

Table 1. Effects of farmscape plants on biological control: + = positive effect, - = negative effect, and 0 – neutral effect.

Reference	Flower Treatment	Focus	Findings	Effect
Gontijo et al. (2013)	Sweet alyssum, <i>Lobularia maritima</i> (L.) Desv.	Effect of sweet alyssum on woolly apple aphids, <i>Eriosoma lanigerum</i> (Hausmann), in apple orchard	Sweet alyssum planted close to apple trees infested with aphids attracted more syrphid flies and other predators that significantly suppressed aphid densities more than control (apple trees not close to sweet alyssum).	+
Thomson and Hoffmann (2013)	Woody vegetation comprising <i>Allocasuarina</i> spp., <i>Eucalyptus</i> spp., <i>Acacia</i> spp., grasses, flowering shrubs, and heath teatree, bordering vineyard	Effect of woody vegetation on light brown apple moth, <i>Epiphyas postvittana</i> (Walker), in Australian vineyard	Predation and parasitism of sentinel <i>E. postvittana</i> eggs were significantly higher on grapevines nearer the wood vegetation than those farthest away. Predation and parasitism correlated with abundance of Coccinellidae and <i>Trichogramma</i> spp.	+
Woltz et al. (2012)	Buckwheat, <i>Fagopyrum esculentum</i> (Moench)	Effect of buckwheat on soybean aphid, <i>Aphis glycines</i> (Matsumura), suppression in soybean fields.	Fields with buckwheat strips had a suppression of <i>A. glycines</i> comparable to those without buckwheat strips.	0
Wong and Frank (2012)	Black Pearl pepper, <i>Capsicum annuum</i> (L.) 'Black Pearl', as a banker plant	Effect of <i>C. annuum</i> on augmented release of <i>Orius insidiosus</i> (Say) on predation of western flower thrips, <i>Frankliniella occidentalis</i> (Pergande) in nursery	Predation of western flower thrips was the same from augmentative release of <i>O. insidiosus</i> irrespective of the presence of banker plant as a pollen and nectar source.	0

Zumoffen et al. (2012)	Natural borders comprising flowering forbs	Effect of natural border vegetation on parasitism of aphids in alfalfa fields in Argentina.	There was significant parasitism of aphids in alfalfa fields with high proportions of natural borders compared to those with low proportions of natural borders (i.e., alfalfa field surrounded by another alfalfa field).	+
Masetti et al. (2010)	Mixture of <i>Phacelia tanacetifolia</i> (Bentham), <i>Sinapis arvensis</i> (L.), <i>Borago officinalis</i> (L.), <i>Trifolium incarnatum</i> (L.), <i>T. alexandrinum</i> (L.), <i>T. pratense</i> (L.), <i>Vicia faba</i> (L.), and <i>V. sativa</i> (L.)	Effect of flowering plant mixture on parasitism of lettuce leafminers, <i>Liriomyza huidobrensis</i> (Blanchard)	Lettuce fields surrounded by flowering plants did not show significant reduction in <i>L. huidobrensis</i> compared to those surrounded by bare soil, overall. However, parasitism of <i>L. huidobrensis</i> in lettuce with flower treatment was higher in the first year of study.	0
Winkler et al. (2010)	Brown Knapweed, <i>Centaurea jacea</i> (L.)	Effect of <i>C. jacea</i> on population of <i>Pieris rapae</i> (L.) in Brussels sprouts, <i>Brassica oleracea</i> (L.) plots	Brussels sprouts plots bordered by <i>C. jacea</i> had higher infestations of <i>P. rapae</i> than control.	-
Pfiffner et al. (2009)	Mixture of 24 wildflower species	Effect of wildflower strips on biological control of <i>Mamestra brassicae</i> (L.) and <i>Pieris rapae</i> (L.) in cabbage fields	Cabbage plots with wildflower strips did not show higher biological control (overall) compared to control (i.e., plots without wild flower strips). However, parasitism of <i>P. rapae</i> larvae and predation of <i>M. brassicae</i> eggs in one location were significantly enhanced in plots with wildflower strips.	0

Berndt et al. (2006)	Buckwheat, <i>Fagopyrum esculentum</i> (Moench)	Effect of buckwheat on biological control of leafrollers, <i>Epiphyas postvittana</i> (Walker), <i>Ctenopseustis</i> spp., and <i>Planotortrix</i> spp. in vineyards in Marlborough, New Zealand.	Presence of buckwheat significantly enhanced parasitism of leafrollers larvae in one vineyard but did not reduce the abundance of leafroller larvae significantly (overall).	0
Rebek et al. (2006)	<i>Trifolium repens</i> (L.); mixture of <i>Euphorbia epithymoides</i> (L.), <i>Coreopsis verticillata</i> (L.) var. 'Moonbeam,' and <i>Solidago canadensis</i> (L.) var. 'Golden Baby.'	Effect of the flower mix on biological control of euonymus scale, <i>Unaspis euonymi</i> (Comstock), a pest of <i>Euonymus fortunei</i> (Turcz.) var. 'Coloratus,	Flower plants surrounding <i>E. fortunei</i> plants did not lead to significantly higher parasitism of <i>U. euonymi</i> compared to control (i.e., <i>E. fortunei</i> not surrounded by flower plants.	0
Ellis et al. (2005)	Four flowering forbs; treasure-flower, <i>Gazania rigens</i> (L.); Shasta daisy <i>Leucanthemum × superbum</i> 'Alaska'; a compact aster, <i>Aster novi-belgii</i> 'Niobi,' 'Professor Kippenburg'; and a compact cultivar of goldenrod <i>Solidago canadensis</i> (L.) 'Golden Baby'	Effect of flowering forbs on parasitism of bagworm, <i>Thyridopteryx ephemeraeformis</i> (Haw orth) on <i>Thuja occidentalis</i> (L.) by <i>Pimpla</i> (= <i>Coccygominus</i>) <i>disparis</i> (Vierick), <i>Itoplectis conquisitor</i> (Say), and <i>Gambrus ultimus</i> (Cresson), in urbarn landscapes	Parasitism of <i>T. Ephemeraeformis</i> was significantly enhanced on <i>T. occidentalis</i> surrounded by the forbs, compared to the control (i.e. <i>T. occidentalis</i> without forbs).	+
Lee and Heimpel (2005)	Buckwheat, <i>Fagopyrum esculentum</i> (Moench)	Effect of buckwheat on parasitism of	Presence of buckwheat did not significantly reduce the egg,	0

		lepidopteran cabbage pests, <i>Trichoplusia ni</i> (Hübner), <i>Pieris rapae</i> (L.), <i>Plutella xylostella</i> (L.)	larval, and pupal densities of <i>T. ni</i> , <i>P. rapae</i> , and <i>P. xylostella</i> . However, buckwheat increased parasitism rates of <i>T. ni</i> larvae by <i>Voria ruralis</i> (Fallen) and <i>P. rapae</i> larvae by <i>Cotesia rubecula</i> (Marshall) over four years of study.	
English-Loeb et al. (2003)	Cover crops, sod, <i>Dactylis glomerata</i> (L.), buckwheat, <i>Fagopyrum esculentum</i> (Moench), and ladino clover, <i>Trifolium repens</i> (L.)	Effect of cover crops on biological control of grape leafhoppers, <i>Erythroneura</i> spp. by <i>Anagrus</i> spp. in vineyards	Although buckwheat treatment significantly enhanced parasitism of <i>Erythroneura</i> spp. more than control, cover crops did not lead to significant reduction in <i>Erythroneura</i> spp.	0
Sengonca et al. (2002)	Weed species; wormwood, <i>Artemisia vulgaris</i> (L.), stinging nettle, <i>Urtica dioica</i> (L.), and tansy, <i>Tanacetum vulgare</i> (L.)	Effect of weed species on predators, <i>Coccinella septempunctata</i> (L.), <i>Adalia bipunctata</i> (L.), <i>Propylea quatuordecimpunctata</i> (L.), and <i>Chrysoperla carnea</i> (Steph.) and aphids on lettuce plants, <i>Lactuca sativa</i> (L.)	Presence of weeds significantly increased predator larva and adult densities and reduced aphids infestation rates in comparison to control (i.e lettuce without weed species).	+
Baggen and Gurr (1998)	Coriander, <i>Coriandrum sativum</i> (L.), and faba bean, <i>Vicia faba</i> (L.)	Effect of floral resources on the egg-larval parasitoid, <i>Copidosoma koehleri</i> (Blanchard) and potato moth, <i>Phthorimaea operculella</i> (Zeller)	Potato closer to floral resources were more heavily attacked by <i>P. operculella</i> .	-

Yan et al. (1997)	Mixture of cover crops alfalfa, <i>Medicago sativa</i> (L.) and <i>Lagopsis supina</i> (Steph.)	Effect of alfalfa/ <i>L. supina</i> cover crops on the control of two mites <i>Tetranychus ulmi</i> (Koch) and <i>T. vevennensis</i> (Zacher) in an apple orchards	The section of apple orchard managed with cover crops experienced mite below economic threshold and did not require any pesticide application unlike the section without the cover crop, which required pesticide application.	+
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