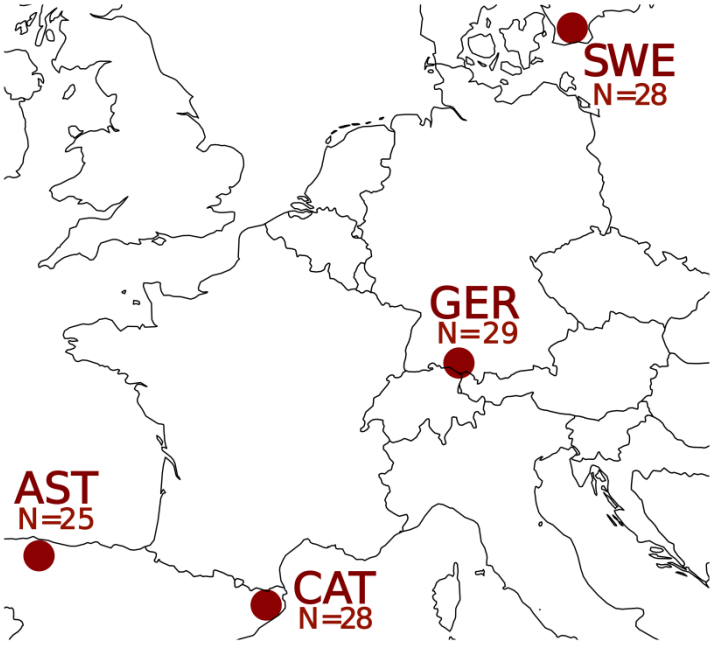

Figure S1. Location of the study regions in Sweden (SWE), Germany (GER) and Spain (Catalonia, CAT; Asturias, AST) (N=number of orchards).

Appendix S1 – Supplementary Methods

Functional composition metrics

To overcome potential effects of highly correlated traits in the RaoQ calculations, we initially conducted principal coordinate analyses (PCoA) on the standardized trait data (Devictor et al.; 2010). The axes obtained in the PCoA were used to build a Euclidean distance matrix that we used for the RaoQ calculations.

Model selection procedures

When the null model was among the selected models, no variable was considered to be a good predictor of the response variable. Relative importance of a variable was calculated as the sum of the Akaike weights of this variable over all the selected models including this variable (Anderson & Burnham, 2004). To be conservative, explanatory variables were only considered important if their confidence intervals did not overlap with zero and their relative importance was greater than 0.5. Finally, we calculated a likelihood-ratio-based R^2 of the best models as a measure of explanatory power.

REFERENCES

Anderson, D. & Burnham, K. (2004) Model selection and multi-model inference. *Second. NY: Springer-Verlag*, 63.

Devictor, V., Mouillot, D., Meynard, C., Jiguet, F., Thuiller, W. & Mouquet, N. (2010) Spatial mismatch and congruence between taxonomic, phylogenetic and functional diversity: The need for integrative conservation strategies in a changing world. *Ecology Letters*, 13, 1030–1040.

Table S1. Cultivars and local and landscape (1-km-radius) features in low–intensity (LI) and high-intensity (HI) apple orchards in Sweden, Germany, Asturias and Catalonia. Means are followed by SD and ranges are in parentheses.

	Sweden		**Germany**		**Asturias**		**Catalonia**	
Distance between nearest orchards (km)	4.6±4.9 (0.3-18.2)		3.7±5.3 (0.8-30.8)		2.1±1.0 (1.3-5.4)		3.0±2.7 (0.7-12.3)	
Management (n)*	**HI**	**LI**	**HI**	**LI**	**HI**	**LI**	**HI**	**LI**
	14	14	15	14	0	25	14	14
Cultivars	Aroma, Amorosa, Ingrid Marie, Rubinola		Braeburn		Regona		Gala, Golden	
Orchard size (ha)[a]	15.8±11.1	3.7±3.7	1.0±0.6	0.9±0.6	3.06±4.1		1.7±1.1	2.4±2.8
Local variables								
Flower diversity (Shannon's index)	1.6±0.5 (0.3-2.2)	1.7±0.5 (1.0-2.6)	2.0±0.5 (1.0-2.8)	2.1±0.5 (1.0-2.9)	2.1±0.5 (0.9-3.2)		1.9±0.4 (0.9-2.5)	2.0± 0.4 (1.4-2.8)
Agri-environmental structure cover (m^2)[b]	182.1±188.5 (0-630)	359.7±285.0 (0.0-835.0)	144.2±174.7 (0.0-528.0)	163.3±152.5 (0.0-410.2)	99.8±79.2 (0.0-240.0)		211.4±252.8 (0.0-800.0)	234.3±184.7 (0.0-600.0)
Landscape variables[c]								
% Orchard cover	15.4±12.2 (1.5-39.7)	11.2±12.8 (0.1- 42.0)	34.1±16.4 (7.3-63.7)	26.9±11.6 (3.4-51.5)	8.6±3.6 (1.9-14.6)		41.6±30.5 (0.0-97.1)	32.5±31.1 (0.0-94.3)
% Pollinator-friendly habitat cover[d]	7.0±6.3 (0.3-18.4)	10.5±10.1 (0.9-39.3)	2.9±2.0 (0.4-6.4)	3.9±2.9 (0.8-11.3)	9.1±4.4 (2.0-17.0)		1.4±3.4 (0.0-12.2)	7.4±14.5 (0.0-43.2)
% Forest cover	14.3±14.1 (0-41.2)	19.7±14.2 (0.0-41.8)	19.3±17.3 (4.2-55.4)	18.6±15.9 (1.2-50.4)	12.4±10.3 (0.5-37.5)		1.0±2.0 (0.0-6.0)	2.6±3.3 (0.0-8.4)
% Arable land cover	40.9±32.7 (1.6-96.0)	29.6±19.3 (0.5-63.2)	20.9±12.8 (3.6-56.7)	27.2±16.4 (4.2-54.4)	1.0±0.7 (0.0-2.4)		51.8±29.2 (0.0-99.4)	51.0±34.0 (0.0-96.7)
% Grassland cover	4.97±5.89 (0.0-15.7)	8.65±9.79 (0.0-37.1)	11.9±5.6 (3.5-22.7)	14.4±6.1 (4.3-26.5)	47.3±14.5 (18.0-71.0)		0.6±0.9 (0.0-3.0)	1.3±2.7 (0.0-7.5)

*No differences in local and landscape features between management types (ANOVA; all P>0.05). [a] Based on aerial photographs. [b] AES included hedgerows (trees and shrubs), forests (forest edges, riparian forests, tree plantations), fallow lands, orchard meadows, and semi-natural grasslands (including terraced field margins and embankments). [c] We used official digital maps of habitat types for Germany (LGL, 2016. ATKIS Digitales Landschaftsmodell, Baden-Württemberg, Basis-DLM Version 6.0. Landesamt für Geoinformation und Landentwicklung, Stuttgart) and Catalonia (Carreras, J., Diego, F., 2009. Catalan Habitats Cartography, 1:50,000. Departament de Medi Ambient i Habitatge, Generalitat de Catalunya, Barcelona), spatially explicit data from the Swedish Board of Agriculture (Integrated Administrative Control System, IACS) from year 2014, complemented with "Swedish ground covering data raster" from 2000 from the Swedish environmental protection agency (Naturvårdsverket) for Sweden, and a Geographic Information System created ad hoc for Asturias, based on the digitalization of habitat patches from 1:5000-scale orthophotographs (2014). [d] Pollinator-friendly habitats were defined based on expert knowledge, and included semi-natural grasslands, orchard meadows, hedgerows and shrubland.

Table S1. Cultivars and local and landscape (1-km-radius) features in low–intensity (LI) and high-intensity (HI) apple orchards in Sweden, Germany, Asturias and Catalonia. Means are followed by SD and ranges are in parentheses.

	Sweden		**Germany**		**Asturias**		**Catalonia**	
Distance between nearest orchards (km)	4.6±4.9 (0.3-18.2)		3.7±5.3 (0.8-30.8)		2.1±1.0 (1.3-5.4)		3.0±2.7 (0.7-12.3)	
Management (n)*	**HI**	**LI**	**HI**	**LI**	**HI**	**LI**	**HI**	**LI**
	14	14	15	14	0	25	14	14
Cultivars	Aroma, Amorosa, Ingrid Marie, Rubinola		Braeburn		Regona		Gala, Golden	
Orchard size (ha)[a]	15.8±11.1	3.7±3.7	1.0±0.6	0.9±0.6	3.06±4.1		1.7±1.1	2.4±2.8
Local variables								
Flower diversity (Shannon's index)	1.6±0.5 (0.3-2.2)	1.7±0.5 (1.0-2.6)	2.0±0.5 (1.0-2.8)	2.1±0.5 (1.0-2.9)	2.1±0.5 (0.9-3.2)		1.9±0.4 (0.9-2.5)	2.0± 0.4 (1.4-2.8)
Agri-environmental structure cover (m^2)[b]	182.1±188.5 (0-630)	359.7±285.0 (0.0-835.0)	144.2±174.7 (0.0-528.0)	163.3±152.5 (0.0-410.2)	99.8±79.2 (0.0-240.0)		211.4±252.8 (0.0-800.0)	234.3±184.7 (0.0-600.0)
Landscape variables[c]								
% Orchard cover	15.4±12.2 (1.5-39.7)	11.2±12.8 (0.1- 42.0)	34.1±16.4 (7.3-63.7)	26.9±11.6 (3.4-51.5)	8.6±3.6 (1.9-14.6)		41.6±30.5 (0.0-97.1)	32.5±31.1 (0.0-94.3)
% Pollinator-friendly habitat cover[d]	7.0±6.3 (0.3-18.4)	10.5±10.1 (0.9-39.3)	2.9±2.0 (0.4-6.4)	3.9±2.9 (0.8-11.3)	9.1±4.4 (2.0-17.0)		1.4±3.4 (0.0-12.2)	7.4±14.5 (0.0-43.2)
% Forest cover	14.3±14.1 (0-41.2)	19.7±14.2 (0.0-41.8)	19.3±17.3 (4.2-55.4)	18.6±15.9 (1.2-50.4)	12.4±10.3 (0.5-37.5)		1.0±2.0 (0.0-6.0)	2.6±3.3 (0.0-8.4)
% Arable land cover	40.9±32.7 (1.6-96.0)	29.6±19.3 (0.5-63.2)	20.9±12.8 (3.6-56.7)	27.2±16.4 (4.2-54.4)	1.0±0.7 (0.0-2.4)		51.8±29.2 (0.0-99.4)	51.0±34.0 (0.0-96.7)
% Grassland cover	4.97±5.89 (0.0-15.7)	8.65±9.79 (0.0-37.1)	11.9±5.6 (3.5-22.7)	14.4±6.1 (4.3-26.5)	47.3±14.5 (18.0-71.0)		0.6±0.9 (0.0-3.0)	1.3±2.7 (0.0-7.5)

*No differences in local and landscape features between management types (ANOVA; all P>0.05). [a] Based on aerial photographs. [b] AES included hedgerows (trees and shrubs), forests (forest edges, riparian forests, tree plantations), fallow lands, orchard meadows, and semi-natural grasslands (including terraced field margins and embankments). [c] We used official digital maps of habitat types for Germany (LGL, 2016. ATKIS Digitales Landschaftsmodell, Baden-Württemberg, Basis-DLM Version 6.0. Landesamt für Geoinformation und Landentwicklung, Stuttgart) and Catalonia (Carreras, J., Diego, F., 2009. Catalan Habitats Cartography, 1:50,000. Departament de Medi Ambient i Habitatge, Generalitat de Catalunya, Barcelona), spatially explicit data from the Swedish Board of Agriculture (Integrated Administrative Control System, IACS) from year 2014, complemented with "Swedish ground covering data raster" from 2000 from the Swedish environmental protection agency (Naturvårdsverket) for Sweden, and a Geographic Information System created ad hoc for Asturias, based on the digitalization of habitat patches from 1:5000-scale orthophotographs (2014). [d] Pollinator-friendly habitats were defined based on expert knowledge, and included semi-natural grasslands, orchard meadows, hedgerows and shrubland.

Table S3. List of pollinator species and morphospecies and their abundances (total number of individuals surveyed) in each region (SWE = Sweden, GER = Germany, AST = Asturias, CAT= Catalonia).

	Species	**Pollinator group**	**SWE**	**GER**	**AST**	**CAT**	**Total**
1	*Andrena bicolor*	bees	0	0	5	0	5
2	*Andrena cineraria*	bees	0	16	0	0	16
3	*Andrena dorsata*	bees	0	0	10	0	10
4	*Andrena flavipes*	bees	0	1	10	1	12
5	*Andrena fulva*	bees	20	3	1	0	24
6	*Andrena haemorrhoa*	bees	50	12	4	0	66
7	*Andrena helvola*	bees	4	0	0	0	4
8	*Andrena humilis*	bees	0	0	1	0	1
9	*Andrena jacobi*	bees	0	3	0	0	3
10	*Andrena lathyri*	bees	0	0	1	0	1
11	*Andrena leptopyga*	bees	0	0	1	0	1
12	*Andrena limata*	bees	0	0	0	2	2
13	*Andrena minutula*	bees	0	0	4	0	4
14	*Andrena nigroaenea*	bees	17	0	15	2	34
15	*Andrena nitida*	bees	0	3	1	0	4
16	*Andrena pilipes*	bees	0	0	8	0	8
17	*Andrena* sp.	bees	26	36	1	13	76
18	*Anthophora plumipes*	bees	0	0	0	8	8
19	*Apis mellifera*	bees	1004	1418	1247	2733	6402
20	*Bombus hortorum*	bees	0	1	0	0	1
21	*Bombus hypnorum*	bees	4	0	0	0	4
22	*Bombus lapidarius*	bees	6	15	0	0	21
23	*Bombus pascuorum*	bees	3	19	12	2	36
24	*Bombus pratorum*	bees	2	6	14	0	22
25	*Bombus* sp.	bees	11	7	2	0	20
26	*Bombus terrestris*	bees	88	60	90	40	278
27	*Eucera nigrilabris*	bees	0	0	1	7	8
28	*Halictus crenicornis*	bees	0	0	1	0	1
29	*Halictus scabiosae*	bees	0	0	2	0	2
30	*Halictus* sp.	bees	0	0	2	0	2
31	*Halictus tumulorum*	bees	0	0	14	0	14
32	*Lasioglossum calceatum*	bees	0	0	2	0	2
33	*Lasioglossum fulvicorne*	bees	0	0	1	0	1
34	*Lasioglossum morio*	bees	0	0	1	0	1
35	*Lasioglossum pallens*	bees	0	0	5	0	5
36	*Lasioglossum pauxillum*	bees	0	0	8	0	8
37	*Lasioglossum punctatissimum*	bees	0	0	3	0	3
38	*Lasioglossum* sp.	bees	0	5	0	0	5
39	*Lasioglossum zonulum*	bees	0	0	1	0	1

40	*Nomada succincta*	bees	0	0	1	0	1
41	*Osmia aurulenta*	bees	0	1	0	0	1
42	*Osmia bicornis*	bees	0	1	2	0	3
43	*Osmia cornuta*	bees	0	2	0	18	20
44	*Osmia* sp.	bees	0	1	0	0	1
45	*Xylocopa violacea*	bees	0	0	0	8	8
46	*Agrypnus murinus*	beetles	0	0	1	0	1
47	*Cantharis* sp.	beetles	0	0	2	28	30
48	Curculionidae	beetles	6	0	0	0	6
49	*Meligethes* sp.	beetles	0	0	0	1	1
50	*Oedemera nobilis*	beetles	0	0	1	0	1
51	*Oxythyrea funesta*	beetles	0	0	12	18	30
52	*Ragonycha fulva*	beetles	0	0	1	0	1
53	*Tropinota squalida*	beetles	0	0	0	11	11
54	*Cheilosia pagana*	hoverflies	0	0	1	0	1
55	*Episyrphus balteatus*	hoverflies	0	1	9	7	17
56	*Eristalinus aeneus*	hoverflies	0	0	0	1	1
57	*Eristalis arbustorum*	hoverflies	0	0	2	0	2
58	*Eristalis interrupta*	hoverflies	0	0	1	0	1
59	*Eristalis pertinax*	hoverflies	15	0	0	0	15
60	*Eristalis similis*	hoverflies	0	0	15	0	15
61	*Eristalis* sp.	hoverflies	0	0	110	1	111
62	*Eristalis tenax*	hoverflies	0	0	143	71	214
63	*Eupeodes corollae*	hoverflies	0	0	9	2	11
64	*Helophilus hybridus*	hoverflies	0	0	0	2	2
65	*Helophilus pendulus*	hoverflies	0	0	1	0	1
66	*Helophilus* sp.	hoverflies	0	0	1	2	3
67	*Helophilus trivitattus*	hoverflies	0	0	0	2	2
68	*Melanostoma mellinum*	hoverflies	4	0	6	0	10
69	*Melanostoma scalare*	hoverflies	1	0	0	24	25
70	*Meliscaeva auricollis*	hoverflies	0	0	10	0	10
71	*Neoascia podagrica*	hoverflies	0	0	1	0	1
72	*Platycheirus albimanus*	hoverflies	0	0	1	0	1
73	*Platycheirus peltatus*	hoverflies	3	0	0	0	3
74	*Rhingia campestris*	hoverflies	3	4	0	0	7
75	*Scaeva albomaculata*	hoverflies	0	0	0	1	1
76	*Sphaerophoria scripta*	hoverflies	0	0	11	1	12
77	*Syrphus ribesii*	hoverflies	0	0	4	0	4
78	*Syrphus vitripennis*	hoverflies	1	0	9	0	10
79	*Xanthandrus comtus*	hoverflies	0	0	3	0	3
80	*Bibio hortulanus*	other flies	0	0	0	4	4
81	Big-sized fly	other flies	5	10	3	102	120
82	*Bombylius major*	other flies	0	1	1	0	2
83	*Bombylius* sp.	other flies	0	17	0	2	19
84	*Dilophus* sp.	other flies	0	0	0	2	2
85	Muscidae	other flies	47	119	0	0	166
86	*Empis* sp.	other flies	12	0	1	0	13
87	Medium-sized fly	other flies	14	0	0	76	90

88	*Sarcophaga carnaria*	other flies	0	4	0	0	4
89	Small sized-fly	other flies	0	0	0	84	84
90	*Macroglossum stellatarum*	others	0	0	0	2	2
91	*Pieris brassicae*	others	0	0	0	3	3
92	*Pieris napi*	others	0	0	0	1	1
93	*Pieris* sp.	others	0	1	0	0	1
94	*Polistes dominulus*	others	0	0	0	4	4
95	*Tenthredo koehleri*	others	0	0	1	0	1
96	*Vanessa cardui*	others	14	0	0	5	19
97	*Vespula* sp.	others	1	0	0	0	1
98	*Vespula germanica*	others	0	0	0	1	1
99	*Vespula vulgaris*	others	0	1	0	0	1
	Total		1361	1768	1832	3292	8253

Table S4: Pearson's correlation (*r*) between numerical functional traits. Significant relationships are in bold ($P < 0.05$).

ALL POLLINATORS		*r*	n	*P*
Body length	Hairiness [a]	**0.57**	98	**<0.001**
BEES				
Intertegular span[a]	Mouthparts length	**0.79**	44	**<0.001**
	Hairiness [a]	**0.67**	44	**<0.001**
	Forewing aspect ratio	0.16	44	0.291
Mouthparts length	Hairiness [a]	**0.60**	44	**<0.001**
	Forewing aspect ratio	-0.02	44	0.882
Hairiness[a]	Forewing aspect ratio	0.05	44	0.749

[a] Data transformation: Log(X+1)

Table S5: Pearson's correlation (*r*) between pairs of explanatory variables. Significant relationships are in bold ($P < 0.05$).

Variable 1	Variable 2	*r*	n	*P*
Agri-environmental structure cover[a]	Flower diversity	0.030	110	0.767
	% Orchard cover[b]	0.120	110	0.206
	% Pollinator-friendly habitat cover[b]	**0.200**	**110**	**0.035**
Flower diversity	% Orchard cover[b]	0.070	110	0.454
	% Pollinator-friendly habitat cover[b]	0.080	110	0.380
% Orchard cover[b]	% Pollinator-friendly habitat cover[b]	-0.180	110	0.055

Data transformation: [a] Square-root, [b] Log(X+1).

Table S6: Pearson's (*r*) and Spearman's rank (ρ) correlations between pairs of numerical predictors of initial fruit set (CWM of single traits, multiple-trait RaoQ, pollinator visitation rate). Significant relationships are in bold ($P < 0.05$).

Variable 1	Variable 2	*r*	ρ	n	*P*
CWM hairiness	CWM body length	**0.82**		81	**<0.001**
	CWM pollinivorous larvae		**0.37**	81	**<0.001**
	CWM insectivorous larvae		**-0.36**	81	**<0.001**
	Pollinator visitation rate		**0.36**	81	**<0.010**
CWM body length	CWM pollinivorous larvae		**0.42**	81	**<0.001**
	CWM insectivorous larvae		**-0.31**	81	**<0.010**
	Pollinator visitation rate		**0.47**	81	**<0.001**
CWM pollinivorous larvae	CWM insectivorous larvae		**-0.54**	81	**<0.001**
	Pollinator visitation rate		0.06	81	0.607
CWM insectivorous larvae	Pollinator visitation rate		-0.082	81	0.466

Table S7: Statistical outputs of model averaging (average of best-fit models; ΔAICc< 2) relating wild pollinator and wild bee functional composition metrics (response variables) to local and landscape features (predictor variables) without outlier exclusion. Response variables of models in which a null model was selected among the best-fit model are not shown. Estimated coefficients, their 95% intervals (in parentheses) and relative importance (in brackets) are provided. Variables not appearing in the model average are indicated with "-". R^2m and R^2c are the range values of marginal and conditional R^2 of the best-fit models, respectively. R^2 of the best model is indicated in parentheses. "Sites" indicates the number of orchards included in the model. Significant terms are in bold.

Response variable	Management*	Flower diversity	AE structure cover	% orchard cover	% Pollinator friendly habitat cover	R^2m	R^2c	Sites
ALL POLLINATORS								
CWM Body length	0.404 [0.21] (-0.444, 1.252)	0.103 [0.16] (-0.288, 0.494)	-	**-0.454 [0.81] (-0.872, -0.035)**	**0.585 [1] (0.190, 0.981)**	0.08-0.16 (0.14)	0.18-0.19 (0.18)	109
CWM Hairiness[a]	-	-	-0.451 [0.56] (-1.035, 0.134)	**-0.641 [0.84] (-1.258, -0.024)**	0.552 [0.69] (-0.022, 1.125)	0.06-0.11 (0.11)	0.12-0.17 (0.17)	109
CWM Pollinivorous larvae	-	-	-	-0.037 [0.41] (-0.096, 0.023)	**0.114 [1] (0.060, 0.167)**	0.12-0.14 (0.12)	0.38 (0.38)	109
CWM Insectivorous larvae[a]	-	0.037 [0.66] (-0.005, 0.079)	**0.070 [1] (0.028, 0.112)**	-	-0.011 [0.18] (-0.053, 0.032)	0.09-0.11 (0.10)	0.22-0.24 (0.24)	109
BEES								
RaoQ	**6.805 [1] (1.303, 12.308)**	-	-	**-2.885 [1] (-5.552, -0.217)**	1.672 [0.41] (-0.980, 4.325)	0.13-0.14 (0.13)	0.13-0.14 (0.13)	110

Data transformations: [a]Square-root
*Low-Intensity is the reference level of management

Table S8: Statistical outputs of model averaging (average of best-fitted models; ΔAICc< 2) relating initial fruit set to management (low-intensity vs high-intensity), functional composition metrics, the interaction between management and functional composition metrics and pollinator visitation rate. The first model includes single-trait metrics (CWM: hairiness, pollinivorous larvae) and the second includes functional diversity (multi-trait RaoQ) without excluding outliers. Estimated coefficients, their 95% intervals (in parentheses) and relative importance (in brackets) are provided. Variables not appearing in the model average are indicated with "-". R^2m and R^2c are the marginal and conditional R^2 range values of the best-fitted model, respectively. R^2 of the best model is indicated in parentheses. "Sites" indicates the number of orchards included in the model. Significant terms are in bold.

ALL POLLINATORS									
Response variable	Management*	CWM hairiness	CWM pollinivorous larvae	CWM hairiness x management	CWM pollinivorous larvae x management	Visitation rate	R^2m	R^2c	Sites
Inital fruit set[a]	**-1.399 [1] (-2.073, -0.726)**	-	-0.019 [0.62] (-0.532, 0.495)	-0.572 [0.37] (-1.209, 0.065)	-	-	0.17-0.22 (0.17)	0.17-0.22 (0.17)	81
	Management*	RaoQ	RaoQ x management			Visitation rate	R^2m	R^2c	Sites
Inital fruit set[a] **	**-1.412 (-2.047, -0.776)**	-0.177 (-0.680, 0.327)	**0.838 (0.207, 1.470)**			-	0.28 (0.28)	0.28 (0.28)	81

Data transformations: [a] Square-root

*Low-Intensity is the reference level of management

**Only one best model was selected

Table S9: Moran's I autocorrelation test of model residuals. Values of observed and expected (assuming no spatial autocorrelation) Moran's I are shown. P- values (P) < 0.05 indicate lack of spatial autocorrelation.

Pollinator group	Model ID	Moran's I observed	Moran's I expected	*P*
All pollinators	Multi-trait RaoQ	-0.03	-0.04	0.44
	Multi-trait FDiv	0.05	-0.01	0.08
	CWM body length	0.04	-0.04	0.08
	CWM hairiness	-0.14	-0.04	0.95
	CWM pollenivorous larvae	-0.06	-0.04	0.65
	CWM insectivorous larvae	-0.06	-0.05	0.60
	FDiv body length	-0.03	-0.04	0.40
	FDiv hairiness	-0.09	-0.04	0.81
	FDiv larval feeding habits	-0.04	-0.04	0.46
Only bees	Multi-trait RaoQ	-0.03	-0.04	0.42
	Multi-trait FDiv	-0.05	-0.04	0.53
	CWM ITS	-0.08	-0.05	0.69
	CWM forewing aspect ratio	-0.04	-0.05	0.46
	CWM hairiness	-0.08	-0.05	0.72
	CWM solitary/social	0.01	-0.05	0.21
	CWM multivoltine	-0.12	-0.05	0.88
	CWM univoltine	-0.08	-0.05	0.72
	CWM above-ground nesters	-0.11	-0.05	0.79
	CWM below-grownd nesters	-0.12	-0.05	0.82
	FDiv Intertegular-span	-0.06	-0.05	0.56
	FDiv forewing aspect ratio	-0.06	-0.04	0.64
	FDiv hairiness	-0.04	-0.04	0.51
	FDiv sociality	-0.07	-0.04	0.68
	FDiv voltinism	0.07	-0.04	0.04
	FDiv nesting site	-0.11	-0.04	0.88
All pollinators (including honeybees)	RaoQ Initial fruit set	-0.11	-0.05	0.85
	FDiv Initial fruit set	-0.08	-0.05	0.69

Table S10: Linear mixed models (with region as a random effect) testing differences between low- (LI) and high-intensity orchards (HI) in visitation rate and abundance of honeybees and of all pollinators.

Response variable	Fixed effect	estimate	SE	*t*	df	*P*
Honey bee visitation rate[a]	Intercept	0.93	0.48	1.93	3.04	0.148
	Management (LI)	0.08	0.07	1.18	104.2	0.239
Honey bee abundance[a]	Intercept	**6.87**	**0.75**	**9.12**	**5.85**	**<0.001**
	Management (LI)	0.10	0.66	0.15	104.9	0.879
All pollinators visitation rate[a]	Intercept	1.16	0.65	1.81	3.01	0.168
	Management (LI)	**0.15**	**0.59**	**2.53**	**105.1**	**<0.05**
All pollinators abundance[a]	Intercept	**8.18**	**0.81**	**10.14**	**4.99**	**<0.001**
	Management (LI)	0.38	0.64	0.60	107.5	0.552

Data transformations: [a] Square-root

Table S11: Linear mixed models (with region and variety as random effect) testing the effect of functional diversity (multi-trait RaoQ) on initial fruit set in low- and high-intensity orchards.

Orchard management	Response variable	Fixed effect	estimate	SE	*t*	df	*P*
Low-intensity	Initial fruit set[a]	Intercept	**3.01**	**0.12**	**24.31**	**1.56**	**0.006**
		RaoQ	**0.19**	**0.09**	**2.03**	**46.81**	**0.048**
High-intensity	Initial fruit set[a]	Intercept	**3.62**	**0.08**	**45.6**	**25.00**	**<0.001**
		RaoQ	-0.11	0.08	-1.28	25.00	0.213

Data transformations: [a] Log (X+1)

Table S12: Statistical outputs of model averaging (average of best-fit models; ΔAICc< 2) relating wild pollinator and wild bee functional composition response variables (FDiv) to local and landscape features. Response variables of models in which a null model was selected among the best-fit models are not shown. Estimated coefficients, their 95% intervals (in parentheses) and relative importance (in brackets) are provided. Significant terms are in bold. "-" denotes variables not appearing in the model average. R^2m and R^2c are the range of marginal and conditional R^2 of the best-fit models, respectively. R^2 of the best model is indicated in parentheses. "Sites" indicates the number of orchards included in the model.

Response variable	Management*	Flower diversity	AES cover	% Orchard cover	% Pollinator friendly habitat cover	R^2m	R^2c	Sites
BEES								
[1]FDiv	0.096 [0.35] (-0.048, 0.241)	-	-0.024 [0.19] (-0.093, 0.045)	**-0.116 [1] (-0.185, -0.046)**	**0.109 [1] (0.040, 0.177)**	0.22-0.23 (0.22)	0.22-0.23 (0.22)	106
[2]FDiv	0.077 [0.28] (-0.068, 0.221)	-	-0.026 [0.22] (-0.095, 0.043)	**-0.108 [1] (-0.178, -0.039)**	**0.093 [1] (0.024, 0.163)**	0.17-0.18 (0.17)	0.17-0.18 (0.17)	110

Outlier exclusion: Applied[1]; Not applied[2]

*Low-intensity is the reference level of management

Table S13: Statistical outputs of model averaging (average of best-fit models; ΔAICc< 2) relating initial fruit set to management (low-intensity vs high-intensity), functional composition metrics, the interaction between management and functional composition metrics (FDiv) and pollinator visitation rate. Response variables of models in which a null model was selected among the best-fit models are not shown. Estimated coefficients, their 95% intervals (in parentheses) and relative importance (in brackets) are provided. Significant terms are in bold. "-" denotes variables not appearing in the model average. R^2m and R^2c are the range of marginal and conditional R^2 of the best-fit models, respectively. R^2 of the best model is indicated in parentheses. "Sites" indicates the number of orchards included in the model.

ALL POLLINATORS							
	Management*	FDiv	FDiv $_x$ management	Visitation rate	R^2m	R^2c	Sites
[1]Inital fruit set[a] *	**-1.398 [1] (-2.029, -0.767)**	-0.109 [1] (-0.898, 0.679)	**0.818 [0.78] (0.045, 1.591)**	-0.185 [0.27] (-0.520, 0.150)	0.27-0.33 (0.31)	0.27-0.33 (0.31)	74
[2]Inital fruit set[a] *	**-1.385 [1] (-2.052, -0.717)**	-0.297 [0.67] (-0.754, 0.159)	**0.773 [0.67] (0.141, 1.405)**	-	0.17-0.23 (0.23)	0.17-0.23 (0.23)	81

Outlier exclusion: Applied[1]; Not applied[2]
Data transformations: [a]Square-root
*Low-intensity: reference level of management