The Oxford Dictionary describes companion planting as “(t)he close planting of different plants that enhance each other’s growth or protect each other from pests.” In the food garden, we are purposely planting vegetables, herbs and flowers in close proximity so that they can benefit from each other. Companion planting practices provide benefits to food gardeners and to the environment: increased food safety and quality, aesthetically beautiful food gardens, better use of space, bountiful harvests, improved soil health and additional habitats for pollinators and beneficial insects that lead to elimination of pesticides.

Companion planting is not new. The idea has been around for over 1,000 years—used in China and Egypt. In the United States, the northeastern Iroquois Indian tribe used companion planting for their food staples—corn, beans and squash. The corn acts as a trellis for the pole beans, the beans add nitrogen to the soil for the corn and squash and the squash spreads out, holding in moisture and preventing weeds. This method is still used today and is called the “three sisters”—each vegetable purposefully planted to enhance each other’s growth or to provide protection from pests (weeds).

Earlier considered as just folklore, companion planting is now being taken more seriously, and scientific studies are being conducted at universities across the country with positive outcomes. Take, for example, the companion planting practice of diversity for crop security: a University of California study determined that varietal diversity while growing broccoli reduced the number of cabbage aphids. Research has shown that when African and French marigolds are grown as a cover crop before planting, the biochemical that they release are toxic to root nematodes. Evidence of companion planting can be found in university food gardens: the UC Davis Good Life Garden effectively uses companion plants to increase the numbers of beneficial insects.
Companion planting involves:

- Planting closer together using space more efficiently; planting intensively results in fewer weeds
- Based on purposeful combinations, mixing herbs, flowers and veggies rather than planting them separately
- Fighting pests and attracting beneficials naturally; not using chemicals
- Creating a garden polyculture (not monoculture)—enriching rather than depleting the soil of its nutrients
- Creating a garden that is healthy, beautiful and pesticide free

Of course, gardeners who practice companion planting continue to use best gardening practices: building and maintaining healthy soil and watering wisely.

When planning your food garden, remember that plants will compete for nutrients and space when given the chance. So...

Think about: deep vs. shallow roots, slow vs. fast growth rates, and heavy vs. light feeders when choosing what to combine. For example, do not plant two heavy feeders together (such as corn and tomatoes). They will compete for the same nutrients.

One of the major benefits of companion planting in an organic food garden is the ability to avoid pesticides to control pests. The bee population and other beneficials thrive when we attempt to control pests naturally.
Examples of natural pest control and how it works:

- **REPELLERS.** Some plants can act as repellers of “bad bugs.” They include *Calendula*, chives, garlic, onions and rosemary.
- **TRAP PLANTS.** A neighboring plant may be more attractive to pests. For example, *Nasturtium* is a flower preferred by aphids while squash beetles are attracted to corn.
- **CONFUSERES/DISTRACTORS.** The scent of plants may confuse or distract “bad bugs.” They include lavender, marigold (African), sage, thyme, lemon balm, rosemary and spearmint.
- **ATTRACTORS.** Purposeful planting means adding herbs and flowers that attract bees and beneficials (“good bugs”). Herbs include basil, borage (for swallowtail butterfly), lavender, parsley (when flowering) and thyme. Flowers include anise hyssop, bee balm, *Alyssum, Calendula, Coreopsis, cosmos, marigolds (Tagetes) and Zinnia*.
- **SOIL ENRICHERS.** These are crops that fix nitrogen and otherwise improve the soil. For example, legumes (peas and beans) take nitrogen from the air and add it to the soil for the use of other plants.
- **SUPPORTERS/PROTECTORS.** Examples include corn that acts as a trellis for pole beans, as well as taller plants that shade shorter plants and can act as a windbreak.

Who are these beneficials (“good bugs“)?

- **PREDATORS** (those who consume or otherwise prey on “bad bugs”) include spiders, hover flies, mantids, lacewings, lady beetles, soldier beetles and assassin bugs.
- **POLLINATORS** include bees (both native and European), butterflies and parasitic wasps.

Just as there are good companions, there also are bad companions. Examples include:

- Dill together with carrots
- Parsley together with mint
- Fennel together with tomatoes or peppers
- Alliums (onions, shallots, garlic, leeks) together with legumes (beans, peas)

Examples of a fall companion garden:

- Cabbage, carrots, lettuce, onions, borage and thyme
- Spinach, mâche, Tatsoi, thyme and parsley
- Artichokes, lettuce, onions and chives
- Beets, mint (in a container), *Calendula* and salad greens (like mustard and arugula)
- Broccoli, cauliflower, kale, collards, parsley and dill
- Lettuce, onions, carrots and garlic

Examples of a summer companion garden:

- Tomatoes, bush beans, marigolds, basil, borage, cosmos and chives
- Squash, nasturtiums and dill
- “Three Sisters”—corn, pole beans and squash
To learn more about companion planting, refer to one of many books on the subject. A few include:


Additional resources:

- “*Companion Planting Chart*,” UC Master Gardener Program of Sonoma County (June 2014)
- “*Plants for Beneficial Insects,*” UC Master Gardener Program of Sonoma County (note: does not address companion planting with edibles)
- “*Butterfly Larval Plants,*” UC Master Gardener Program of Sonoma County (1999) (note: as above)
- Lovelace, Sue, et al, “*Edible Landscaping: 2014 Bloomin’ Backyards Garden Tour and Market,*” Food Gardening Specialist Project, UC Master Gardener Program of Sonoma County (June 2014)