Companion Planting

Companion planting is the practice of growing more than one plant variety near each other with the goal of enhancing nutrient uptake, improving pest management, increasing pollination, and achieving higher vegetable yields. Companion planting has gained a lot of popularity throughout recent years, but it is hardly a new idea. Gardeners have long understood the value of combining certain plants together in the garden. And while a quick internet search will yield long, extensive charts full of what to plant and not plant together, not every claim has been proven to be true for every gardener. However, there are a few tried, true and researched combinations that are worth taking note of.

There are several ways in which companion plants aid each other in the garden. They may provide structural support, attract beneficial insects, repel or trap pests or add nutrients to the soil.

Structural Support:

Combining plants in a garden that offer each other some kind of structural support such as shade, something to climb or camouflage from a predator is one way that companion gardening can be utilized. One of the most famous companion gardens is the Three Sisters Garden. This is a classic example of using the structure of plants to work together and can be applied to a variety of vegetables. The Three Sisters Model has been used by many indigenous communities for hundreds of years and is still used to this day.

The Three Sisters Garden: Corn, Squash and Beans

- Corn provides a stalk for beans to climb, as well as a visual deterrent for squash insects such as squash vine borer.
- Beans provide nitrogen to the soil for the next growing season when plants are worked into the soil after they die.
- Squash can be a deterrent to animals like raccoons and the large leaves of the squash plants shade the ground to help the soil stay moist and suppress weeds.

Attracting Pollinators and other Beneficials:

Planting a variety of blooming plants and herbs around your vegetable garden will naturally bring in more pollinators as well as other beneficial insects.

- Because squash and pumpkins need to be insect-pollinated, providing consistent flowers throughout the season can attract pollinators to your garden, which will help to improve pollination and increase yields.
- Encouraging pest's natural predators like ladybugs, lacewings, mantids, spiders, and beneficial wasps can naturally reduce pest populations. Growing plants that create habitat for those beneficials such as basil, cilantro, dill, fennel, and parsley provide shelter and food for various life stages of predatory and parasitic beneficial insects.
- Plants such as buckwheat and clover are excellent choices for attracting bees to adjacent pollinator-requiring crops and serve as a weed-suppressing cover crop as well.

Using Plants to Deter Pests:

- Nasturtiums are well known to help deter certain pests around vegetables. This age-old practice is supported by research, showing that nasturtium can help to reduce squash bug populations and cucumber beetles.
- Studies have shown that planting basil around tomatoes can be effective at reducing thrip populations and may even help to promote tomato growth.

- Marigolds are another well-known companion for deterring certain pests. Some lists suggest that marigolds can repel deer or rabbits, but unfortunately, the presence of marigolds alone is usually not enough to deter them. However, marigolds may be successful in repelling other pests such as Cabbage moths, Mexican bean beetles, Squash bugs and Cucumber beetles. Scientists have also determined that marigolds secrete limonene which can be effective at repelling whiteflies.

Using trap plants or indicator plants:

Trap cropping is the practice of planting something between the main crop to attract harmful insects to it instead, saving your main crop and alerting you to the pest problem. Pests congregate on the trap crops in larger numbers which attracts predatory insects like ladybugs, lacewings, and parasitic wasps. These predatory insects naturally take care of pests.

- Flea Beetles are attracted to Brassica crops and some varieties are very effective when used as trap crops. Some of the most effective varieties include Arugula, Mustard, and Napa Cabbage. Planting these more sought-after varieties can be used to help keep them away from other Brassica crops you want to protect.
- Radishes are another popular trap plant. Radishes grow quickly from seed, and they can be seeded throughout the garden at different times so they can be used both for harvesting and trapping.
- Marigolds can also be used as a trap or indicator plant for slugs.
- Planting dill or fennel around your garden can be an effective indicator for aphids as they will usually attack them first. Planting dill will also draw out and repel the tomato horn worm.
- Sunflowers are often used as a trap plant for aphids and other sap-sucking insects. Using them as a border can also help attract pollinators.

Soil health:

By planting plants with different root structures together, you can aerate the soil and allow plants to pull nutrients from different parts of the soil profile.

- Plants with taproots or tubers like carrots or potatoes can help to break up compaction in the soil.
- Deep-rooted crops like melons, asparagus and tomatoes pull water and nutrients from deeper in the soil profile.
- Adding legumes like peas, beans and clover to your garden is another great way to maximize soil health because legumes fix nitrogen from the atmosphere and reduce your total fertilizer needs. Snap peas or green beans can be planted as a crop you plan to harvest, or you can sow a legume cover crop underneath your main crop.

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