

Table S6 Species means (and standard error) for the traits measured in the yield experiments. Traits are sown individual seed mass (mg), total seed yield (g), total aboveground (vegetative + reproductive) biomass (g), % chaff, % reproductive biomass, duration of growth (days to flowering), height (cm), harvested individual seed mass (mg), total number of seeds per plant, relative growth rate ($\text{g}\cdot\text{g}^{-1}\cdot\text{day}^{-1}$), and for cereals only, infructescence mass (mg), number of infructescences per plant and the number of seeds per infructescence. Note that data for sown individual seed mass, total seed yield and total aboveground biomass are calculated using data from 2011 and 2013, whereas all other traits are calculated only from the 2011 experiment.

Species	Sown individual seed mass (mg)	Total seed yield (g)	Total aboveground biomass (g)	Chaff (%)	Reproductive aboveground biomass (%)	Duration of growth (days to flowering)	Height (cm)
<i>Avena sativa</i>	25.13 (1.29)	6.18 (0.63)	13.92 (1.04)	25.32 (1.28)	54.1 (1.6)	90.6 (2.2)	83.9 (3.6)
<i>Avena sterilis</i>	14.74 (1.62)	4.94 (0.98)	10.58 (1.15)	48.14 (1.95)	53.2 (1.8)	91.9 (2.6)	75.9 (2.9)
<i>Hordeum vulgare</i> subsp. <i>spontaneum</i>	27.33 (1.32)	5.33 (0.51)	13.01 (1.20)	41.24 (2.37)	59.1 (1.8)	102.9 (1.9)	51.7 (2.4)
<i>Hordeum vulgare</i> subsp. <i>vulgare</i>	39.72 (2.70)	9.48 (0.78)	15.99 (1.59)	12.85 (1.27)	65.2 (1.4)	99.1 (2.4)	52.4 (2.9)
<i>Secale cereale</i> subsp. <i>cereale</i>	28.06 (1.23)	5.79 (0.79)	15.79 (1.70)	22.31 (2.42)	41.8 (2.0)	90.9 (2.0)	98.3 (3.1)
<i>Secale vavilovii</i>	22.37 (1.36)	6.13 (0.91)	20.22 (1.53)	25.65 (3.95)	33.8 (2.5)	107.4 (1.3)	114.7 (5.4)
<i>Triticum monococcum</i> subsp. <i>aegilopoides</i>	16.68 (0.87)	2.03 (0.35)	8.02 (0.80)	40.70 (1.14)	48.8 (2.7)	109.2 (0.8)	63.5 (2.6)
<i>Triticum monococcum</i>	30.25 (1.11)	5.64 (0.42)	15.88 (0.79)	28.53 (1.62)	45.1 (1.8)	122.1 (1.3)	74.5 (2.5)

subsp. <i>monococcum</i>							
<i>Triticum turgidum</i>	26.07 (0.96)	3.72 (0.31)	13.55 (1.24)	51.85 (1.36)	54.6 (1.7)	107.4 (0.9)	60.0 (2.9)
subsp. <i>dicoccoides</i>							
<i>Triticum turgidum</i>	35.88 (1.40)	5.64 (0.60)	18.15 (1.55)	28.29 (1.64)	47.5 (1.9)	102.3 (1.2)	75.9 (3.9)
subsp. <i>dicoccon</i>							
<i>Cicer arietinum</i>	280.34 (19.21)	5.64 (0.46)	12.41 (0.69)	22.34 (5.15)	66.6 (1.3)	100.9 (0.9)	44.7 (1.6)
<i>Cicer reticulatum</i>	151.08 (7.24)	2.50 (0.21)	7.38 (0.43)	34.38 (1.90)	58.6 (2.2)	99.1 (0.6)	36.1 (1.3)
<i>Lens culinaris</i> subsp. <i>culinaris</i>							
<i>Lens culinaris</i> subsp. <i>orientalis</i>	49.00 (3.11)	2.23 (0.29)	5.38 (0.53)	22.91 (4.83)	55.8 (2.9)	98.8 (0.9)	40.3 (1.6)
<i>Pisum sativum</i> subsp. <i>elatius</i>	10.89 (0.90)	0.87 (0.12)	2.22 (0.23)	42.56 (5.91)	63.9 (3.4)	102.1 (0.0.7)	29.4 (17)
<i>Pisum sativum</i> subsp. <i>elatius</i> var. <i>pumilio</i>	72.52 (5.48)	6.86 (1.24)	10.05 (1.76)	21.73 (3.05)	62.6 (1.4)	97.5 (0.6)	95.3 (9.0)
<i>Pisum sativum</i> subsp. <i>sativum</i>	92.21 (5.20)	3.50 (0.55)	6.07 (0.68)	44.38 (9.36)	67.5 (1.2)	96.9 (0.4)	45.7 (3.7)
<i>Pisum sativum</i> subsp. <i>sativum</i>	173.92 (14.92)	5.72 (0.95)	11.46 (1.54)	30.52 (7.32)	67.8 (1.4)	102.2 (1.7)	74.9 (9.8)

Species	Harvested individual seed mass (mg)	Total seeds per plant	$\tilde{\lambda}$ – relative growth rate	Infructescence mass (mg)	Infructescence number	Seeds per infructescence
<i>Avena sativa</i>	27.94 (1.67)	246.5 (33.3)	0.0700 (0.0017)	1037.3 (93.3)	6.1 (0.4)	41.2 (5.1)
<i>Avena sterilis</i>	16.75 (1.95)	288.7 (48.5)	0.0730 (0.0029)	425.7 (59.6)	10.5 (1.1)	25.5 (1.8)
<i>Hordeum vulgare</i> subsp. <i>spontaneum</i>	25.19 (1.88)	204.4 (17.3)	0.0601 (0.0013)	330.8 (36.0)	16.0 (0.9)	12.6 (0.7)

<i>Hordeum vulgare</i> subsp. <i>vulgare</i>	41.13 (1.70)	196.5 (17.1)	0.0600 (0.0015)	715.2 (68.6)	11.9 (0.7)	18.2 (2.0)
<i>Secale cereale</i> subsp. <i>cereale</i>	32.45 (1.74)	169.0 (17.4)	0.0689 (0.0024)	646.8 (63.9)	10.1 (1.3)	20.9 (2.6)
<i>Secale vavilovii</i>	28.83 (1.91)	199.2 (23.0)	0.0640 (0.0009)	480.8 (59.7)	12.4 (0.8)	16.1 (1.6)
<i>Triticum monococcum</i> subsp. <i>aegilopoides</i>	12.80 (0.87)	154.9 (16.4)	0.0541 (0.0009)	260.7 (30.6)	7.1 (0.6)	22.5 (2.1)
<i>Triticum monococcum</i> subsp. <i>monococcum</i>	18.23 (0.84)	341.1 (19.1)	0.0514 (0.0006)	407.1 (22.6)	15.4 (0.8)	22.4 (0.8)
<i>Triticum turgidum</i> subsp. <i>dicoccoides</i>	30.37 (1.08)	119.6 (11.6)	0.0567 (0.0010)	479.7 (19.2)	7.6 (0.6)	15.9 (0.9)
<i>Triticum turgidum</i> subsp. <i>dicoccon</i>	28.89 (1.65)	219.3 (16.4)	0.0601 (0.0011)	686.2 (68.2)	9.5 (0.5)	23.0 (1.2)
<i>Cicer arietinum</i>	286.05 (31.49)	20.5 (1.9)	0.0382 (0.0010)	NA	NA	NA
<i>Cicer reticulatum</i>	172.17 (6.37)	16.9 (1.6)	0.0396 (0.0008)	NA	NA	NA
<i>Lens culinaris</i> subsp. <i>culinaris</i>	57.49 (5.24)	46.2 (10.5)	0.0467 (0.0015)	NA	NA	NA
<i>Lens culinaris</i> subsp. <i>orientalis</i>	10.07 (0.57)	82.2 (14.0)	0.0542 (0.0014)	NA	NA	NA
<i>Pisum sativum</i> subsp. <i>elatius</i>	97.03 (8.21)	68.8 (11.1)	0.0489 (0.0013)	NA	NA	NA
<i>Pisum sativum</i> subsp. <i>elatius</i> var. <i>pumilio</i>	114.18 (4.86)	32.2 (5.7)	0.0416 (0.0015)	NA	NA	NA
<i>Pisum sativum</i> subsp. <i>sativum</i>	217.69 (6.95)	25.8 (5.9)	0.0349 (0.0016)	NA	NA	NA
