

This Year Buy Seeds for Your Beneficial Insects

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This winter while you are pondering all those wonderful new and heirloom seed varieties for this coming year's amazing garden, consider buying seeds to plant an ecological island. Biological islands, eco-islands, insectary, or flower strips are a few names for plantings which support beneficial insects by providing food and/or habitat.

Many gardeners and small farmers around the world use plantings to both attract beneficial insects and repel pests. One plant repels or pushes the pest away from the food crop and a second plant attracts the pest or pulls it even further away from the food crop, thus acting as the pest's trap-crop (4). In Africa, this push-pull system can increase maize yields by 15-20%. In the British Isles, permanent perennial grass planting known as beetle banks are established in grain fields for predaceous beetles that eat aphids that attack cereals (4). Vegetative corridors strategically grown in California vineyards provide highways for beneficial insects to travel (4), as do rows of sweet alyssum in lettuce fields (1).

In gardens, we should nurture beneficial insects, just as we care for our plants and soil microbes. Providing plants that can feed and house the beneficial insects allows good bugs to make their home in our garden. Although these plantings will not prevent major insect outbreaks, they are a part of preventative maintenance that can help create stability in your garden ecosystem. To welcome beneficial insects into your garden means you must tolerate the presence of some pests. Since pests serve as food or hosts for beneficial insect eggs, their presence is essential for beneficial insects' residence. So what plants should we consider? There are two ways to approach this question: general or specific.

The first approach is to develop your eco-island with a general variety of plants to host a wide-range of beneficial insects. Choose plants with small flowers that are rich in accessible nectar for parasitoid wasps that lay their eggs in caterpillars. Umbelliferous plants such as those in the carrot family are an excellent choice. Flowers made-up of umbels are those containing many groups of small flowers on stalks—think anise, dill, parsley, caraway, coriander/cilantro, or even Queen's Ann lace flowers (1&2). Remember biennials like parsley and caraway need to over-winter as they flower in their second year.

Other plants with small flowers that are low growing provide both food and cover for pest-eating predatory ground beetles and other beneficial insects. These include candytuft and crocuses early in the season and later blooming plants in the mint family: thyme, sage, rosemary, spearmints, and other mints (1&2).

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The mint and sunflower or aster families attract predatory wasps, and predatory and parasitoid flies, such as hover or syrphid flies, and robber flies. The aster family includes sunflowers, bachelor buttons, chamomile, coneflowers, daisies, coreopsis, cosmos, yarrow, marigolds, and even dandelion and goldenrod (1&2).

The immature larval stage of syrphid flies, lady bugs, and lacewings eat soft-bodied insects, like aphids. Sweet alyssum, a low growing mat of tiny fragrant flowers in the mustard family, was evaluated for attracting adult syrphid flies. It was found to be the most attractive, with baby's breath a close second (3). Some cover crops that also provide great habitat and food for beneficials include buckwheat, hairy vetch, mustards, and many clovers. Some legumes have extrafloral nectaries—nectar sources outside the flowers, which provide an easy and accessible food source (2). Thus, resting areas of gardens in cover crops are not only building soil fertility and tilth, but are also acting as refugia for beneficial insects.

The second approach is to ensure your ecological island has specific plants that will attract beneficials to help manage your specific problem-pests. Here, more research is needed for you to choose the plants which promote beneficials specific to your pests. Sources 1 and 2 below have information that can help you determine which plants can attract the beneficial insects you want to invite into your garden. Both can be found on the websites provided below, and *Managing Insects on Your Farm* is available through NOFA-VT. Although they were written for farmers, both are very readable resources for gardeners too.

Enjoy reading your seed catalogs and planning your amazing garden this year, and remember to create an ecological island of plants that add beauty to your yard, herbs for your dinner plate, and provides food and habitat for your beneficial insects.

Sources:

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4. Nicholls, C.L. and M.A. Altieri. 2004. Designing Species-Rich, Pest Suppressive Agroecosystems through Habitat Management. pp.49-62. In *Agroecosystem Analysis*. ASA/CSSA/SSSA Monograph #43. Madison, Wisconsin.



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