

Preliminary Observations on the Potential of Flowering Strips to Attract Beneficial Insects.

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Background:

It is now well recognized that the use of flowering strips may increase biodiversity as they provide a food source and habitat for beneficial insects. They also attract nectar-feeding insects, such as bumble bees, and hoverflies, which lay their eggs where there is an abundant supply of aphids for the larvae to feed on. Flowering plants have been shown to differ with regard to their attractiveness to parasitoids and nectar accessibility. This preliminary study aimed at determining the efficacy of flowering strips to increase insect diversity.

Project Overview:

The study was conducted at the Platform for Innovation in Organic Agriculture in Saint-Bruno-de-Montarville, Québec. The experimental design was a randomized complete block replicated 4 times. In 2010 and 2011, strips of single species were planted. Strip size was 2.4 m x 3 m. There were 40 strips in total (10 species x 4 replications). The plant species which were planted were: Alfalfa (*Medicago sativa*), petunia (*Petunia grandiflora* 'Ultra mix'), phacelia (*Phacelia tanacetifolia*), mustard (*Sinapsis alba*), yarrow (*Achillea millefolium* 'Colorado'), alyssum (*Lobularia maritima* 'Easter white bonnet'), coriander (*Coriandrum sativum* 'Santo monogerm'), cosmos (*Cosmos bipinnatus* 'Sensation mix'), French marigold (*Tagetes patula* 'Bonanza mix') and nasturtium (*Tropaeolum majus* 'California giant'). Sweep net and yellow sticky traps were used to monitor insect biodiversity. Traps were changed weekly and insect nets were also swept weekly in each plot. Data collection included plant stage, density and biomass, and beneficial insects and pest abundance. In 2010, sweep nets sampling showed that petunia and alyssum presented the lowest number of predatory insects captured.

Conclusions:

The use of sticky traps gave a better description of the Coccinellidae abundance than the swept net technique. With the exception of alyssum, the most abundant lady beetle species was the multicolored Asian lady beetle (*Harmonia axyridis*) followed by the fourteen-spotted lady beetle (*Propylea quatuordecimpunctata*) and the spotted lady beetle (*Coleomegilla maculata*). Results from 2011 experimentation will also be presented.

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