Supplementary Methods

1. Crop flower visitors

The lists of potential crop pollinators were combined with the field survey data to categorize bee species as follows;

1. 'Definite' flower visitors:
    a. Species recorded visiting crop flowers in British studies.
    b. Species only recorded as a single visit were –
        i. Retained if they were recorded in at least one other European crop flower visitor study.
        ii. Retained but downgraded to a likely flower visitor if they did not appear in another European study but were classified as a potential crop flower visitor.
        iii. Excluded if they did not meet the above criterion.
2. 'Likely' flower visitors:
    a. Species recorded in British pan trap crop studies only and recorded as making at least two flower visits in other European studies.
    b. Species recorded visiting once in a single European study were –
        i. Retained in the likely flower visitor category if they were classified as a potential flower visitor for that crop.
        ii. Excluded if they did not meet the above criteria.
3. 'Possible' flower visitors:
    a. Species only recorded in British pan trap studies, or in other European flower visitor studies only, and classified as a potential crop flower visitor.
    b. Species only recorded as a single flower visit in European studies were excluded.

2. *Dominant Crop Pollinating Species*

We calculated the proportion of flower visits attributed to every bee species at each site per dataset. This was done to negate the potential biases of different sampling effort and intensity between field studies and to account for the fact that some species may have an unusually high abundance within a given site or individual dataset but not make a significant contribution to flower visitation overall. Any flower visits for bees only identified to genus were allocated to bees identified to species level at the same percentage as those bees accounted for overall flower visits i.e. if a given *Andrena* species accounted for 20% of flower visits then 20% of the total flower visits by unidentified *Andrena* were added to that species total flower visits. For each crop the total average proportion of flower visits per species across all datasets was then calculated to determine the species corresponding to a combined total of 80% all flower visits. The same analysis was also carried out to compare the proportion of flower visits attributed to wild bees and honey bees at each site per dataset, for all above datasets which also recorded honey bee visits to crop flowers.

Number of datasets per crop used to establish wild bee species attributed with 80% of flower visits (number used to compare the proportion of flower visits attributed to wild bees and honey bees in brackets).

Crop	Number of Datasets
Apple	**5 (4)**
Field Bean	**5 (4)**
Oilseed Rape	**8 (6)**
Strawberry	**2 (2)**

***** The majority of studies recorded all, or most, Lasioglossum species to genus only, so all Lasioglossum visits had to be aggregated for all crops except strawberry.

****** It was not possible to get site data for one strawberry field study, but all sites were within the same region of Scotland, so the datum was just considered as one site for analysis.

*** One oilseed data set had largely qualitative data, and it was only possible to assign bee species a number of flower visits between one and four.

Supplementary Results

Table S1: List of bee species excluded as potential crop pollinators.

Species	**Exclusion Criteria (Floral or Habitat)**
Andrena apicata	Oligolectic (Salix spp.)
Andrena argentata	Ericaceous heath
Andrena bimaculata	Heaths
Andrena clarkella	Oligolectic (Salix spp.)
Andrena denticulata	Oligolectic (Asteraceae)
Andrena falsifica	Heath and heathy woodland
Andrena ferox	Oligolectic (Quercus robur)
Andrena florea	Oligolectic (Bryonia spp.)
Andrena fulvago	Oligolectic (Asteraceae)
Andrena fuscipes	Oligolectic (Calluna spp.)
Andrena hattorfiana	Oligolectic (Dipsacaceae)
Andrena humilis	Oligolectic (Asteraceae)
Andrena labialis	Oligolectic (Fabaceae) / short-tongued
Andrena lapponica	Oligolectic (Vaccinium spp.)
Andrena marginata	Oligolectic (Dipsacaceae)
Andrena nitidiuscula	Oligolectic (Apiaceae)
Andrena ovatula	Heaths, moors and coastal dunes
Andrena pilipes	Coastal
Andrena praecox	Oliglolectic (Salix spp.)
Andrena proxima	Oligolectic (Apiaceae)
Andrena rosae	Oligolectic (Apiaceae)
Andrena ruficrus	Oliglolectic (Salix spp.)
Andrena simillima	Coastal grasslands and cliffs
Andrena similis	Oligolectic (Fabaceae) / short-tongued
Andrena tarsata	Oligolectic (Potentilla spp.)
Andrena vaga	Oliglolectic (Salix spp.)
Andrena wilkella	Oligolectic (Fabaceae) / short-tongued
Anthophora furcata	Oligolectic (Lamiaceae)
Anthophora retusa	Heathlands, coastal dunes and cliffs
Bombus barbutellus	No lectic status
Bombus bohemicus	No lectic status
Bombus campestris	No lectic status
Bombus distinguendus	Natural grassland mosaics
Bombus monticola	Upland Habitats
Bombus rupestris	No lectic status

Bombus sylvestris	No lectic status
Bombus vestalis	No lectic status
Chelostoma campanularum	Oligolectic (Campanula spp.)
Chelostoma florisomne	Oligolectic (Ranunculaceae)
Coelioxys conoideus	No lectic status
Coelioxys elongata	No lectic status
Coelioxys inermis	No lectic status
Coelioxys mandibularis	No lectic status
Coelioxys quadridentatus	No lectic status
Coelioxys rufescens	No lectic status
Colletes cunicularius	Sandy coastal sites, heaths and quarries
Colletes daviesanus	Oligolectic (Asteraceae)
Colletes floralis	Coastal sites
Colletes fodiens	Oligolectic (Asteraceae)
Colletes halophilus	Oligolectic (Asteraceae)
Colletes hederae	Flight period – starts September
Colletes marginatus	Coastal dunes and grass heaths
Colletes similis	Oligolectic (Asteraceae)
Colletes succinctus	Flight Period (July – Sep)
Dasypoda hirtipes	Oligolectic (Asteraceae)
Epeolus cruciger	No lectic status
Epeolus variegatus	No lectic status
Halictus confusus	Sandy heaths
Halictus eurygnathus	Coastal chalk grasslands
Heriades truncorum	Oligolectic (Asteraceae)
Hylaeus annularis	Coastal dunes and shingle
Hylaeus cornutus	Polylectic (non-crop families)
Hylaeus pectoralis	Reedbeds
Hylaeus signatus	Oligolectic (Reseda spp.)
Lasioglossum angusticeps	Coastal grasslands
Lasioglossum brevicorne	Oligolectic (Asteraceae)
Lasioglossum laticeps	Coastal grasslands
Lasioglossum pauperatum	Plant families visited unknown
Lasioglossum prasinum	Polylectic (non-crop plant families)
Lasioglossum puncticolle	Polylectic (non-crop plant families)
Macropis europaea	Oligolectic (Primulaceae)
Megachile circumcincta	Coastal dunes and inland heaths
Megachile leachella	Coastal dunes
Megachile maritima	Coastal and heathland
Melecta albifrons	No lectic status
Melitta dimidiata	Oligolectic (Onobrychis spp.)
Melitta haemorrhoidalis	Oligolectic (Campanula spp.)
Melitta tricincta	Oligolectic (Odontites vernus)
Nomada argentata	No lectic status

Nomada armata	No lectic status
Nomada baccata	No lectic status
Nomada conjungens	No lectic status
Nomada fabriciana	No lectic status
Nomada ferruginata	No lectic status
Nomada flava	No lectic status
Nomada flavoguttata	No lectic status
Nomada flavopicta	No lectic status
Nomada fucata	No lectic status
Nomada fulvicornis	No lectic status
Nomada goodeniana	No lectic status
Nomada guttulata	No lectic status
Nomada hirtipes	No lectic status
Nomada integra	No lectic status
Nomada lathburiana	No lectic status
Nomada leucophthalma	No lectic status
Nomada marshamella	No lectic status
Nomada obtusifrons	No lectic status
Nomada panzer	No lectic status
Nomada roberjeotiana	No lectic status
Nomada ruficornis	No lectic status
Nomada rufipes	No lectic status
Nomada sexfasciata	No lectic status
Nomada sheppardana	No lectic status
Nomada signata	No lectic status
Nomada striata	No lectic status
Osmia inermis	Scottish montane grassland
Osmia leaiana	Oligolectic (Asteraceae)
Osmia spinulosa	Oligolectic (Asteraceae)
Osmia uncinate	Ancient pine forest
Osmia xanthomelana	Coastal cliffs and dunes
Panurgus banksianus	Oligolectic (Asteraceae)
Panurgus calcaratus	Oligolectic (Asteraceae)
Sphecodes crassus	No lectic status
Sphecodes ephippius	No lectic status
Sphecodes ferruginatus	No lectic status
Sphecodes geoffrellus	No lectic status
Sphecodes gibbus	No lectic status
Sphecodes hyalinatus	No lectic status
Sphecodes longulus	No lectic status
Sphecodes miniatus	No lectic status
Sphecodes monilicornis	No lectic status
Sphecodes niger	No lectic status
Sphecodes pellucidus	No lectic status

Sphecodes puncticeps	No lectic status
Sphecodes reticulatus	No lectic status
Sphecodes rubicundus	No lectic status
Sphecodes scabricollis	No lectic status
Sphecodes spinulosus	No lectic status
Stelis breviuscula	No lectic status
Stelis ornatula	No lectic status
Stelis phaeoptera	No lectic status
Stelis punctulatissima	No lectic status

Table S2: List of species considered potential crop flower visitors based upon flight period and forage for apple (A), bean (B), oilseed (O) and strawberry (S).

Species	Lecty	A	B	O	S
Andrena alfkenella	Polylectic	✓		✓	✓
Andrena angustior	Polylectic	✓		✓	✓
Andrena barbilabris	Polylectic	✓		✓	✓
Andrena bicolor	Polylectic	✓		✓	✓
Andrena bucephala	Polylectic	✓		✓	✓
Andrena chrysosceles	Polylectic	✓		✓	✓
Andrena cineraria	Polylectic	✓		✓	✓
Andrena coitana	Polylectic				✓
Andrena congruens	Polylectic	✓		✓	✓
Andrena dorsata	Polylectic	✓		✓	✓
Andrena flavipes	Polylectic	✓		✓	✓
Andrena fucata	Polylectic	✓		✓	✓
Andrena fulva	Polylectic	✓		✓	✓
Andrena gravida	Polylectic	✓		✓	✓
Andrena haemorrhoa	Polylectic	✓		✓	✓
Andrena helvola	Polylectic	✓		✓	✓
Andrena labiate	Polylectic	✓		✓	✓
Andrena minutula	Polylectic	✓		✓	✓
Andrena minutuloides	Polylectic	✓		✓	✓
Andrena nigriceps	Polylectic		✓		✓
Andrena nigroaenea	Polylectic	✓		✓	✓
Andrena nigrospina	Oligolectic (Brassicaceae)			✓	
Andrena nitida	Polylectic	✓		✓	✓
Andrena niveata	Oligolectic (Brassicaceae)			✓	
Andrena scotica	Polylectic	✓		✓	✓
Andrena semilaevis	Polylectic	✓		✓	✓
Andrena subopaca	Polylectic	✓		✓	✓
Andrena synadelpha	Polylectic	✓		✓	✓
Andrena thoracica	Polylectic	✓		✓	✓
Andrena tibialis	Polylectic	✓		✓	✓
Andrena trimmerana	Polylectic	✓			✓

Andrena varians	Polylectic	✓		✓	✓
Anthidium manicatum	Polylectic	✓	✓		✓
Anthophora bimaculata	Polylectic	✓			✓
Anthophora plumipes	Polylectic	✓	✓	✓	✓
Anthophora quadrimaculata	Polylectic		✓		
Bombus hortorum	Polylectic	✓	✓	✓	✓
Bombus humilis	Polylectic	✓	✓		✓
Bombus hypnorum	Polylectic	✓	✓	✓	✓
Bombus jonellus	Polylectic	✓	✓		✓
Bombus lapidarius	Polylectic	✓	✓	✓	✓
Bombus muscorum	Polylectic	✓	✓		✓
Bombus pascuorum	Polylectic	✓	✓		✓
Bombus pratorum	Polylectic	✓	✓		✓
Bombus ruderarius	Polylectic	✓	✓		✓
Bombus ruderatus	Polylectic	✓	✓		✓
Bombus soroeensis	Polylectic		✓		✓
Bombus sylvarum	Polylectic	✓	✓		✓
Bombus terrestris/lucuorum agg.	Polylectic	✓	✓	✓	✓
Ceratina cyanea	Polylectic	✓	✓		✓
Eucera longicornis	Oligolectic (Fabaceae)		✓		
Halictus rubicundus	Polylectic	✓		✓	✓
Halictus tumulorum	Polylectic	✓		✓	✓
Hoplitis claviventris	Polylectic	✓			✓
Hylaeus brevicornis	Polylectic	✓			✓
Hylaeus communis	Polylectic	✓		✓	✓
Hylaeus confuses	Polylectic	✓		✓	✓
Hylaeus dilatatus	Polylectic			✓	✓
Hylaeus hyalinatus	Polylectic	✓		✓	✓
Hylaeus incongruous	Polylectic			✓	✓
Hylaeus pictipes	Polylectic			✓	✓
Lasioglossum albipes	Polylectic	✓			✓
Lasioglossum calceatum	Polylectic	✓		✓	✓
Lasioglossum cupromicans	Polylectic	✓		✓	✓
Lasioglossum fratellum	Polylectic	✓			✓
Lasioglossum fulvicorne	Polylectic	✓		✓	✓
Lasioglossum laevigatum	Polylectic	✓		✓	✓
Lasioglossum lativentre	Polylectic	✓			✓
Lasioglossum leucopus	Polylectic	✓			✓
Lasioglossum leucozonium	Polylectic	✓			✓
Lasioglossum malachurum	Polylectic	✓		✓	✓
Lasioglossum minutissimum	Polylectic	✓		✓	✓
Lasioglossum morio	Polylectic	✓		✓	✓
Lasioglossum nitidiusculum	Polylectic	✓		✓	✓
Lasioglossum parvulum	Polylectic	✓			✓
Lasioglossum pauxillum	Polylectic	✓		✓	✓
Lasioglossum punctatissimum	Polylectic	✓			✓

Lasioglossum quadrinotatum	Polylectic			✓	
Lasioglossum rufitarse	Polylectic	✓			✓
Lasioglossum semilucens	Polylectic	✓			✓
Lasioglossum sexnotatum	Polylectic	✓		✓	✓
Lasioglossum sexstrigatum	Polylectic	✓			✓
Lasioglossum smeathmanellum	Polylectic	✓			✓
Lasioglossum villosulum	Polylectic	✓			✓
Lasioglossum xanthopus	Polylectic	✓		✓	✓
Lasioglossum zonulum	Polylectic	✓		✓	✓
Megachile centuncularis	Polylectic		✓	✓	✓
Megachile ligniseca	Polylectic		✓	✓	
Megachile versicolor	Polylectic	✓	✓		✓
Megachile willughbiella	Polylectic	✓	✓		✓
Melitta leporina	Oligolectic (Fabaceae)		✓		
Osmia aurulenta	Polylectic	✓	✓		✓
Osmia bicolor	Polylectic	✓	✓	✓	✓
Osmia bicornis	Polylectic	✓	✓	✓	✓
Osmia caerulescens	Polylectic	✓	✓	✓	✓
Osmia parietina	Polylectic	✓	✓		✓
Osmia pilicornis	Polylectic	✓	✓		✓

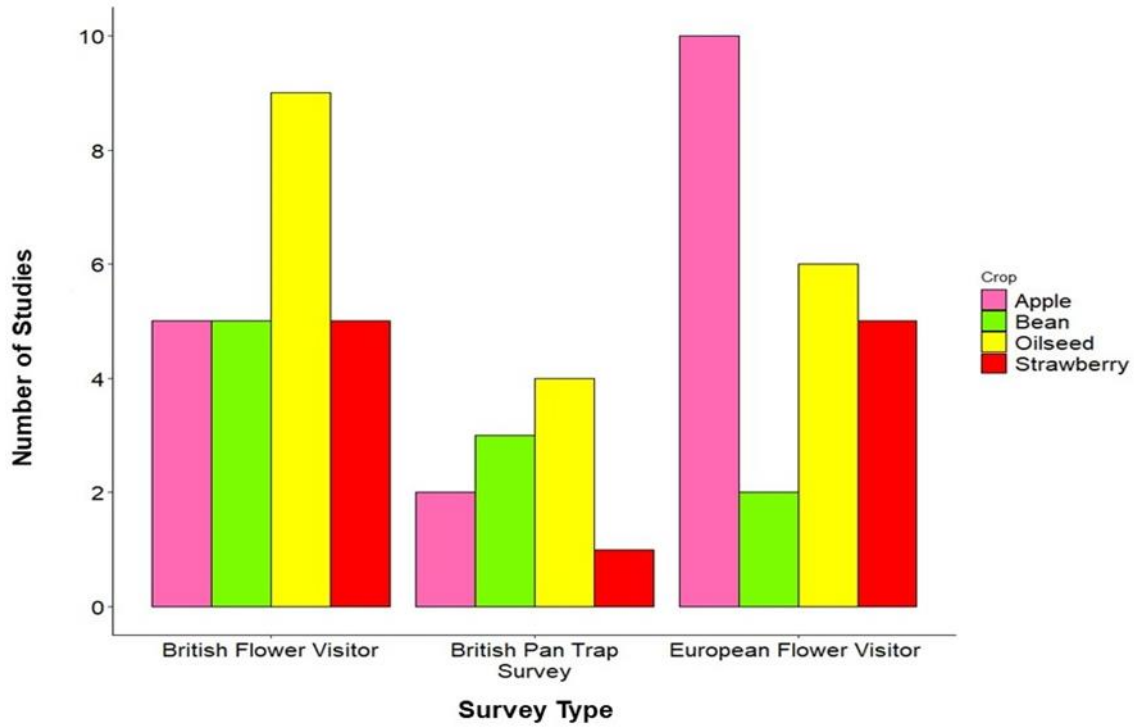

Figure S1: Number of studies per survey type for each crop

Table S3: List of crop field studies used in analysis. In survey type observation plots refer to any methodology where a set area was observed for a given period of time and transects refer to any methodology where an observer walked continuously for a given distance and/or time.

Author/Data Holder	Crop	Survey Type	Description of study or reference for study if published	Country
Ardin, S.	Apple	Transects	Ardin, S., 2018. Addressing seasonal vulnerability of orchard pollinators through restoration of floral communities [Doctoral dissertation, University of Bristol].	UK
Campbell, A.	Apple	Transects	Campbell, A.J., Wilby, A., Sutton, P. and Wäckers, F.L. (2017). Do sown flower strips boost wild pollinator abundance and pollination services in a spring-flowering crop? A case study from UK cider apple orchards. Agriculture, ecosystems and environment, 239, 20-29	UK
de Groot, A.	Apple	Transects	De Groot, G.A., R. van Kats, M. Reemer, D. van der Sterren, J. C. Biesmeijer and D. Kleijn. (2015). De bijdrage van (wilde) bestuivers aan de opbrengst van appels en blauwe bessen; Kwantificering van ecosysteemdiensten in Nederland [Dutch]. Wageningen, Alterra, Alterra report 2636.	Netherlands
Foldesi, R.	Apple	Observatons Plots	Földesi, R., Kovács-Hostyánszki, A., Kőrösi, Á., Somay, L., Elek, Z., Markó, V., Sárospataki, M., Bakos, R., Varga, Á., Nyisztor, K. and Báldi, A. (2016). Relationships between wild bees, hoverflies and pollination success in apple orchards with different landscape contexts. Agricultural and Forest Entomology, 18(1), 68-75.	Hungary
Klein, A.	Apple	Transects	Bees were surveyed for 7 days in April and May 2015. A 20m transect was walked for 5 minutes at the edge and in the interior of orchards at approximately 30 sites.	Germany
McKerchar, M.	Apple	Transects	Garratt, M.P.D., Breeze, T.D., Boreux, V., Fountain, M.T., Mckerchar, M., Webber, S.M., Coston, D.J., Jenner, N., Dean, R., Westbury, D.B. and Biesmeijer, J.C. (2016). Apple pollination: demand depends on variety and supply depends on pollinator identity. PloS one, 11(5), e0153889.	UK

Kleijn, D.	Apple	Transects	Kleijn, D., Winfree, R., Bartomeus, I., Carvalheiro, L.G., Henry, M., Isaacs, R., Klein, A.M., Kremen, C., M'gonigle, L.K., Rader, R. and Ricketts, T.H. (2015). Delivery of crop pollination services is an insufficient argument for wild pollinator conservation. Nature communications, 6, 7414.	Netherlands
Hutchinson, L.	Apple	Transects	Bees were surveyed for 2 days in May 2018. An observer walked along successive tree rows in orchards continuously for approximately one hour at 8 sites.	UK
Kovács-Hostyánszki, A.	Apple	Observation Plots	Kőrösi, A., Markó, V., Kovács-Hostyánszki, A., Somay, L., Varga, A., Elek, Z., Boreux, V., Klein, A.M., Földesi, R., Báldi, A. (2018) Climate-induced phenological shift of apple trees has diverse effects on pollinators, herbivores and natural enemies. PeerJ, e5269.	Hungary
Miñarro, M. and García, D.	Apple	Observation Plots	Miñarro, M. and García, D. (2018). Complementarity and redundancy in the functional niche of cider apple pollinators. Apidologie, 49(6), 789-802.	Spain
Pufal, G.	Apple	Observation Plots	Bees were surveyed for 2 days in April 2014. 15 x 2 minute observations of two apple tree varieties were carried out per site and apple variety at 16 sites.	Germany
Radzeviciute, R.	Apple	Transects	Bees were surveyed between 2013 and 2015. 500m x 1.5m transect walked for 30 minutes at 4 sites.	Germany
Samnegård, U.	Apple	Transects	Bees were surveyed for 10 days in May 2015. Two 20m transects walked per site at 28 sites.	Sweden
Garratt, M. and Potts, S.	Apple	Observation Plots, Pan Traps and Transects	6 stations of blue, white and yellow pan traps were used for 2 days in April 2011 at 8 sites. 3 x blue, green, red and yellow pan traps were used for 1 day in May 2015 at 3 sites. Bees were surveyed for 4 days in April 2011 and 2 days in May	UK

			2013. 6 x 50m transects were walked for 10 minutes at 13 sites.	
Vereecken, N.	Apple	Aerial netting	Bees were surveyed for 6 days in April and May 2016. Aerial netting was carried out for 120 minutes at 4 sites.	Belgium
Bailes, E.	Bean	Observation Plots	Bees were surveyed for 6 days in June 2015 at 2 sites. Observations of the numbers of bean flowers visited in a set patch were recorded.	UK
Bond, D. and Kirby, E.	Bean	Observation Plots	Bond, D.A. and Kirby, E.J.M. (1999). Anthophora plumipes (Hymenoptera: Anthophoridae) as a pollinator of broad bean (Vicia faba major). Journal of Apicultural Research, 38(3-4),199-203.	UK
Griffin, H.	Bean	Timed Walks	Griffin, H.E. (1997). *Studies of the foraging behaviour, activity patterns and community structure of bumblebees (Bombus spp.) pollinating field beans (Vicia faba) and phacelia (Phacelia tanacetifolia) in Eastern Scotland* (Doctoral dissertation, University of St Andrews).	UK
Marzinzig, B.	Bean	Transects	Marzinzig, B., Brünjes, L., Biagioni, S., Behling, H., Link, W. and Westphal, C. (2018). Bee pollinators of faba bean (Vicia faba L.) differ in their foraging behaviour and pollination efficiency. Agriculture, Ecosystems and Environment, 264, 24-33.	Germany
Potts, S.	Bean	Transects and Pan traps	Carre, G., Roche, P., Chifflet, R., Morison, N., Bommarco, R., Harrison-Cripps, J., Krewenka, K., Potts, S.G., Roberts, S.P., Rodet, G. and Settele, J., 2009. Landscape context and habitat type as drivers of bee diversity in European annual crops. Agriculture, Ecosystems and Environment, 133(1-2), 40-47.	UK
Tasei, J.	Bean	Unknown	Tasei, J.N. (1976). LES INSECTES POLLINISATEURS DE LA FÉVEROLE D'HIVER (VICIA FABA EQUINA L.) ET LA POLLINISATION DES PLANTES MÂLE-STÉRILE EN PRODUCTION DE SEMENCE HYBRIDE [French]. Apidologie, 7(1), pp.1-28.	France
Garratt, M. and Potts,	Bean	Pan Traps (2 datasets) and	Bees were surveyed for 7 days in May 2011. Bean plants were	UK

S.		Transects	observed for 15 minutes at 8 sites. Blue, white and yellow pan traps were used for 7 days in May 2011 at 9 sites. Blue, green, red and yellow pan traps were used for 5 days in May and June 2015 at 3 sites. Bees were surveyed for 7 days in May 2011. 50m transects were walked for 10 minutes at 8 sites.	
Bartomeus, I.	Oilseed	Transects	Bartomeus, I., Potts, S.G., Steffan-Dewenter, I., Vaissiere, B.E., Woyciechowski, M., Krewenka, K.M., Tscheulin, T., Roberts, S.P., Szentgyörgyi, H., Westphal, C. and Bommarco, R. (2014). Contribution of insect pollinators to crop yield and quality varies with agricultural intensification. PeerJ, 2, 328.	Sweden
Holzschuh, A.	Oilseed	Transects	Holzschuh, A., Dormann, C.F., Tscharntke, T. and Steffan-Dewenter, I. (2011). Expansion of mass-flowering crops leads to transient pollinator dilution and reduced wild plant pollination. Proc. R. Soc. B, 278(1723), 3444-3451.	Germany
Jauker, F.	Oilseed	Transects	Jauker, F., Diekoetter, T., Schwarzbach, F. and Wolters, V. (2009). Pollinator dispersal in an agricultural matrix: opposing responses of wild bees and hoverflies to landscape structure and distance from main habitat. Landscape Ecology, 24(4), 547-555.	Germany
Krimmer, E.	Oilseed	Transects	Krimmer, E., Martin, E.A., Krauss, J., Holzschuh, A. and Steffan-Dewenter, I. (2019). Size, age and surrounding semi-natural habitats modulate the effectiveness of flower-rich agri-environment schemes to promote pollinator visitation in crop fields. Agriculture, Ecosystems & Environment, 284, 106590.	Germany
Phillips, B.	Oilseed	Pan Traps	Phillips, B. (2016). Pollinator community and function: in oilseed rape fields and in drought-stressed grassland [Dissertation, University of Essex].	UK
Phillips, B.	Oilseed	Observation Plots	Phillips, B.B., Williams, A., Osborne, J.L. and Shaw, R.F. (2018). Shared traits make flies and bees effective pollinators of oilseed rape (Brassica napus L.). Basic and Applied Ecology, 32, 66-76.	UK

Potts, S.	Oilseed	Observation Plots and Pan Traps	Westphal, C., Bommarco, R., Carré, G., Lamborn, E., Morison, N., Petanidou, T., Potts, S.G., Roberts, S.P., Szentgyörgyi, H., Tscheulin, T. and Vaissière, B.E. (2008). Measuring bee diversity in different European habitats and biogeographical regions. Ecological monographs, 78(4), 653-671.	UK
Riedinger, V.	Oilseed	Transects	Riedinger, V., Mitesser, O., Hovestadt, T., Steffan-Dewenter, I. and Holzschuh, A., 2015. Annual dynamics of wild bee densities: attractiveness and productivity effects of oilseed rape. Ecology, 96(5), 1351-1360.	Germany
Garratt, M. and Potts, S.	Oilseed	Transects, Pan Traps (2 datasets)	Bees were surveyed for 14 days in April and May 2012, 18 days in May and June 2013. 50m transects were walked for 10 minutes at 20 sites. Blue, white and yellow pan traps were used for 12 days in April and May 2012 at 8 sites. Blue, green, red and yellow pan traps were used for 5 days in April 2015 at 3 sites.	UK
Westphal, C.	Oilseed	Observation Plots and Transect Walks	Westphal, C., Bommarco, R., Carré, G., Lamborn, E., Morison, N., Petanidou, T., Potts, S.G., Roberts, S.P., Szentgyörgyi, H., Tscheulin, T. and Vaissière, B.E. (2008). Measuring bee diversity in different European habitats and biogeographical regions. Ecological monographs, 78(4), 653-671.	Germany
Woodcock, B.	Oilseed	Transects (6 datasets)	Woodcock, B.A., Harrower, C., Redhead, J., Edwards, M., Vanbergen, A.J., Heard, M.S., Roy, D.B. and Pywell, R.F. (2014). National patterns of functional diversity and redundancy in predatory ground beetles and bees associated with key UK arable crops. Journal of Applied Ecology, 51(1), 142-151. Woodcock, B.A., Isaac, N.J., Bullock, J.M., Roy, D.B., Garthwaite, D.G., Crowe, A. and Pywell, R.F. (2016). Impacts of neonicotinoid use on long-term population changes in wild bees in England. Nature Communications, *7*, 12459.	UK
Ardin, S.	Strawberry	Transects	Ardin, S. (2018). Addressing seasonal vulnerability of orchard	UK

			pollinators through restoration of floral communities [Doctoral dissertation, University of Bristol].	
Bartomeus, I.	Strawberry	Transects	Bartomeus, I., Potts, S.G., Steffan-Dewenter, I., Vaissiere, B.E., Woyciechowski, M., Krewenka, K.M., Tscheulin, T., Roberts, S.P., Szentgyörgyi, H., Westphal, C. and Bommarco, R. (2014). Contribution of insect pollinators to crop yield and quality varies with agricultural intensification. PeerJ, *2*, 328.	Germany
Feltham, H.	Strawberry	Transects (2 datasets)	Feltham, H. (2014). Maximising a mutualism: sustainable bumblebee management to improve crop pollination [Doctoral dissertation, University of Stirling].	UK
Klatt, B.	Strawberry	Transects	Klatt, B.K., Holzschuh, A., Westphal, C., Clough, Y., Smit, I., Pawelzik, E. and Tscharntke, T. (2014). Bee pollination improves crop quality, shelf life and commercial value. Proc. R. Soc. B, 281(1775), 20132440.	Germany
Schulze, J.	Strawberry	Observation Plots	Schulze, J., Oeschger, L., Gross, A., Mueller, A., Stoll, P. and Erhardt, A. (2012). Solitary bees–Potential vectors for gene flow from cultivated to wild strawberries. Flora-Morphology, Distribution, Functional Ecology of Plants, 207(10), 762-767.	Switzerland
Garratt, M. and Potts, S.	Strawberry	Observation Plots, Pan Traps and Transects	Bees were surveyed for 15 days in May and June 2012. Strawberry plants were observed for 10 minutes at 8 sites. Blue, white and yellow pan traps were used for 15 days in May and June 2011 at 8 sites. Bess were surveyed for 15 days in May and June 2011. 50m transects were walked for 10 minutes at 8 sites.	UK
Wietzke	Strawberry	Transects	Wietzke, A., Westphal, C., Gras, P., Kraft, M., Pfohl, K., Karlovsky, P., Pawelzik, E., Tscharntke, T. and Smit, I. (2018). Insect pollination as a key factor for strawberry physiology and marketable fruit quality. Agriculture, Ecosystems and Environment, 258, 197-204.	Germany

Table S5a: Bee species recorded in British flower visitation studies that were not categorised as definite apple flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Andrena subopaca	Single individual recorded and not recorded in European studies.	Classified as likely flower visitor as classified as potential pollinator
Bombus soreensis	Single individual recorded, not recorded in European studies and not classified as potential pollinator	Excluded entirely

Table S5b: Bee species recorded in pan trap studies that were not categorised as likely apple flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Lasioglossum pauperatum	Single individual recorded and not classified as potential pollinator	Excluded entirely
Nomada fabriciana	Not classified as potential pollinator	Excluded entirely
Nomada flavoguttata	Not classified as potential pollinator	Excluded entirely
Nomada fucata	Not classified as potential pollinator	Excluded entirely
Nomada goodeniana	Not classified as potential pollinator	Excluded entirely
Nomada ruficornis	Not classified as potential pollinator	Excluded entirely
Sphecodes ephippius	Not classified as potential pollinator	Excluded entirely

Table S5c: Bee species recorded in pan trap studies that were not categorised as possible apple flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Sphecodes monilicornis	Not classified as a potential pollinator	Excluded entirely
Sphecodes niger	Not classified as a potential pollinator	Excluded entirely

Table S5d: Bee species recorded in European flower visitor studies that were not categorised as possible apple flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Andrena bimaculata	Not documented as potential pollinator	Excluded entirely
Andrena coitana	Not documented as potential pollinator	Excluded entirely
Andrena humilis	Not documented as potential pollinator	Excluded entirely
Andrena ovatula	Not documented as potential pollinator	Excluded entirely
Andrena pilipes	Not documented as potential pollinator	Excluded entirely
Bombus vestalis	Not documented as potential pollinator	Excluded entirely

Colletes cunicularis	Not documented as potential pollinator	Excluded entirely
Hylaeus annularis	Not documented as potential pollinator	Excluded entirely
Megachile centuncularis	Not documented as potential pollinator	Excluded entirely
Melecta albiforns	Not documented as potential pollinator	Excluded entirely
Nomada ferruginata	Not documented as potential pollinator	Excluded entirely
Nomada flava	Not documented as potential pollinator	Excluded entirely
Nomada fulvicornis	Not documented as potential pollinator	Excluded entirely
Nomada leucophthalma	Not documented as potential pollinator	Excluded entirely
Nomada marshamella	Not documented as potential pollinator	Excluded entirely

Table S6a: Bee species recorded in British flower visitation studies that were not categorised as definite bean flower visitors, reason for exclusion and subsequent action.

Species	**Reason for exclusion**	**Action**
Andrena cineraria	Single individual recorded, not recorded in European studies and not classified as potential flower visitor	Excluded entirely
Andrena scotica	Single individual recorded, not recorded in European studies and not classified as potential flower visitor	Excluded entirely
Bombus Sylvestris	Single individual recorded, not recorded in European studies and not classified as potential flower visitor	Excluded entirely
Bombus vestalis	Single individual recorded, not recorded in European studies and not classified as potential flower visitor	Excluded entirely
Halictus rubicundus	Single individual recorded, not recorded in European studies and not classified as potential flower visitor	Excluded entirely

Table S6b: Bee species recorded in pan trap studies that were not categorised as possible bean flower visitors, reason for exclusion and subsequent action.

Species	**Reason for exclusion**	**Action**
Andrena bicolor	Not documented as potential pollinator	Excluded entirely
Andrena chrysosceles	Not documented as potential pollinator	Excluded entirely
Andrena dorsata	Not documented as potential pollinator	Excluded entirely
Andrena fucata	Not documented as potential pollinator	Excluded entirely
Andrena fulva	Not documented as potential pollinator	Excluded entirely
Andrena minutula	Not documented as potential pollinator	Excluded entirely
Andrena minutuloides	Not documented as potential pollinator	Excluded entirely

Andrena nigroaenea	Not documented as potential pollinator	Excluded entirely
Andrena nitida	Not documented as potential pollinator	Excluded entirely
Andrena semilaevis	Not documented as potential pollinator	Excluded entirely
Andrena subopaca	Not documented as potential pollinator	Excluded entirely
Bombus barbutellus	Not documented as potential pollinator	Excluded entirely
Bombus campestris	Not documented as potential pollinator	Excluded entirely
Bombus rupestris	Not documented as potential pollinator	Excluded entirely
Coelioxys elongata	Not documented as potential pollinator	Excluded entirely
Halictus tumulorum	Not documented as potential pollinator	Excluded entirely
Lasioglossum albipes	Not documented as potential pollinator	Excluded entirely
Lasioglossum calceatum	Not documented as potential pollinator	Excluded entirely
Lasioglossum cupromicans	Not documented as potential pollinator	Excluded entirely
Lasioglossum lativentre	Not documented as potential pollinator	Excluded entirely
Lasioglossum leucopus	Not documented as potential pollinator	Excluded entirely
Lasioglossum leucozonium	Not documented as potential pollinator	Excluded entirely
Lasioglossum malachurum	Not documented as potential pollinator	Excluded entirely
Lasioglossum minutissimum	Not documented as potential pollinator	Excluded entirely
Lasioglossum parvulum	Not documented as potential pollinator	Excluded entirely
Lasioglossum pauxillum	Not documented as potential pollinator	Excluded entirely
Lasioglossum punctiolle	Not documented as potential pollinator	Excluded entirely
Lasioglossum quadrinotatum	Not documented as potential pollinator	Excluded entirely
Lasioglossum semilucens	Not documented as potential potential pollinator	Excluded entirely
Lasioglossum villosulum	Not documented as potential pollinator	Excluded entirely
Lasioglossum xanthopus	Not documented as potential pollinator	Excluded entirely
Nomada flavoguttata	Not documented as potential pollinator	Excluded entirely
Nomada ruficornis	Not documented as potential potential pollinator	Excluded entirely
Nomada striata	Not documented as potential pollinator	Excluded entirely
Sphecodes ephippius	Not documented as potential pollinator	Excluded entirely

Table S6c: Bee species recorded in European flower visitor studies that were not categorised as possible bean flower visitors.

Species	Reason for exclusion	Action
Andrena ovatula	Not documented as potential pollinator	Excluded entirely

Table S7a: Bee species recorded in British flower visitation studies that were not categorised as definite oilseed flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Andrena angustior	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Andrena congruens	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Andrena nigrospina	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Andrena niveata	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Andrena synadelpha	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Halictus rubicundus	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Lasioglossum cupromicans	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Lasioglossum leucopus	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Lasioglossum zonulum	Single individual recorded and not recorded in European studies	Classified as likely flower visitors as documented as potential pollinator
Bombus bohemicus	Single individual recorded and not recorded in European studies and not documented as potential flower visitor	Excluded entirely
Andrena wilkella	Single individual recorded and not recorded in European studies and not documented as potential flower visitor	Excluded entirely
Lasioglossum albipes	Single individual recorded and not recorded in European studies and not documented as potential flower visitor	Excluded entirely
Lasioglossum leucozonium	Single individual recorded and not recorded in European studies and not documented as potential flower visitor	Excluded entirely
Lasioglossum smeathmanellum	Single individual recorded and not recorded in European studies and not documented as potential flower visitor	Excluded entirely
Nomada goodeniana	Single individual recorded and not recorded in European studies and not documented as potential flower visitor	Excluded entirely

Table S7b: Bee species recorded in pan trap studies that were not categorised as possible oilseed flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Andrena apicata	Not documented as potential pollinator	Excluded entirely
Andrena praecox	Not documented as potential pollinator	Excluded entirely
Bombus barbutellus	Not documented as potential pollinator	Excluded entirely
Bombus ruderatus	Not documented as potential pollinator	Excluded entirely
Nomada fabriciana	Not documented as potential pollinator	Excluded entirely
Nomada flavoguttata	Not documented as potential pollinator	Excluded entirely
Nomada leucophthalma	Not documented as potential pollinator	Excluded entirely
Nomada ruficornis	Not documented as potential pollinator	Excluded entirely

Table S7c: Bee species recorded in European flower visitor studies that were not categorised as possible oilseed flower visitors.

Species	Reason for exclusion	Action
Andrena falsifica	Not documented as potential pollinator	Excluded entirely
Andrena proxima	Not documented as potential pollinator	Excluded entirely
Bombus humilis	Not documented as potential pollinator	Excluded entirely
Bombus sylvarum	Not documented as potential pollinator	Excluded entirely
Chelostoma florisomne	Not documented as potential pollinator	Excluded entirely
Halictus confusus	Not documented as potential pollinator	Excluded entirely
Hylaeus signatus	Not documented as potential pollinator	Excluded entirely
Lasioglossum laticeps	Not documented as potential pollinator	Excluded entirely
Nomada lathburiana	Not documented as potential pollinator	Excluded entirely
Osmia aurulenta	Not documented as potential pollinator	Excluded entirely

Table S8a: Bee species recorded in British flower visitation studies that were not categorised as definite strawberry flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Andrena bicolor	Only single individual recorded in 1 study and not recorded in European study	Classified as likely flower visitor as documented as potential flower visitor

Table S8b: Bee species recorded in pan trap studies that were not categorised as likely strawberry flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Bombus rupestris	Single individual recorded in European study and not documented as potential pollinator	Excluded entirely

Table S8c: Bee species recorded in pan trap studies that were not categorised as possible strawberry flower visitors, reason for exclusion and subsequent action.

Species	Reason for exclusion	Action
Andrena humilis	Not documented as potential pollinator	Excluded entirely
Bombus barbutellus	Not documented as potential pollinator	Excluded entirely
Bombus sylvestris	Not documented as potential pollinator	Excluded entirely
Bombus vestalis	Not documented as potential pollinator	Excluded entirely

Table S8d: Bee species recorded in European flower visitor studies that were not categorised as possible strawberry flower visitors.

Species	Reason for exclusion	Action
Andrena nitiduscula	Not documented as potential pollinator	Excluded entirely
Lasioglossum laticeps	Not documented as potential pollinator	Excluded entirely
Nomada fabriciana	Not documented as potential pollinator	Excluded entirely
Nomada marshamella	Not documented as potential pollinator	Excluded entirely
Sphecodes ephippius	Not documented as potential pollinator	Excluded entirely

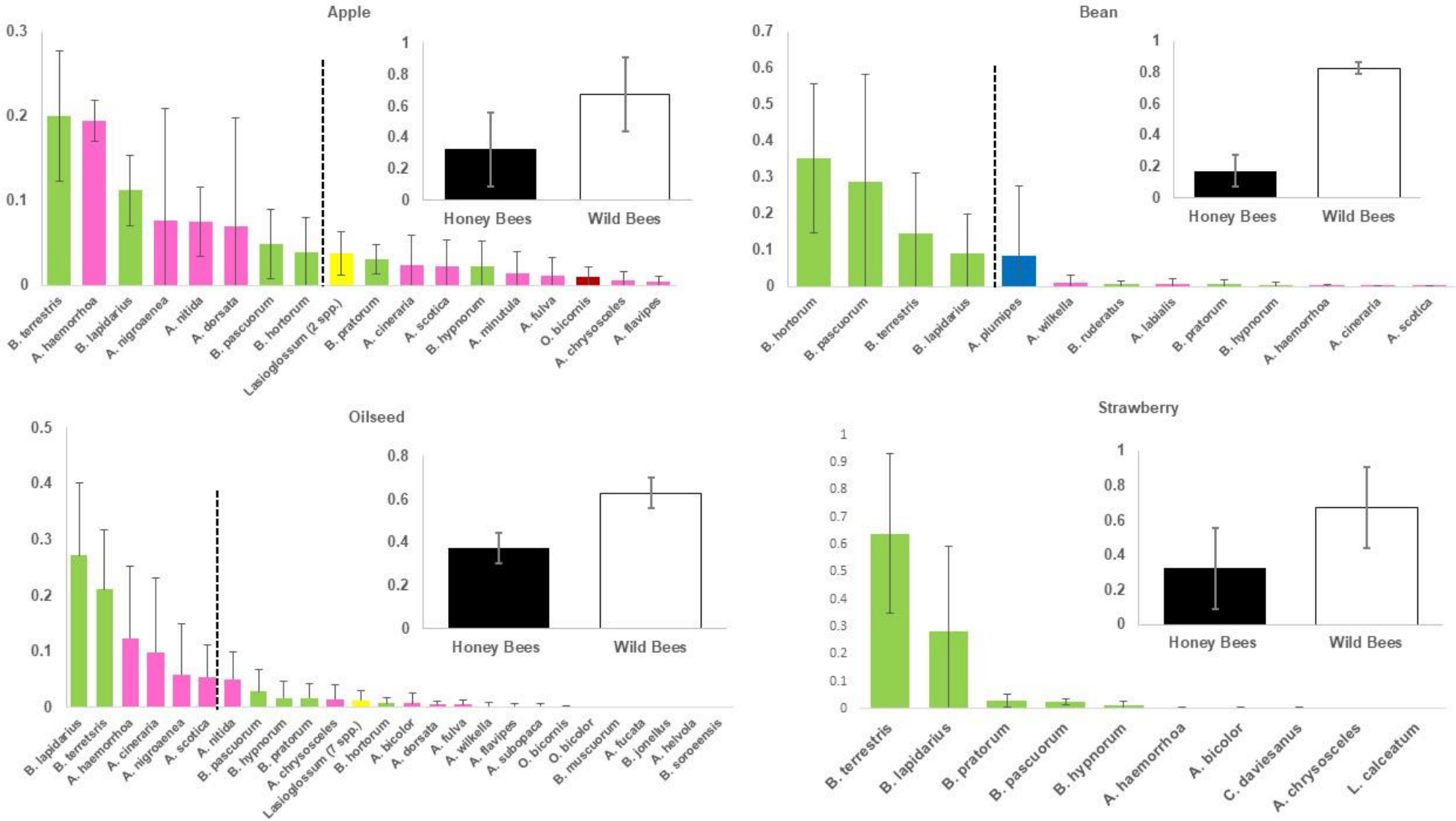

Figure S2: Bee species recorded visiting flowers in crop studies with point at which 80% of flower recorded visits reached marked with dashed line