

Niagara College Greenhouse & Nursery Success Sheet No. 114

Companion Planting

Definition

Companion planting is growing two or more plant species together so they can benefit from each other. This can be used on any scale and is sometimes called polyculture. Companion planting balances an ecosystem, allowing nature to do its job.

Benefits

Companion planting can reduce the need for chemical fertilizers and pesticides. It stimulates plant growth and increases crop harvests. It also can reduce your work and increase your enjoyment of your garden.

History

Although the science behind companion planting is relatively new, this technique has a very long tradition. It is even mentioned in the Bible. Cultures around the world practise companion planting in large-scale agriculture as cover crops and nurse crops for grains and in home gardens. Before scientific explanations, a spiritual belief existed about growing food. The North American tribes believed the “Three Sisters” (beans, corn, and squash) grew well together because they were a gift from the Great Spirit.

Factors

Three factors influence beneficial plant associations: spatial, physical and chemical.

Spatial: Some plants can be used as a decoy to attract pests away from the main crop. An example is collard greens, which attract the diamondback moth away from cabbage. The spatial placement of plants can protect crops and promote growth.

For example, corn, pumpkin and squash when planted together protect each other because the corn canopy confuses the squash

vine borer in finding the vines and the prickly vines discourage raccoons from getting to the corn plants.

Physical: Tall sun-loving plants shade shorter plants, protecting them from the sun and drying winds. Plant canopies can also discourage birds and insects.

Chemical. Some plants capture nutrients that can be used by their neighbours, reducing the need to add fertilizers to your garden. Beans, peas and clover capture nitrogen from the air for their own use, but *Rhizobium* bacteria make it available to neighbouring plants such as corn. This reduces the need for nitrogen fertilizer.

Some plants produce chemicals that repel harmful pests without harming the beneficial insects. For example, African marigolds release thiopene, which repels nematodes, making it a good companion for vegetables. This reduces the need to use chemicals for insect control.

Examples of Plant Combinations

Main Crop	Good Companion	Poor Companion
Cucumber	Beans, broccoli, celery, peas, radish, lettuce	Rue, sage
Tomatoes	Egg plant, asparagus, carrot, cabbage, peas	Potatoes
Onions	Beets, cabbage, carrots	Peas
Beans	Cabbage, beets, carrots, corn, tomatoes, squash	Onions
Potatoes	Beans, corn, lettuce, radish	Apples, pumpkins, tomatoes

Companion planting benefits plants, gardeners, farmers, the economy and the environment around the world.

Susan Barbetti, Class of 2007

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Niagara-on-the-Lake Campus, 135 Taylor Road, Niagara-on-the-Lake, ON L0S 1J0
phone: (905) 641-2252, ext. 4082; **fax:** (905) 988-4307 **e-mail:** mnewell@niagaracollege.ca
Website: <http://greenhousenursery.niagaracollege.ca>