

## Companion Planting in the Vegetable Garden

Companion planting is growing two (or more) crops near each other with the theory that they help each other in nutrient uptake, improved pest management and reduced pesticide use, enhanced pollination and higher vegetable yields. Consider the following approaches to incorporate companion planting into your backyard vegetable plot.

### Encouraging Beneficials to Manage Pests and Promote Pollination

Gardeners can enlist the aid of beneficial organisms (e.g. ladybird beetles, lacewings, mantids, spiders, and predatory mites) in the battle against pest populations by growing plants that create habitat for those beneficials in close proximity to vegetables under siege. Plants such as basil, cilantro, dill, fennel, and parsley are among those that provide shelter and food for various life stages of predatory and parasitic beneficial. In addition to attracting the natural enemies of garden pests, companion species are useful in luring and retaining pollinators in the garden. Plants such as buckwheat and clover are excellent choices for attracting bees to adjacent pollinator-requiring crops (with the added benefit of serving as weed-suppressing cover crops).

### Using Plant Characteristics to Maximize Yield

Companion planting corn, pole beans, and winter squash (a grouping often described as “the three sisters” in Native American references) is one way to make the most of a small garden plot. Because of the individual species’ growth habits, the three grow well in the same space (though competition for nutrients still exists). Cornstalks, with their tall, thin habit provide a living trellis for the beans to climb, while low-growing, large-leaved squash plants shade the ground to help the soil stay moist and suppress weeds. (The beans contribute nitrogen to the soil for the next growing season, if plants are worked into the soil after they die.) Often referred to as “intercropping” or “interplanting”, the technique of pairing plants with different growth habits, environmental tolerances (e.g. shade vs. sun), nutrient requirements, and rates of maturity can work with a variety of vegetables: radish and carrot, lettuce under tomatoes or eggplant, beets between broccoli, etc.

### A Word About Marigolds

The classic example that comes to mind when many of us think of companion planting is that of marigolds grown in and around vegetable crops as a pest repellent. Research has shown that the roots of African and French marigolds do produce biochemicals that are toxic to root nematodes, minute worm-like organisms that can kill plants or reduce yields. However, that benefit is reaped AFTER growing marigolds as a cover crop and tilling them into the soil to release the chemicals. Very little other evidence exists to support marigolds’ reputation as garden superheroes. That being said, if you like them, grow them—they add diversity.

### **Maintaining Diversity in the Vegetable Garden**

Companion planting, with its various pairings (experimentally tested or otherwise), is best used with a greater objective in mind than merely positioning plants in relation to one another: Maintain diversity in the garden, as in nature, to protect the health and productivity of a community of plants. An experiment conducted at the University of California with four varieties of single species—broccoli—supports this idea. As varietal diversity in test plots increased, aphid infestation decreased. Keep one word in mind as you set out transplants for fall vegetables or perhaps turn under that large planting of a single variety after it succumbed to garden pests: Diversify!

### **The Bottom Line**

The number of rigorous scientific studies regarding companion planting is small compared to the number of books, lists, and charts about companion planting based on anecdotal evidence. Be mindful that choosing a companion planting scheme not grounded in science may result in disappointment. However, personal observations of effective plant groupings are useful as a starting point. Being able to replicate those observations over time and locations will confirm companion planting as a valuable gardening practice.

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