

COMPANION PLANTING

WHAT IS IT?

Companion planting is a gardening strategy focused on planting compatible crop species together for various mutual benefits.

WHY PLANT THEM?

There are many benefits to companion planting. Some species can improve the taste of another if planted together! Others can repel or attract pests away from your crop.

The "Three Sisters" method involves growing corn, beans, and squash together. Corn acts as a trellis for the beans. As a member of the Fabaceae family, beans help fix nitrogen in the soil. Squash provides ground cover that retains soil moisture and suppresses weeds.



Planting tall or trellised varieties next to smaller plants with different sun requirements can provide needed shade.

EXAMPLE

One example is the Three Sisters method, practiced by some Indigenous People of North America for generations.

COMPANION PLANT RECOMMENDATIONS

Crop	Plant With	Benefits
Amaranth	Corn, Onion, Potato	Corn provides structure support, Amaranth's deep roots break up the soil, aiding onions and potatoes.
Artichokes	Brassicas, Cucumbers	Cucumbers can climb artichoke plants, shared care requirements, pest reduction.
Asparagus	Basil, Cilantro, Parsley, Tomato, Comfrey	Basil, cilantro, parsley, and tomato repel pests, including the asparagus beetle. Comfrey acts as a living mulch.
Basil	Most Vegetables	Basil repels pests from many vegetables and can improve taste in some such as tomatoes.
Bean	Sunflowers, Marigolds	Sunflowers provide support for climbing plants, Marigolds deter pests.
Beets, Chard	Brassicas, Alliums, Lettuce	Maximizes space, brassicas and lettuce can improve the flavor of beets, soil health. Alliums repel pests.
Cabbage	Allium, Aromatic Herbs, Beets, Celery, Chamomile, Chard, Clover, Spinach	Pest control - celery repels white cabbage butterflies, allium, aromatic herbs can repel cabbage loopers, aphids, and slugs. Maximizes space. Chamomile improves flavor, antifungal.
Carrot	Onion, English Pea, Lettuce, Tomato	Onions deter carrot flies and aerate the soil. Pea plants fix nitrogen in the soil. Maximizes space.
Celery	Allium, Brassicas, Bush Beans, Nasturtium, Tomato	Pest control. Bean plants fix nitrogen in the soil.
Corn	Beans, Cucumber, English Pea, Irish Potato, Pumpkin, Squash	Corn provides support for climbing vegetables. Pumpkin and Squash act as a groundcover to suppress weeds. Bean plants fix nitrogen in the soil.
Cucumber	Sunflowers, Beans, Cabbage, Corn, English Pea, Radish	Sunflowers and corn provide support for climbing plants. Beans and Peas can share a trellising system. Radish repels cucumber beetles.
Eggplant	Basil, Beans, Catnip, Lemon Grass, Marigold	Basil improves flavor, repels pests. Catnip repels flea beetles, aphids, Japanese beetles, ants, squash bugs, and rodents.
Ginger	Basil, Tomatoes	Basil repels pests. Ginger is shallow-rooted, tomatoes deeper, reducing competition.
Gourds	Corn, Sunflowers	Sunflowers attract pollinators, gourds act as a physical deterrence to rodents.
Grapes	Basil, Beans, Chives, Clovers, Mustard, Oregano, Peas	Basil enhances flavor, repels pests. Beans provide good environment for vine development. Clover suppresses weeds. Chives anti-fungal.
Lettuce	Carrot, Cucumber, Radish, Strawberry	Carrots and radishes aerate soil. Maximizes space.

COMPANION PLANT RECOMMENDATIONS

Crop	Plant With	Benefits
Melons	Amaranth, Beans, Chamomile, Corn	Bean plants fix nitrogen in the soil. Chamomile enhances flavor, anti-fungal, attracts pollinators. Amaranth suppresses weeds.
Onion (Allium)	Beets, Brassicas, Carrot, Lettuce, Summer Savory	Maxmizes space, weed suppression.
Okra	Peppers, Squash, Sweet Potatoes	Okra protects peppers from harsh sun. Pepper plants repel pests. Sweet potatoes act as living mulch.
Parsley	Asparagus, Tomato	Parsley stimulates asparagus growth, repels pests. Similar growth conditions.
Pea, English	Carrots, Radish, Turnip	Soil aeration, turnips repel aphids, similar conditions.
Peanut	Eggplant, Melon, Squash, Sunflower	Increased productivity, similar soil preferences. Squash protect from harsh heat.
Pepper	Marigolds, Basil, Clover, Marjorum	Marigolds and marjoram deter pests attracted to pepper plants. Basil improves flavor.
Potato, Irish	Basil, Beans, Brassicas, Horseradish, Marigolds	Horseradish and marigolds repels potato and blister beetles. Basil improves flavor.
Pumpkin	Corn, Marigold	Marigold improves pollination and repels pests.
Purslane	Basil, Beets, Cabbage, Carrots, Corn, Lettuce, Turnips, Radish	Purslane suppresses weeds, loosens the soil to enhance harvest of root crops, and attracts pollinators.
Radish	Cucumber, English Pea, Lettuce, Nasturtium	Nasturtium for pest control. Soil structure. Similar growing conditions. Maximizes space.
Spinach	Celery, Faba Bean, Strawberry	Celery deters pests. Faba bean provides shade.
Squash	Nasturtium, Corn, Marigold	Pest control against common squash pests
Strawberry	Borage, Bush Beans, Lettuce, Pyrethrum, Caraway	Enhances flavor and attracts pollinators.
Sweet Potato	Okra, Peppers, Sunflowers	Attract pollinators, provides support, maxmizes space.
Tomato	Basil, Alliums, Asparagus, Carrot, Cucumber, Marigold, Nasturtium, Parsley	Repel pests, basil and alliums also can improve taste. Cucumber can share a trellis to maximize space. Carrots aerate soil.
Watermelon	Nasturtium, Marigold	Pest control and pollinator attraction.

CROPS TO AVOID PLANTING TOGETHER

Crop	Avoid	Reason Why
Amaranth	Brassica (broccoli, cabbage, turnip, etc.)	Nutrient competition, negative allelopathic effects
Artichokes	Potatoes	Competition, spatial constraints, pest vulnerability.
Asparagus	Alliums (onions)	Nutrient competition, root damage.
Basil	Rue	Negative allelopathic effects.
Bean	Onions, Garlic, Radish, Peppers, Fennel, Alliums	Nitrogen-fixing inhibition, allelopathic effects, pest attractors.
Beet	Pole beans, mustard	Competition, shading, allelopathy.
Cabbage	Strawberries, tomatoes, broccoli, cauliflower, pole beans	Competition, pest risk, shading.
Corn	Tomato	Share pests.
Carrot	Dill, Fennel	Allelopathy, dill can cross-pollinate with, pest attraction.
Cucumber	Melons, potatoes, aromatic herbs	Overcrowding, shared pests, competition, affect flavor.
Grapes	Cabbage	Competition, disease/pest risk.
Lettuce	Broccoli	Competition, allelopathy.
Melons	Brassica (broccoli, cabbage, turnip, etc.)	Competition, incompatible environmental needs.
Okra	Beans, English Peas	Competition, crowding.
Pea	Onions, garlic, leek, shallots	Compete for root space.
Peanut	Allium, Gladiolus, Irish Potato	Growth inhibition.
Pepper	Beans, kohlrabi, brassicas.	Chemical incompatibility, competition, conflicting needs.
Pumpkin	Cucurbits, Tomato, Sunflower, Rosaceae	Shared diseases/pests, competition.

CROPS TO AVOID PLANTING TOGETHER

Crop	Avoid	Reason Why
Purslane	Beans, English Peas	Competiton, allelopathy.
Radish	Irish Potato	Competition, differing soil needs, harvest disruption.
Spinach	Hyssop	Growth inhibition, competition.
Strawberry	Irish Potato	High risk of transmitting diseases (ex: Verticillium wilt). Competition.
Sweet Potato	Sorghum, Johnson Grass	Competition, allelopathy, space issues.
Tomato	Pole Beans	Competition, shading, disease risk.
Watermelon	Irish Potato, Mustard	Pest/disease sharing, competition, harvest disruption.

SPECIES THAT REPEL PESTS

Species	Deter
Basil	Flies, mosquitoes, asparagus beetles.
Borage	Tomato worms.
Calendula	Asparagus beetles, tomato worms.
Chives	Aphids
Coriander	Aphids
Cosmos	Mexican bean beetles
Dill	Attracts ladybugs, which eat aphids.
Fennel	Fleas
Flax	Potato beetles.
Garlic	Aphids, apple scabs, borers, Japanese beetles, spider mites.
Geranium	Cabbage worms, red spider mite.
Marigold	Aphids, beetles, hornworm, white flies.
Nasturtium	White flies, squash bugs, striped pumpkin beetle, aphids, maggots.
Oregano	Cabbage butterflies, cucumber beetles.
Petunia	Aphids, leafhoppers
Sage	Bean beetles, cabbage moth, carrot flies, slugs.
Sunflower	Armyworm

SPECIES THAT ATTRACT PESTS

One method of pest control in organic gardens is the use of “trap crops.” These species are planted away from your desired crops, sometimes acting as a “wall” to protect your produce. Trap plants attract pest insects away from your crops.

Species	Attract
Nasturtium	Aphids, whitefly, cabbage moths.
Cherry Tomatoes	Stink bugs, leaf-footed bugs.
Hubbard Squash	Cucumber beetles, squash vine borers, squash bugs.
Okra	Leaf-footed bugs, stink bugs.
Sunflowers	Stink bugs, leaf-footed bugs.
Sorghum	Stink bugs, leaf-footed bugs, earworms.
Dill	Tomato hornworms, aphids, carrot rust flies.
Collard Greens	Diamondback moths, cabbage worms.
Mustards	Harlequin bugs, cabbage worms, flea beetles
Radish	Flea beetles, mustard aphids.
Marigolds	Root-knot nematodes, slugs.
Chinese cabbage	Flea hoppers, aphids.
Arugula	Flea beetles

References:

Millcreek Gardens Companion Planting

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(Utah State University Extension)

Companion Planting & Botanical Pesticides: Concepts & Resources
(ATTRA Sustainable Agriculture)

Trap Cropping for Small-Market Vegetable Growers (University of
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Trap Cropping (IFAS University of Florida Extension)