

Supporting Information

Development of *Chrysoperla carnea* (Stephens) (Neuroptera: Chrysopidae) on pollen from Bt-transgenic and conventional maize

Michael Meissle*, Jan Zünd, Mario Waldburger, Jörg Romeis

Agroscope, Institute for Sustainability Sciences ISS, Reckenholzstrasse 191, 8046 Zurich,
Switzerland

* Corresponding author: michael.meissle@agroscope.admin.ch

Table S1.

Published evidence that consumption of maize pollen improves life-table parameters of predatory arthropods. Non-predatory stages (e.g., adult *C. carnea*, adult syrphids, etc.) are not included. Evidence without direct demonstration of benefits on life-table parameters is not included. References mainly from Lundgren et al. (2009) and a literature search in Web of Knowledge on 26 July 2013, with search string: (maize or corn) AND pollen AND predator*. Taxonomy verified with Catalogue of Life (<http://www.catalogueoflife.org/col/search/all>) and Fauna Europaea (<http://www.faunaeur.org/index.php>). Names that could not be verified are marked with *.

Order	Family	Species	Stage	References
Acari	Phytoseiidae	<i>Amblyseius largoensis</i> (Muma, 1955)	Juvenile, Adult	Kamburov (1971), Mori (1977)
		<i>Amblyseius swirskii</i> Athias-Henriot, 1962	Juvenile, Adult	Onzo et al. (2012)
		<i>Euseius ovalis</i> (Evans, 1953)	Juvenile, Adult	Shih et al. (1993), Nguyen & Shih (2012), Nguyen & Shih (2010)
		<i>Euseius scutalis</i> (Athias-Henriot, 1958)	Juvenile, Adult	Elbadry & Elbenhawy (1968), Maoz et al. (2011)
		<i>Euseius tularensis</i> Congdon, 1985	Juvenile, Adult	McMurtry & Scriven (1964), Swirski et al. (1970), Kennett et al. (1979)
		<i>Neoseiulus baraki</i> Athias-Henriot, 1966	Juvenile, Adult	Negloh et al. (2008)
		<i>Neoseiulus californicus</i> (McGregor, 1954)	Juvenile, Adult	Swirski et al. (1970), Croft et al. (1998)
		<i>Neoseiulus cucumeris</i> (Oudemans, 1930)	Juvenile, Adult	Obrist et al. (2006a)
		<i>Neoseiulus fallacis</i> (Garman, 1948)	Juvenile, Adult	Croft et al. (1998); Afifi et al. (1988)
		<i>Neoseiulus longispinosus</i> (Evans, 1952)	Juvenile, Adult	Mori (1977)
		<i>Neoseiulus paraki</i> (Ehara, 1967)	Juvenile, Adult	Mori (1977)
		<i>Neoseiulus womersleyi</i> (Schicha, 1975)	Juvenile, Adult	Nguyen & Shih (2010), Nguyen & Shih (2010)
		<i>Typhlodromalus aripo</i> De Leon, 1967	Juvenile, Adult	Gnanvossou et al. (2005)
		<i>Typhlodromalus manihoti</i> (Moraes, 1994)*	Juvenile, Adult	Gnanvossou et al. (2005)
Araneae	Theridiidae	<i>Phylloneta impressa</i> (L. Koch, 1881)	Juvenile	Meissle et al. (2009)
Coleoptera	Carabidae	<i>Agonum cupripenne</i> Say, 1823	Adult	Mullin et al. (2005)
		<i>Agonum muelleri</i> Herbst, 1784	Adult	Mullin et al. (2005)
		<i>Agonum placidum</i> Say, 1823	Adult	Mullin et al. (2005)
		<i>Amara pennsylvanica</i> Hayward, 1908	Adult	Mullin et al. (2005)
		<i>Chlaenius tricolor</i> Dejean, 1826	Adult	Mullin et al. (2005)
		<i>Harpalus affinis</i> (Schrank, 1781)	Adult	Mullin et al. (2005)
		<i>Patrobus longicornis</i> Say, 1825	Adult	Mullin et al. (2005)
		<i>Pterostichus chalcites</i> (Say, 1823)	Adult	Mullin et al. (2005)
		<i>Pterostichus lucublandus</i> (Say, 1823)	Adult	Mullin et al. (2005)
		<i>Pterostichus melanarius</i> (Illiger 1798)	Adult	Mullin et al. (2005)
		<i>Scarites quadriceps</i> Chaudoir, 1843*	Adult	Mullin et al. (2005)
		<i>Harpalus caliginosus</i> (Fabricius, 1775)	Adult	Mullin et al. (2005)
		<i>Harpalus pensylvanicus</i> (De Geer, 1774)	Adult	Mullin et al. (2005)
		Coccinellidae	<i>Coccinella trifasciata</i> Linnaeus, 1758	Juvenile
<i>Coleomegilla maculata</i> (De Geer, 1775)	Juvenile, Adult		Lundgren & Wiedenmann (2004), Lundgren et al. (2005), Michaud & Grant (2005), Smith (1960), Smith (1965), Pilorget et al. (2010)	
<i>Cycloneda sanguinea</i> (Linnaeus, 1763)	Juvenile		Smith (1961)	
<i>Micraspis discolor</i> (Fabricius, 1798)	Juvenile, Adult		Omkar (2006)	
Hemiptera	Anthocoridae	<i>Orius insidiosus</i> (Say, 1832)	Juvenile	Pilcher et al. (1997)
		<i>Orius majusculus</i> (Reuter, 1879)	Juvenile, Adult	Obrist et al. (2006b), Lumbierres et al. (2012)
		<i>Orius sauteri</i> (Poppius, 1909)*	Juvenile	Funau & Yoshiyasu (1995)
		<i>Orius vicinus</i> (Ribaut, 1923)	Juvenile	Fauvel (1974)
Neuroptera	Chrysopidae	<i>Chrysoperla carnea</i> (Stephens, 1836)	Juvenile	present study

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Table S2.

Matrix showing all differences in percentages for each combination of pollen batch × cultivar for the pollen parameters A) total protein, B) C:N ratio, and C) grain diameter. Two batches of maize were grown consecutively in the same glasshouse. Bt maize cultivars are indicated in grey shades. Statistical comparisons were conducted within each batch. Significant differences are marked in red, insignificant comparisons in green. Differences between batch 1 and 2 of the same cultivar are marked in orange. Values were calculated using the following formula:

% in table = (mean value of treatment in row / mean value of treatment in column - 1)*100

Example: Difference of total protein Gavott batch 1 and Compa CB batch 1:

% in table = $(10.2 / 7.5 - 1) * 100 = 36$

Interpretation: total protein in maize Gavott batch 1 is 36% larger than in maize Compa CB batch 1.

A) Total protein

Batch		1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	Total protein in maize [row] is [value] % smaller/larger [-/+] than in maize [column]	MON88017 (Bt)	DKC5143	MON810 (Bt)	DKC3420	Compa CB (Bt)	Dracma	Radiance	Rheintaker	Gavott	MON88017 (Bt)	DKC5143	Compa CB (Bt)	Dracma	Radiance	Gavott
1	MON88017(Bt)	0	-1	27	3	28	5	0	-2	-6	-9	-17	-14	-2	-20	-13
1	DKC5143	1	0	27	3	28	6	1	-2	-6	-8	-16	-13	-2	-19	-13
1	MON810 (Bt)	-21	-21	0	-19	1	-17	-21	-23	-26	-28	-34	-32	-23	-36	-31
1	DKC3420	-3	-3	23	0	24	3	-3	-5	-9	-11	-19	-16	-5	-22	-15
1	Compa CB (Bt)	-22	-22	-1	-20	0	-17	-22	-23	-26	-29	-35	-32	-24	-37	-32
1	Dracma	-5	-6	20	-3	21	0	-5	-7	-11	-14	-21	-18	-7	-24	-18
1	Radiance	0	-1	27	3	28	5	0	-2	-6	-9	-17	-14	-2	-20	-13
1	Rheintaler	2	2	29	5	31	8	2	0	-4	-7	-15	-12	0	-18	-11
1	Gavott	7	6	35	9	36	12	7	4	0	-3	-11	-8	4	-14	-7
2	MON88017(Bt)	10	9	39	13	40	16	10	7	3	0	-9	-5	7	-12	-5
2	DKC5143	20	20	52	23	53	27	20	18	13	10	0	4	17	-3	5
2	Compa CB (Bt)	16	15	47	19	48	22	16	13	9	6	-3	0	13	-7	1
2	Dracma	3	2	30	5	31	8	3	0	-4	-7	-15	-12	0	-18	-11
2	Radiance	24	24	57	28	59	31	24	22	17	13	3	7	21	0	8
2	Gavott	15	14	46	18	47	21	15	12	8	5	-4	-1	12	-7	0

B) C:N ratio

Batch		1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	CN ratio in maize [row] is [value] % smaller/larger [-/+] than in maize [column]	MON88017 (Bt)	DKC5143	MON810 (Bt)	DKC3420	Compa CB (Bt)	Dracma	Radiance	Rheintaker	Gavott	MON88017 (Bt)	DKC5143	Compa CB (Bt)	Dracma	Radiance	Gavott
1	MON88017(Bt)	0	0	-16	-10	3	1	-4	3	-3	2	5	1	-1	6	-6
1	DKC5143	0	0	-15	-10	4	1	-4	3	-2	3	5	2	-1	6	-5
1	MON810 (Bt)	18	18	0	6	22	19	13	21	15	21	24	20	17	25	12
1	DKC3420	12	11	-6	0	15	12	7	14	9	14	17	13	10	18	6
1	Compa CB (Bt)	-3	-3	-18	-13	0	-2	-7	-1	-6	-1	2	-2	-4	3	-8
1	Dracma	-1	-1	-16	-11	2	0	-5	2	-3	2	4	1	-2	5	-6
1	Radiance	4	4	-12	-6	8	5	0	7	2	7	9	6	3	10	-1
1	Rheintaler	-2	-3	-18	-13	1	-2	-7	0	-5	0	2	-1	-4	3	-8
1	Gavott	3	2	-13	-8	6	3	-2	5	0	5	8	4	1	9	-3
2	MON88017(Bt)	-2	-3	-17	-12	1	-2	-6	0	-5	0	2	-1	-4	3	-8
2	DKC5143	-4	-5	-19	-14	-2	-4	-9	-2	-7	-2	0	-3	-6	1	-10
2	Compa CB (Bt)	-1	-2	-16	-11	2	-1	-5	1	-4	1	3	0	-2	5	-7
2	Dracma	1	1	-14	-9	5	2	-3	4	-1	4	6	3	0	7	-4
2	Radiance	-5	-6	-20	-15	-2	-5	-9	-3	-8	-3	-1	-4	-7	0	-11
2	Gavott	6	5	-11	-5	9	6	1	9	3	8	11	7	4	12	0

C) Pollen diameter

Batch		1	1	1	1	1	1	1	1	1	2	2	2	2	2	2
	Diameter in maize [row] is [value] % smaller/larger [-/+] than in maize [column]	MON88017 (Bt)	DKC5143	MON810 (Bt)	DKC3420	Compa CB (Bt)	Dracma	Radiance	Rheintaker	Gavott	MON88017 (Bt)	DKC5143	Compa CB (Bt)	Dracma	Radiance	Gavott
1	MON88017(Bt)	0	0	-4	-3	-6	7	-3	-1	2	4	5	0	-1	-3	-3
1	DKC5143	0	0	-5	-3	-7	7	-3	-1	2	4	5	0	-1	-3	-3
1	MON810 (Bt)	5	5	0	1	-2	12	2	4	7	9	10	5	4	2	1
1	DKC3420	3	4	-1	0	-3	11	1	3	5	8	9	4	2	1	0
1	Compa CB (Bt)	7	7	2	3	0	14	4	6	9	11	12	7	6	4	3
1	Dracma	-7	-6	-11	-10	-13	0	-9	-7	-5	-3	-2	-6	-7	-9	-10
1	Radiance	3	3	-2	-1	-4	10	0	2	5	7	8	3	2	0	0
1	Rheintaler	1	1	-4	-3	-6	8	-2	0	3	5	6	1	0	-2	-2
1	Gavott	-2	-2	-6	-5	-8	5	-4	-3	0	2	3	-2	-3	-5	-5
2	MON88017(Bt)	-4	-4	-8	-7	-10	3	-7	-5	-2	0	1	-4	-5	-7	-7
2	DKC5143	-5	-5	-9	-8	-11	2	-7	-5	-3	-1	0	-5	-6	-7	-8
2	Compa CB (Bt)	0	0	-5	-4	-7	7	-3	-1	2	4	5	0	-1	-3	-3
2	Dracma	1	1	-4	-2	-5	8	-2	0	3	5	6	1	0	-2	-2
2	Radiance	3	3	-2	-1	-4	10	0	2	5	7	8	3	2	0	0
2	Gavott	3	3	-1	0	-3	11	0	3	5	8	8	4	2	0	0