

Maximize Garden Space and Productivity

By Kate O'Lenic, Master Gardener

There are some very clever ways to improve your garden by companion planting, using pollinator-attracting and pest-repellant plants, and using trap plants to attract pests away from your garden. These ideas can save garden space, reduce pest damage, decrease the need for support structures, decrease pesticide use and improve vegetable production with improved pollination.

Companion planting is an ancient practice used by Native Americans. The original idea was based on using plants together to benefit each other. The classic combination of companion plants is the 3 sisters: beans, corn and squash. Squash uses the corn stalk as support, beans add nitrogen to the soil, and the squash vine was thought to deter racoons from eating the corn.

Today, the term companion planting covers a wide range of practices that includes combining plants that can attract pollinators, repel pests, and attract predator insects to devour pests. Trap plants are also considered a companion planting technique.

Much of the information found on the internet about companion planting is often based on anecdotes. However, there is some research to help us make the right choices for effective plant selections. Keep in mind that there is no one-size-fits-all plant for your gardens. Much of the research is specific as to which plants pair with certain crops and insects.

Pollinator and Predator Attractant Plants

Lacewings are a beneficial insect that feed on aphids and are attracted to fennel, dill, and cilantro. You can spice up your meals with these tasty herbs and help your other plants by reducing the damage done by aphids. Pollinator-attracting flowers that also attract lacewings are yarrow (*Achillea* spp.), cosmos (*Cosmos* spp.) and sunflowers (*Helianthus* spp.).

Sweet alyssum (*Lobularia maritima*) was studied in California lettuce fields and demonstrated a reduction in aphids due to increased hoverfly larvae. Hoverflies are a predator of aphids. Other plants that attract pollinators and predator insects such as lady beetles and soldier beetles are blanketflower (*Gaillardia* spp.), coneflower (*Echinacea* spp.), coreopsis (*Coreopsis* spp.), cosmos, and goldenrod (*Solidago* spp.). Lady beetles love aphids, mites, mealy bugs, and other soft-bodied insects.

Pest Repellant Plants

Studies have shown that basil planted with tomatoes repels thrips and tomato hornworms. Other research found that the Colorado potato beetle was kept in check by planting rows of dill (*Anethum graveolens*) or coriander (*Coria drum sativa*) in the garden between the rows of the target crop.

A number of studies have been conducted with Brassica crops (such as, broccoli, cabbage, cauliflower, kale). A slew of plants benefited the target crops including sage (*Salvia officinalis*), rosemary (*Rosemarinus officinalis*), thyme (*Thymus vulgaris*), dill (*Anethum graveolens*), mint (*Menta* spp.), and orange nasturtium (*Tropaeolum majus*), among others.

By now you're wondering why marigolds are not mentioned. Well, some studies showed benefit, others indicated no benefit from the same tests. So, marigolds are a maybe/maybe not plant. One study actually found worse pest damage because the marigolds attracted pests. Another report indicated that marigolds planted at least 2 months before a crop is planted can be helpful in preventing nematode damage. But the crop must be planted in the same location previously occupied by the marigold plant. A natural toxin is released from marigold roots which inhibits nematode eggs from hatching. However, the variety of marigold and type of nematode matter, so it gets a bit tricky.

Pest Trap Plants

If you want to try something really different, you could trick pests with trap plants. This strategy is considered both companion planting and Integrated Pest Management. Choosing the right trap plant can lure pests away from your crops. Plant them at the edge of the garden or away from your preferred crops or flowers. One example is planting Blue Hubbard squash to protect cucumbers, melons and zucchini. Squash bugs, cucumber beetles and squash vine borers find the Blue Hubbard squash more attractive and will attack it instead of your cucurbits. For a garden with about 100 cucurbits, 6 to 8 squashes were found to adequately draw pests away. Once pests are concentrated on the trap plant, you'll need to eradicate the villains and prevent them from reproducing.

Check out the resources below for more details on how to combine plants to improve your gardens. You might even like having flowers mixed in with your veggies for their visual appeal.

Resources

“Companion Planting in Home Gardens,” <https://extension.umn.edu/planting-and-growing-guides/companion-planting-home-gardens>

“Companion Planting and Flower Borders,” <https://ulster.cce.cornell.edu/resources/companion-planting-and-flower-borders>

“Attracting Beneficial Insects,” <https://extension.psu.edu/attracting-beneficial-insects>

“Lacewing,” <https://www.gardenia.net/guide/lacewing>

“Magical Repelling Powers of Marigolds — Myth or Fact?”
<https://piedmontmastergardeners.org/article/magical-repelling-powers-of-marigolds-myth-or-fact/>

“Trap cropping: A simple, effective, and affordable Integrated Pest Management strategy to control squash bugs and squash vine borers,”
https://ipm.missouri.edu/MEG/2017/3/Trap_cropping/

For more information about gardening, visit UTHORT's YouTube site for helpful videos:
<https://www.youtube.com/channel/UCjS3d1IkIH1OZ1Z2qPvhgfQ>

Or Washington County's YouTube site:

<https://www.youtube.com/@utextensionwashingtoncounty>

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