WHAT IS COMPANION PLANTING?

Companion planting in the garden is an excellent tool to create a biodynamic ecosystem in which all components in our gardens can thrive. By planting different crops in proximity, we can reduce the need for chemicals, increase pollinator and beneficial habitats, maximize and utilize our garden space more effectively and efficiently, and overall increase the productivity (and even yield) in our garden spaces.

Companion planting was present many centuries ago in both cottage gardens in England and forest gardens in Asia. The practice was also alive and well here in America with the indigenous peoples long before the arrival of Europeans. The *Three Sisters* agricultural technique is a perfect example of this practice, and one that continues to be utilized today. The cornstalk served as a trellis for the beans to climb; the beans fixed nitrogen, benefitting the corn; and the wide leaves of the squash plant provided ample shade for the soil keeping it moist and fertile.

Companion planting can be as simple as using legume crops such as clover and beans to provide nitrogen compounds to other plants such as grasses (corn) by fixing nitrogen from the air with symbiotic bacteria in their root nodules or interplanting basil among tomatoes and pepper to improve their growth and flavor.

Some plants are referred to as miner plants because of their long taproots which bring nutrients from deep within the soil to near the surface, benefitting neighboring plants that are more shallow-rooted. Dandelions and comfrey are two excellent examples of miner plants.

In addition, some plants actually have the power to attract pests away from a primary crop. The African marigold exudes chemicals from their roots or aerial parts that suppress and/or repel pests, protecting neighboring plants, as well as garlic, which is systemic in action (as it is taken up by the plants through their pores). Concentrated garlic sprays have been observed to repel and kill whiteflies, aphids, and fungal gnats!

Companion planting also exists in a physical way. For example, tall-growing, sun-loving plants may share space with lower-growing, shade-tolerant species,
resulting in higher total yields from the land. This is called spatial interaction, and can also yield pest control benefits. For example, the presence of the prickly cucurbit (cucumber, squash, and melon) vines is said to discourage raccoons from ravaging sweet corn.

Nurse cropping, where tall or dense-canopied plants may protect more vulnerable plants through shading or by providing a windbreak is also a component of companion planting. For example, oats have long been used to help establish alfalfa and other forages by supplanting the more competitive weeds that would otherwise grow in their place. In many instances, nurse cropping is simply another form of physical-spatial interaction.

Beneficial habitats (sometimes called refuges) are another type of companion planting. The benefit is derived when companion plants provide a safe environment for beneficial insects, and other arthropods, especially predatory and parasitic species that help to keep pest populations in check. Buckwheat is an excellent example. Use as a living mulch during the growing season and watch your garden thrive!

Trap cropping is often used as well. Think nasturtiums—a great trap crop for aphids (in particular the black aphids) or radishes, which lure leaf miners away from spinach (the damage the leaf miners do to radish leaves does not stop the radish roots from growing, a win-win situation).

Primarily, the goal of companion planting is to reduce a monoculture cropping system. As a result, creating an ecosystem for which multiple plants can thrive initiates a sustainable garden and generates diversity in a space for which all plants, pollinators, and insects can co-exist in harmony. Check out this handy resource for popular companion planting techniques!