

Companion Planting

Do carrots really love tomatoes? There is a lot of lore about companion planting – the idea that some plants do better (or worse) when they are planted near each other in the garden. Some of this lore has been borne out under scientific scrutiny, while evidence for the efficacy of other claims remains in the realm of lore. But even if we can't say for sure that chard loves beans or cucumbers hate sage, there are valid reasons for thinking about how you organize the community of plants in your garden. Here are some ideas for successful “companionship.”

Plant flowers in with your vegetable to encourage beneficial insects. These are the insects that feed on or parasitize pests in your garden. In addition to preying on insects, many of them also feed on flower nectar or pollen at some stage in their life cycles. Planting flowers, especially those with umbrella-shaped clusters of small flowers or daisy-like blossoms, will attract these “good guys” to your garden. Scattering flower plants throughout the garden and/or planting a border of flowers around your vegetable garden perimeter is a great way to provide food and shelter for beneficials. Try to have something in bloom from spring planting time to fall frost. The flowers of many herbs, such as dill, caraway, and coriander, are excellent attractors, as are the flowers of vegetables like broccoli and radishes, if you let a few plants go to seed.

Group and rotate plant relatives to reduce pest and disease problems. Some pests and diseases can carry over in the soil; switching the spots where particular crops are grown can help foil their attacks. For example, all members of the cabbage family are susceptible to many of the same fungal diseases. The spores that spread these diseases can survive in the soil, often for several years. So making sure to plant your broccoli, cabbage, kale and other cole crops in a new spot for three years reduces the likelihood that your plants will become infected. The spores that cause the fungal disease early blight on tomatoes can survive in the soil for at least a year. Setting out tomatoes in a new location will help you grow a healthier crop.

Group the plants you plan to grow into families with similar pest problems and then move these groups through the garden so they are growing in a new spot, ideally on a 3-year rotation. Here are some common family relations to help you plan your moves.

Carrot family: carrots, celery, chervil, cilantro, dill, fennel, parsley, parsnip

Goosefoot family: beets, chard, spinach

Gourd family: cucumbers, melons, squash, pumpkins

Grass family: corn

Mint family: basil, mint

Mustard family: broccoli, Brussels sprouts, cabbage, cauliflower, collards, kale, kohlrabi, radishes, rutabagas, turnips

Onion family: garlic, leek, onion, shallot

Nightshade family: eggplant, peppers, potatoes, tomatoes

Pea family: beans, pea

Sunflower family: artichoke, cardoon, chicory, endive, lettuce

Use plant companions to make the best use of soil fertility. Different plants take varying amounts of nutrients from the soil. Leafy greens like spinach need lots of nitrogen, while legumes like peas and beans actually add nitrogen. If you plant peas and beans in a bed to build up the soil, you could follow them with nitrogen-hungry leafy greens and cole crops to take advantage of the increased soil fertility the next season. Fruiting crops like plants in the squash and tomato families thrive with a little less nitrogen, so they could occupy the bed in season three. For the fourth season, finish up with root crops and onion family members with their relatively low fertility needs. Then it's back again to peas and beans.

Use plant combinations for successful succession planting. Planting more than one crop sequentially in the same garden space allows you to get the maximum harvest from your garden space. For example, you might follow your spring spinach crop with a planting of kale, to be harvested in the fall. Or you might follow an early crop of radishes with one that prefers the heat of summer, such as squash or eggplant. When your cilantro goes to seed as the early summer days warm and lengthen, plant warmth-loving basil to carry on your herb harvest. If your growing season is long enough, you may even be able to reap three harvests from the same plot. Try hardy arugula, followed by cucumbers, followed by spinach or baby kale.

Take advantage of plant growth habits. Tall plants cast shade on shorter plants, so most gardeners take care to plant their corn and pole beans on the north side of the garden to minimize shading. But some plants that prefer cooler conditions, like lettuce and other greens, welcome a little shade in the heat of summer. Plant your greens where they'll get full sun in spring; then make later plantings where tall plants will cast cooling shade in midsummer.

Take a cue from the Native American Three Sisters combo of corn, pole beans, and squash. The corn stalks provide bean vines with a support to scramble up, while the broad leaves of the squash plants cover the ground around them, shading out weeds, and the prickles on leaves discourage hungry critters like raccoons and deer from stepping in to sample the corn. (And the roots of nitrogen-fixing, leguminous bean plants enrich the soil as they decompose.)

Combine plants to repel pests. You can find lots of claims about the ability of certain plants to repel pests on other nearby plants. Garlic and chives are purported to repel pests with their strong odor; tomatoes are said to repel cabbage worms. Unfortunately, real evidence for most of these claims is hard to come by. Any actual benefit may come from the simple fact that mixing various kinds of vegetables, herbs, and flowers results in a more diversified planting, which is less susceptible to pest damage than a monoculture.

There is a sound basis for one common claim, but only if the plants are used in a specific way. Marigolds are often touted as repelling or suppressing nematodes, which are tiny, worm-like, soil-dwelling organisms, some kinds of which are harmful to plants. Certain marigold varieties, such as small-flowered French types, will bring down levels of some nematode species if the plants are grown as a dense cover crop for several months (with plants spaced 7-12 inches apart) and then tilled into the soil. But simply inter-planting marigolds next to or near nematode-susceptible plants in the garden will not protect them.