.5	<0.0227	
			≥ 70	0.3	6.5	<0.0068	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 49[3]	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			10 - 49[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	

Intended use			Fruiting vegetables, (Uses: 1, 2, 3, 6, 10)				
Application method			downward spraying				
Crop category			fruiting vegetables 1, fruiting vegetables 2[1]				
Active substance			Glyphosate				
Use pattern			1-2 x 1440 g a.e./ha[2]				
Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**E_f**	**SV**	**ETR**	**Trigger**
			10 - 49[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	
Fruiting vegetables 2							
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.03	<0.0001	0.036
			10 - 49[3]	1	2.3	<0.0080	
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			10 - 49[3]	1	6.5	<0.0227	
			≥ 70	0.3	6.5	<0.0068	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 49[3]	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			10 - 49[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			10 - 49[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 –root vegetables

Intended use	Root vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	Root vegetables[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.9	<0.0031	0.036
			10 - 39[3]	1	11.2	**<0.0391**	
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			10 - 39[3]	1	6.5	<0.0227	
			≥ 70	0.3	6.5	<0.0068	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 39[3]	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			10 - 39[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			10 - 39[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 - tuber vegetables

Intended use	Tuber vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	potatoes[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.03	<0.0001	0.036
			10 - 39[3]	1	2.3	<0.0080	
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	

Intended use	Tuber vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	potatoes[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
			10 - 39[3]	1	6.5	<0.0227	
			≥ 70	0.3	6.5	<0.0068	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 39[3]	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			10 - 39[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			10 - 39[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 - Bulb vegetables

Intended use		Bulb vegetables (Uses: 1, 2, 3, 6, 10)					
Application method		downward spraying					
Crop category		bulb vegetables[1]					
Active substance		Glyphosate					
Use pattern		1-2 x 1440 g a.e./ha[2]					
Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**Ef**	**SV**	**ETR**	**Trigger**
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.9	<0.0031	0.036
			10 - 39[3]	1	11.2	<0.0391	
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			10 - 39[3]	1	6.5	<0.0227	
			≥ 70	0.6	6.5	<0.0136	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 39[3]	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			10 - 39[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			10 - 39[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 - Brassica, leafy and stem vegetables

Intended use		Brassica, leafy vegetables, stem vegetables (Uses: 1, 2, 3, 6, 10)					
Application method		downward spraying					
Crop category		leafy vegetables, lettuce[1]					
Active substance		Glyphosate					
Use pattern		1-3 x 1440 g a.e./ha[2]					
Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**Ef**	**SV**	**ETR**	**Trigger**
Leafy vegetables							
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.9	<0.0031	0.036
			10 - 49[3]	1	11.2	**<0.0391**	

Intended use	Brassica, leafy vegetables, stem vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	leafy vegetables, lettuce[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			10 - 49[3]	1	6.5	<0.0227	
			≥ 70	0.3	6.5	<0.0068	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 49	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			10 - 49[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			10 - 49[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	
Lettuce							
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.03	<0.0001	0.036
			10 - 49[3]	1	2.3	<0.0080	
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			10 - 49[3]	1	6.5	<0.0227	
			≥ 70	0.3	6.5	<0.0068	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 49[3]	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			10 - 49[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			10 – 49[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.

[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,

[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.

[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 - Sugar beet

Intended use	Sugar beet (Uses: 1, 2, 3, 10)
Application method	downward spraying
Crop category	sugar beet[1]
Active substance	Glyphosate
Use pattern	1-3 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.9	<0.0031	0.036
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			≥ 70	0.25	6.5	<0.0057	
		field margin	< 10	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.

First-tier assessment (oral exposure) of the risk for bumble bees due to the use of MON 52276 - legume vegetables

Intended use	Legume vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	pulses[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	Endpoint (lab.)	Scenario	BBCH	Ef	SV	ETR	Trigger
Acute oral toxicity	LD_{50} > 412 µg a.e./bee	treated crop	< 10	1	0.9	<0.0031	0.03
			10 49[3]	1	11.2	**<0.0391**	
			≥ 70	1	0	<0.0000	
		Weeds	< 10	1	6.5	<0.0227	
			10 - 49[3]	1	6.5	<0.0227	
			≥ 70	0.3	6.5	<0.0068	
		field margin	< 10	0.0092	6.5	<0.0002	
			10 - 49[3]	0.0092	6.5	<0.0002	
			≥ 70	0.0092	6.5	<0.0002	
		adjacent crop	< 10	0.0033	11.2	<0.0001	

Intended use	Legume vegetables (Uses: 1, 2, 3, 6, 10)
Application method	downward spraying
Crop category	pulses[1]
Active substance	Glyphosate
Use pattern	1-2 x 1440 g a.e./ha[2]

Test design	**Endpoint (lab.)**	**Scenario**	**BBCH**	**Ef**	**SV**	**ETR**	**Trigger**
			10 - 49[3]	0.0033	11.2	<0.0001	
			≥ 70	0.0033	11.2	<0.0001	
		next crop	< 10	1	0.9	<0.0031	
			10 - 49[3]	1	0.9	<0.0031	
			≥ 70	1	0.9	<0.0031	

Ef: exposure factor; SV: shortcut value; ETR: exposure toxicity ratio.
[1] Crop category chosen according to the recommendations of the EFSA GD on the Risk Assessment on Bees (2013) and the EFSA Screening Step and 1st Tier Calculator,
[2] Max. single application rate of 1440 g a.e./ha considered for risk calculation as it covers lower rates.
[3] Scenario only relevant for uses 6a and b for which the highest intended application rate is 1.08 kg a.s./ha.

Assessment of the risk for bees (honey and bumble bees) due to the use of MON 52276 considering exposure to metabolite AMPA

category	**scenario**	**BBCH**	**Honeybee**		**Bumble bee**	
			ETRmetabolite*	**trigger**	**ETRmetabolite***	**trigger**
acute	next crop	weed<10	0.02	0.2	0.01	0.036
chronic	next crop	weed<10	0.01	0.03		
larva	next crop	weed<10	0.01	0.2		
acute	next crop	weed≥10	0.02	0.2	0.01	0.036
chronic	next crop	weed≥10	0.01	0.03		
larva	next crop	weed≥10	0.01	0.2		

* based on an interim report for rotational crops in the residue section; note that a data gap was identified in the residue section for rotational crop studies. Therefore, these calculations are considered only as indicative (but not final) risk assessments (data gap).

Effects on other arthropod species (Regulation (EU) N° 283/2013, Annex Part A, point 8.3.2 and Regulation (EU) N° 284/2013 Annex Part A, point 10.3.2)

Laboratory tests with standard sensitive species

Species	Test Substance	End point	Toxicity
Typhlodromus pyri	MON 52276	Mortality, LR_{50} Reproduction, ER_{50}	100% mortality at10 L MON 52276/ha (3.6 kg a.e/ha) on day 4 No reproduction endpoint (supportive)*

Species	Test Substance	End point	Toxicity
Aphidius rhopalosiphi	MON 52276	Mortality, LR_{50} Reproduction, ER_{50}	100% mortality at10 L MON 52276/ha (3.6 kg a.e/ha) at 24 h No reproduction endpoint (supportive)**
Additional species			
Poecilus cupreus	MON 52276	Mortality, LR_{50}	> 10 L/ha (3600 g a.e./ha)
Pardosa sp.	MON 52276	Mortality, LR_{50}	> 10 L/ha (3600 g a.e./ha)***

a.e.: glyphosate acid equivalent
* guideline used does not meet current standards. Alteration of moving behaviour due to wet sticky layer on the treated glass plates.
**guideline used does not meet current standards. Control with 60 instead of 100 mites.
***reliable for application from the the end of June onwards. Supportive for application from the beginning of August onwards (sensitivity of the collected spiders may be lesser than for over-wintered individuals)

First tier risk assessment
No reliable endpoint available to conduct a tier 1 risk assessment.

Literature data on non-target-arthropods other than bees

No relevant and reliable, or reliable with restriction peer reviewed literature studies were found following revision of literature in accordance with the criteria agreed at the Pesticide Peer Review Experts' TC 82.

Extended laboratory tests, aged residue tests

Species	Life stage	Test substance, substrate	Time scale	Dose (g/ha)[1,2]	End point	% effect[3]	ER_{50}
Typhlodromus pyri	proto-nymph	MON 52276 Leaf discs of French beans Extended lab / 2D	14d	3 to 16 L prod /ha	Mortality (at 7d)	LR_{50} > 16 L/ha (40% at 16. L/ha) (5760 g a.e./ha)	ER_{50} (repro) > 12 L/ha (4320 g a.e./ha)
					Reproduction (at 14d)	ER50 > 12L/ha (Reduction in no. of egg/female of 44.9 % at 12 L/ha and 56.5% at 16 L/ha) (4320 g a.e./ha) NOER = 3 L/ha (1080 g a.e/ha)	

Species	Life stage	Test substance, substrate	Time scale	Dose (g/ha)[1,2]	End point	% effect[3]	ER_{50}
Aphidius rhopalosiphi	adult	MON 52276 seedling barley Extended lab / 3D	2d+10d	4, 6, 8, 12 and 16 L prod./ha	Mortality	LR_{50}> 16.0 L/ha (5760 g a.e./ha)	ER_{50} > 16 L/ha (5760 g a.e./ha)
					reproduction	NOER > 16 L/ha (5760 g a.e./ha)	

[1] indicate whether initial or aged residues
[2] for preparations indicate whether dose is expressed in units of a.s. or preparation
[3] indicate if positive percentages relate to adverse effects or not
a.e.: glyphosate acid equivalent

Higher tier risk assessment covering all representative uses at 1800 g a.s./ha x 2 based on extended laboratory tests or aged residue tests
(worst case assumption made : maximum dose rate, maximum number of application, default multiple application factor set at 2)

Species	ER_{50} (g/ha)	In-field rate	Off-field rate
T. pyri	>4320	3600	42.84 (1m / 2D)
A. rhopalosiphi	>5760		428.4 (1m / 3D)
Poecilus cupreus	>3600		428.4 (1m / 2D)*
Pardosa sp.	>3600		428.4 (1m / 2D)*

*A vegetation distribution factor of 1 has been considered since these species are considered to be soil-dwelling arthropods.

Semi-field tests: None
Field studies: None
Additional specific tests: None

Effects on non-target soil meso- and macro fauna; effects on soil nitrogen transformation (Regulation (EU) N° 283/2013, Annex Part A, points 8.4, 8.5, and Regulation (EU) N° 284/2013 Annex Part A, points 10.4, 10.5)

Test organism	Test substance	Application method of test a.s./ OM	Time scale	End point	Toxicity
Earthworms					
Eisenia fetida	a.s.	Mixed into substrate/ 10% peat content	Chronic 56 d	Mortality, growth and reproduction	NOEC = 473 mg a.e./kg d.w.soil*

Test organism	Test substance	Application method of test a.s./ OM	Time scale	End point	Toxicity
Eisenia fetida	MON 52276	Mixed into substrate/ 10% peat content	Chronic 56 d	Mortality, growth and reproduction	NOEC = 123 mg PP/kg d.w. soil (38 mg a.e./kg d.w.soil) *
Eisenia fetida	AMPA	Mixed into substrate/ 10% peat content	Chronic 56 d	Mortality, growth and reproduction	NOEC = 131.9 mg AMPA/kg d.w.soil EC_{10} = 220 mg AMPA/kg d.w.soil EC_{20} = 293 mg AMPA/kg d.w.soil
Other soil macroorganisms					
Folsomia candida	a.s.	Mixed into substrate/ 10% peat content	Chronic 28 d	Mortality and reproduction	NOEC = 587 mg a.e./kg d.w.soil*
Folsomia candida	AMPA	Mixed into substrate/ 5% peat content	Chronic 28 d	Mortality and reproduction	NOEC = 315 mg a.e./kg d.w.soil*
Folsomia candida	MON 52276	Mixed into substrate/ 5% peat content	Chronic 28 d	Mortality and reproduction	NOEC = 1802 mg a.e./kg d.w. soil*
Hypoaspis aculeifer	a.s.	Mixed into substrate/ 5% peat content	Chronic 14 d	Mortality and reproduction	NOEC = 473 mg a.e./kg d.w.soil*
Hypoaspis aculeifer	AMPA	Mixed into substrate/ 5% peat content	Chronic 14 d	Mortality and reproduction	NOEC = 320 mg a.e./kg d.w.soil*
Hypoaspis aculeifer	MON 52276	Mixed into substrate/ 5% peat content	Chronic 14 d	Mortality and reproduction	NOEC = 1001 mg a.e./kg d.w.soil

* Highest tested dose
a.s.: active substance; NOEC: no-observed effect concentration; $EC_{10,20}$: concentration causing 10% or 20% effects; OM: organic matter.

Literature data on soil organisms

No relevant and reliable, or reliable with restriction peer reviewed literature studies were found following revision of the literature in accordance with the criteria agreed at the Pesticide Peer Review Experts' TC 82.

Higher tier testing (e.g. modelling or field studies): None

Nitrogen transformation	a.s.	< 25% effect at Day 28 at 33.1 mg/kg dry soil
Nitrogen transformation	MON 52276	< 25% effect at Day 28 at 28.8 mg a.e./kg dry soil
Nitrogen transformation	AMPA	< 25% effect at Day 28 at 80 mg/kg dry soil

Literature data on soil microflora

Test item	Test design	Effects
glyphosate (acid)#	N-mineralisation, 28 day	No significant effects on NO3− formation and NH4+ levels were determined for the applications rates of glyphosate at 1 kg/ha (corresponding to 1.33 mg/kg) and 5 kg/ha (corresponding to 6.67 mg/kg) compared to the control

Literature data eligible for risk assessment.

Toxicity/exposure ratios for soil organisms

Risk envelope approach covering all representative uses at 3600 g a.s./ha x 1

Test organism	Test substance	Time scale	Soil PEC (PEC used)	TER	Trigger
Earthworms					
Eisenia fetida	a.s.	Chronic	5.123 (accu)	92.3	5
Eisenia fetida	MON 52276	Chronic	5.123 (accu)	7.4	5
Eisenia fetida	AMPA	Chronic	6.845 (accu)	19.3	5
Other soil macroorganisms					
Folsomia candida	a.s.	Chronic	5.123 (accu)	114.6	5
Folsomia candida	MON 52276	Chronic	5.123 (accu)	351.7	5
Folsomia. candida	AMPA	Chronic	6.845 (accu)	46.0	5
Hypospis aculeifer	a.s.	Chronic	5.123 (accu)	92.3	5

Test organism	Test substance	Time scale	Soil PEC (PEC used)	TER	Trigger
Hypoaspis aculeifer	MON 52276	Chronic	5.123 (accu)	195.4	5
Hypoaspis aculeifer	AMPA	Chronic	6.845 (accu)	46.7	5

a.s.: active substance; accu: accumulated; PEC: predicted environmental concentration; TER: toxicity/exposure ratio.

Effects on terrestrial non target higher plants (Regulation (EU) N° 283/2013, Annex Part A, point 8.6 and Regulation (EU) N° 284/2013 Annex Part A, point 10.6)

Screening data

Not required for herbicides or plant growth regulators as ER_{50} tests should be provided

Laboratory dose response tests

Species	Test substance	ER_{50} (g a.e. /ha) vegetative vigour	ER_{50} (g a.e. /ha) emergence	Exposure (g a.e. /ha)	TER	Trigger
Soya bean, Lettuce, Radish, Tomato, Cucumber, Cabbage, Oat, Ryegrass, Corn, Onion	Glyphosate	145.7 (tomato, dry weight)	-	-	-	-
Cucumis sativus *Brassica napus* *Raphanus sativus* *Glycine max* *Helianthus annuus* *Lycopersicon esculentum* *Zea mays* *Triticum aestivum* *Avena sativa* *Allium cepa*	MON 52276	-	> 3610	3 x 720	>181	5
				2 x 1440	>90.5	
				2 x 1800	>72.4	
Zea mays *Avena sativa* *Allium cepa* *Triticum aestivum* *Cucumis sativus* *Brassica napus* *Raphanus sativus* *Glycine max* *Helianthus annuus* *Lycopersicon esulentum*	MON 52276	**28.4*** (cucumber, shoot length)	-	3 x 720	**1.42**	5
					6.92 (5m)	
					2.85 (50% drift red.)	
					5.70 (75% drift red.)	

Species	Test substance	ER$_{50}$ (g a.e. /ha) vegetative vigour	ER$_{50}$ (g a.e. /ha) emergence	Exposure (g a.e. /ha)	TER	Trigger
				2 x 1440	**0.71**	5
					3.46 (5m)	
					6.80 (10m)	
					1.42 (50% drift red.)	
					6.92 (5m + 50% drift red.)	
					2.85 (75% drift red.)	
					13.84 (5m + 75% drift red.)	
					7.12 (90% drift red.)	
				2 x 1800	**0.57**	5
					2.77 (5m)	
					5.44 (10m)	
					1.14 (50% drift red.)	
					5.54 (5m + 50% drift red.)	
					2.28 (75% drift red.)	
					11.07 (5m +	

Species	Test substance	ER_{50} (g a.e. /ha) vegetative vigour	ER_{50} (g a.e. /ha) emergence	Exposure (g a.e. /ha)	TER	Trigger
					75% drift red.)	
					5.70 (90% drift red.)	
Zea mays *Avena sativa* *Allium cepa* *Triticum aestivum* *Cucumis sativus* *Brassica napus* *Raphanus sativus* *Glycine max* *Helianthus annuus* *Lycopersicon esulentum*	MON 52276	69.87(*Lycopersicon esculentum* (tomato), shoot fresh weight)	-	See above (based on the lower endpoint of 28.4 g a.e./ha)		
Extended laboratory studies: - Semi-field and field test: -						

* Study considered reliable with restrictions and used in the risk assessment.

Note: as regards the drift reduction as risk management measure, a risk envelop strategy was followed. Great details are included in section B.9.12 of the RAR (Glyphosate_RAR_29_Volume_3CP_MON 52276_B-9).

Literature data on non-target terrestrial plants

No relevant and reliable, or reliable with restriction peer reviewed literature studies were found following revision of the literature in accordance with the criteria agreed at the Pesticides Peer Review Experts' TC 82.

Effects on biological methods for sewage treatment (Regulation (EU) N° 283/2013, Annex Part A, point 8.8)

Test type/organism	end point
Activated sludge	EC_{50} > 100 mg a.e./L
Pseudomonas sp	No data

Monitoring data (Regulation (EU) N° 283/2013, Annex Part A, point 8.9 and Regulation (EU) N° 284/2013, Annex Part A, point 10.8)

Available monitoring data concerning adverse effect of the a.s. No data

Available monitoring data concerning effect of the PPP. No data.

Definition of the residue for monitoring (Regulation (EU) N° 283/2013, Annex Part A, point 7.4.2) Ecotoxicologically relevant compounds[1]

Compartment	
soil	Glyphosate, AMPA
water	Glyphosate, AMPA*
sediment	Glyphosate, AMPA*
groundwater	Glyphosate, AMPA*

* AMPA is not ecotoxicologically relevant for the compartments water, sediment and groundwater. For precautionary reasons AMPA is proposed as relevant residue due to the frequent detections in surface waters and groundwater and the widespread intended uses of glyphosate in almost all crops.

Classification and labelling with regard to ecotoxicological data (Regulation (EU) N° 283/2013, Annex Part A, Section 10)

Substance	glyphosate
Harmonised classification according to Regulation (EC) No 1272/2008 and its Adaptations to Technical Process [Table 3.1 of Annex VI of Regulation (EC) No 1272/2008 as amended][20], [21]	Aquatic Chronic 2 H411
According to the peer review, criteria for harmonised classification according to Regulation (EC) No 1272/2008 may be met for:	Aquatic Chronic 2 H411

[20] Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. OJ L 353, 31.12.2008, 1-1355.

[21] ECHA (European Chemicals Agency), 2022. Committee for Risk Assessment (RAC) Opinion proposing harmonised classification and labelling at EU level of glyphosate (ISO); N-(phosphonomethyl)glycine. CLH-O-0000007122-85-01/F. Adopted 30 May 2022. Available at www.echa.europa.eu