



Rockin E Gardening Handouts

Tips and Suggestions for 'Year-Round' Gardening

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Companion Planting

For centuries, it was common practice to plant two, or more, crops in the same area, to help increase the yield of one, or more of the crops. American Indians used to plant corn, beans, and squash together. Squash leaves would shade the soil and reduce weed growth. Their prickly stems would make raccoons think twice about entering the corn patch. The corn provided shade for the squash in the heat of the summer. The squash vines climbed up the corn stalks. Beans were a nitrogen fixing plant, so they provided the corn and the squash with extra nutrients.

Companion planting is a mixture of both folklore and scientific fact. Many of us may have been told that marigolds help keep insects out of the vegetable garden; that garlic keeps aphids out of rose gardens, and that nothing will grow near a black walnut tree.

Some suggestions have been documented; others have just been passed from one gardener to another. While some claims hold true, others do not. You should experiment to find out what works best for you. Even those who have used companion planting for years, do not always know why some companion planting combinations work, while others do not.

In modern times, single crop cultivation has become the most popular way of gardening because it is easier to plan, simpler to take care of, and a more efficient way to garden. However, time-tested garden wisdom tells us that certain plants grown close together become helpmates to each other. Learning from the past always has advantages, and many hidden benefits.



Companion planting simply means growing different plants together that like, enhance, or benefit each other.



In nature, where plants grow without cultivation, there is always a mixture of plant types growing in an area. With few exceptions, the plants that grow together in the wild are mutually beneficial, in that they allow for maximum utilization of light, moisture and soil. Plants that need less light live in the shade of those which must have full light. The roots of some plants live close to the surface, and others send their roots far down into the subsoil.

Your companion plantings should maximize the use of sun, soil, moisture, and nutrients, so you can grow several crops in one area. You can try to discourage harmful pests, without losing the beneficial ones.

Benefits

Not all crops respond to companion planting in the same way. In fact, some plants may do worse when combined with other crops than if they are grown by themselves. In many cases, however, the positive effects of companion planting outweigh any negative results.



Aromatic Plants

Some plants have a beneficial effect on the garden just because of the odor they emit. Many of these aromatic plants are herbs. You can mix and match herbs with most other plants as long as you are careful to meet the growth requirements of all the plants involved.

Be sure to choose plants that have the same requirements

for water, sunlight, temperature and soil conditions. Make sure the companion herbs do not attract the same problems, or pests, as the plants you are using them with.

Avoid using invasive herbs, such as horseradish or mint as companion plants, unless you are diligent in keeping them in bounds. Try planting invasive herbs in pots and just set the pots in the garden. You can move them around as desired.

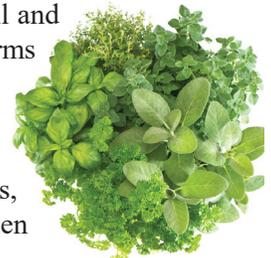
Herbs that repel. Try planting garlic with bush beans to repel aphids. Plant catnip with eggplant to repel flea beetles. A ring of chives under an apple tree is said to discourage apple scab. Other herbs used to repel pests include anise, borage, calendula, cilantro, dill, scented geranium, mint, rosemary, sage, and tansy.

Herbs that help. Some herbs seem to enhance the growth of other plants. Plant borage with strawberries, chervil with radishes, sage with cabbage-family crops, and summer or winter savory with onions. Try basil or thyme around tomatoes. Tarragon is said to enhance the growth of most garden vegetables.

Herbs that Hinder. Dill seems to slow the growth of tomatoes, and sage hinders the growth of onions. Garlic harms neighboring beans and peas. Marigold, sunflower, and wormwood may also hinder the growth of many plants, if they are too close. Fennel is often too aggressive and should be kept by itself.

Herbs as trap crops. You can use herbs as traps that lure pests away from your crops. Dill and lovage have been used to lure hornworms away from tomatoes.

Herbs to Lure Beneficial insects. Many herbs attract assassin bugs, honeybees, hover flies, lacewings, lady bugs, or parasitic wasps. Golden



rod, chamomile, coreopsis, marigold, sunflower, tansy, and yarrow are some of the common 'daisy-family' herbs that attract beneficial insects. 'Mint-family' herbs have aromatic foliage and attract many of these same insects. Other herbs used to attract beneficial insects are bee balm, catnip, hyssop, lavender, sweet marjoram, oregano, sage, thyme, anise, caraway, dill, and fennel, just to name a few.



The Right Combination

Selecting the right combinations and arrangements can be very tricky. You must be able to balance the benefits of mixing plants, with the possibility of incompatibility in use of space, sunlight water, and nutrients.



Every garden is different. What works in one garden may not work in another. Many other factors will affect the outcome of any given planting, such as soil fertility, available light, and the amount of water used.

The results of companion planting between two gardens may be identical, but the outlook may not be seen in the same way. For example, A "large increase" to you may only be a "moderate increase" to your neighbor. It may not be worth the extra effort, to your neighbor.

Many different planting combinations have been tried and tested. Some of the following suggestions have been documented, while others are just wives-tales. You should experiment to find out what combinations work best for you.

Even those who use companion planting do not always know why some planting combinations work, while others do not. You may have other combinations that work well together. Try out new combinations, and use some of your old ones too. Experimenting is the only way you can gain new insight for your own individual gardens.

Sometimes plant friendships are one-sided.

Radishes are said to 'like' beans, but beans don't reciprocate, though beans will help the nearby cucumbers and eggplants.



Other plants are bad companions, and you'll be doing them a favor to keep them apart. Beans and onions (garlic and chives) are natural enemies, so keep them at opposite sides of the garden: Broccoli, Cabbage, Cauliflower and Brussels Sprout plants do not like tomato plants; Carrots and Parsnips are not fond of each other; Potatoes prefer not being too close to cucumbers, tomatoes, squash or raspberries.

These suggestions are not intended to solve all gardening problems, as these suggestions may work differently in various situations; or perhaps not at all. Don't let that discourage you from giving some of these ideas a try!

Crop & Companion

Asparagus - Tomatoes, parsley, basil

Basil - Tomatoes, also repels flies and mosquitoes.



Bean - Beets, broccoli, cabbage, carrots, cauliflower, celery, corn, cucumbers, eggplant, peas, potatoes, radishes, squash, strawberries, summer savory, tomatoes. Dislike onions, garlic, radish, peppers and fennel.

Bee Balm - Tomatoes

Beet - Onions, kohlrabi, bush beans, lettuce, onions, kohlrabi, and most members of the cabbage family are companion plants. Keep the pole beans and mustard away from them.

Cabbage - Beans, celery, cucumbers, dill, kale, lettuce, onions, Potatoes, sage, spinach, thyme. Dislike strawberries, tomatoes, broccoli, cauliflower, and pole beans.

Carrot - Peas, beans, radish, lettuce, chives, onions, leeks, sage, rosemary, tomatoes. Dislikes anise, dill, parsley.

Celery - Leeks, tomatoes, bush beans, cauliflower & cabbage

Chamomile - Cabbage, onions

Chervil - Radishes

Chive - Carrots,

Corn - Potatoes, beans, peas, radishes, sunflowers, pumpkin, cucumber, squash, melons, lettuce. Dislikes tomatoes.

Cucumber - Beans, cabbage, cauliflower, corn, peas, radishes, sunflowers, lettuce. Dislikes melons & potatoes.

Dill - Cabbage

Eggplant - Beans

Garlic - Roses, raspberries, many herbs and vegetables, plant liberally throughout garden



Horseradish - Potatoes

Leek - Onions, celery, carrots

Lettuce - Asparagus, beets, Brussels sprouts, cabbage, carrots, corn, cucumbers, eggplant, onions, peas, potatoes, radishes, spinach, strawberries, sunflowers, tomatoes. Dislikes Broccoli.

Marigolds - Plant throughout the flower & vegetable gardens

Mints - Cabbage family, tomatoes, Nasturtium - Tomatoes, radishes, cabbage, cucumbers, under fruit trees

Onions - Beets, strawberries, broccoli, cabbage, carrots, tomato, lettuce, peppers, spinach, beans, repels slugs and ants. Keep away from peas, beans & sage.

Parsley - Tomato, asparagus

Pea - Most all vegetables. Carrots, cucumbers, corn, turnips, radishes, beans, potatoes, squash, and aromatic herbs. Keep the peas away from onions, garlic, leek, and shallots.

Peppers - Basil, coriander, onions, spinach. Dislikes beans & kohlrabi. Best not to plant near tomatoes (common diseases).

Pigweed (it is an edible weed)- Potatoes, onions, corn

Potato - Horseradish, beans, corn, cabbage, marigold, Lima beans, eggplant. Best not to plant near tomatoes (common diseases).

Pumpkin - Corn, Bean

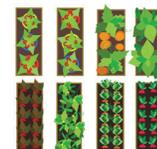
Radish - Peas, nasturtium, lettuce, cucumber, beets, carrots, spinach and parsnips, beans. Avoid planting radishes near cabbage, cauliflower, Brussels sprouts, broccoli, kohlrabi or turnips. It's said that summer planting of radishes near leaf lettuce makes the radishes more tender.

Rosemary - Carrots, beans, cabbage, sage, repels bean beetles and cabbage moths.

Rue - Roses & raspberries

Sage - Rosemary, carrots, cabbage, peas & beans.

Spinach - Strawberries



Squash - Nasturtium, corn, icicle radishes, cucumbers, beans.

Strawberry - Bush beans, spinach, lettuce

Summer Savory - Beans, onions

Sunflower - Cucumber

Tansy - Roses, raspberries & fruit trees. Deters ants, cucumber beetles, squash bugs, & many flying insects.

Thyme - Deters cabbage worm

Tomato - Chives, asparagus, basil, beans, borage, carrots, celery, dill, lettuce, melons, onions, parsley, peppers, radishes, spinach, marigolds, nasturtiums, thyme, & lima beans. Dislikes broccoli, Brussels sprouts, cabbage, cauliflower, corn, kale & potatoes (common diseases).

Turnip - Peas



Plants that Discourage Insects

Another important benefit of companion planting is that one plant may help protect another plant from certain insect problems. The following insects do not like the plants listed next to them. Try planting a few.

Nasturtiums: white flies, squash bugs, striped pumpkin beetle, and woolly aphids.



Basil: flies, mosquitoes, and asparagus beetles.

Catnip: ants, aphids, cockroaches, flea beetles, mosquitoes and Japanese beetles, but attracts cats.

Garlic: aphids, apple scabs, borers, Japanese beetles, peach leaf curl disease, and spider mites.

Lavender: ticks, moths, and mice.

Peppermint and other mints: ants, aphids, cabbage moths, and fleas.

Pennyroyal: fleas, flies, and mosquitoes.

Rue: Japanese beetles, and even cats and dogs.

Tansy: ants, fleas, flies, Japanese beetles, moths, striped cucumber beetles, and squash bugs. However, in some areas it has become a noxious weed and it can be fatal if ingested by some animals. So, grow it with care.

Borage: tomato worms

Calendula: asparagus beetles and tomato worms

Chrysanthemum: Mexican bean beetles

Cosmos: Mexican bean beetles

Coriander: aphids

Dandelion: Colorado potato beetles

Dead Nettle: potato beetles

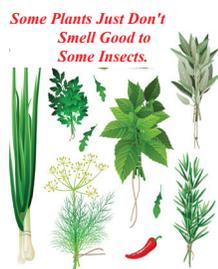
Fennel: fleas

Flax: potato beetles

Geranium: cabbage worms and red spider mite

Horseradish: potato beetles

Hyssop: cabbage moth



Oregano: cabbage butterflies and cucumber beetles

Parsley: beetles

Radish: cucumber beetle

Rosemary: bean beetles, cabbage moth, mosquitoes, and carrot flies

Sage: bean beetles, cabbage moth, carrot flies, and slugs

Southernwood: cabbage moth

Sunflower: armyworm

Thyme: cabbage worm



Insects Don't Like Some Plants

Aphids: Mints, garlic, chives, coriander, anise, petunias, nasturtium, marigold.



Cabbage maggot: Mints, hyssop, rosemary, thyme, sage, celery, catnip, nasturtium.

Cabbage moth: Mints, hyssop, rosemary, thyme, sage, celery catnip, nasturtium.

Potato Beetle: Snap beans, horseradish.

Cucumber Beetle: Tansy, radish.

Cutworms: Tansy.

Flea Beetles: Mints, tomato, cole crops.

Flies: Basil.

Leafhoppers: Petunias, geranium.

Bean Beetle: Marigold, potato, rosemary, summer savory, petunia.

Mites: Onion, Garlic, chives.

Mosquito: Basil, Rosemary, Lemongrass, Mint, Catnip, Citronella, Scented Geraniums.

Some Insects Just Do Not Like Some Plants.



Slugs & Snails: Rosemary, wormwood.



Squash bug: Tansy, nasturtium.

Hornworm: Borage, marigold.

White flies: Nasturtium, marigold.



The Three Sisters

The term 'The Three Sisters' was used by the Iroquois when they planted Corn, Beans, and Squash together.

Corn, beans and squash were considered by the Iroquois to be special gifts from the Great Spirit. The well-being of each crop was believed to be protected by one of the Three Sisters; spirits that were collectively called De-o-ha-ko. This word means "our sustainers" or "those who support us".

The three sisters system refers to the planting of corn, pole beans, and squash together in hills. The practice of planting more than one type of crop together is called interplanting. Although this planting system is not very common in the United States, it



is a well-thought-out growing process in other countries. Interplanting is beneficial because some small farmers are finding that continual plantings of one crop can have some major disadvantages; diseases and insects can start to build up in the soil, and that can become a problem.

In the Three Sister planting system, raised areas are made about three feet apart, both between and within the rows. Several seeds of corn are planted in small holes and covered. As the emerging corn plants are weeded, the soil is gently mounded, or hilled, around the corn plants. When the corn is about four to six inches high, bean and squash seeds are planted in the hills. Bean seeds are placed in each hill, and squash is planted in about every seventh hill. The three crops grow together for the remainder of the season.

Interplanting has many advantages. Iroquois farmers adapted this ecological planting method to meet the needs of their crops. Several crops planted together are not as attractive to pests, while large plantings of one crop tend to have more pest problems. The hills provide support around the base of the plants, so they are not as prone to damage from the wind. Also, interplanting helps create a uniform stand of corn. The corn forms a support for the beans, and the squash covers the soil, helping to control weeds.

Beans are in the legume family and legumes take nitrogen from the air and convert it into a form that plants can use. This is important because corn demands a fairly high amount of nitrogen. The nitrogen "left" in the hill by the beans is available for next year's corn crop. This is one reason the Iroquois planted in the same hills for several years.

The planting of corn, beans, and squash was more than a gardening activity for the Iroquois. The Three Sisters system also provided a varied diet, keeping the people healthy for hundreds of years.

Edible Landscaping

Edible landscaping is the practice of using food plants within ornamental or decorative settings. You may want to try using some of your companion planting knowledge to help you integrate a few edible plants into your flower gardens too.

Be careful, when you plant edibles among your ornamentals, you need to be cautious when using pesticides. Many pesticides (insecticides, fungicides, miticides, herbicides, etc) that are registered for use on ornamentals are not registered for use on edibles. Be sure to read the label of any pesticide to make sure you understand the restrictions. Keep that in mind while you are planning your gardens. Be even more mindful when you start to harvest. Be sure the edibles are safe to eat before harvesting.

Use the same design principles for ornamental landscapes, just substitute some edible plants such as lettuce, blueberries, vegetables, or even fruit trees, for some of the



otherwise unproductive plant material.

Using edibles in your landscape design can enhance a garden by providing a unique ornamental component with additional aesthetic benefits. Edible landscaping can add a mixture of both beauty and utility.



However, edible landscaping doesn't have to be using all edible plants. In fact, filling the yard with all edibles would often produce too much food for most families, not to mention extra time and work to maintain it.

Start small. Small and simple gardens mean that you can easily maintain them, and not become overwhelmed. Temper your spring enthusiasm knowing that many edible gardens not only need extra maintenance (mulching, watering, weeding, feeding, and pruning), but also take a lot of effort later in the summer and fall, in the form of harvesting, cooking, and storing.

Try a border of lettuce and spinach, planted with dwarf nasturtiums. You can mix all three into a fun salad for your guests.

All types of peppers are striking when combined with dwarf marigolds, or in a background of tall red salvia.

Tomatoes may grow better in flower beds, than in traditional vegetable gardens. That's because they should be moved to a different spot each year, to prevent disease, and space is often limited in a vegetable patch. Also, tomatoes may grow better when isolated from other tomato plants because diseases can't transfer as easily from one plant to another plant.

Don't let a little shade deter you from planting some vegetables. Fairly shade-tolerant veggies include beets, Brussels sprouts, cabbage, cauliflower, garlic, leaf lettuce, spinach, turnips, radishes, and beans.

Seek out vegetables in bold colors to plant among the flowers. Swiss chard, for example, is available in a rainbow of colors. Or try brilliant orange, red, or yellow sweet peppers.

Some mustard greens and kales have gorgeous fall colors, and are ideal for putting in containers, and borders, for color late in the year.

Brighten salads with edible flowers. Grow nasturtiums, pansies or violas, to toss in with your spinach or lettuce, for a pretty salad. You can even use some of your dandelion leaves, for an extra special surprise.

With careful planning, and the judicious use of fruits, herbs, and vegetables, you can have a yard that is flavorful, practical, and is visually pleasing.



As a added bonus, it's a great topic for conversation!

Additional resources:

<http://www.companionplanting.net/>

<http://www.companionplanting.net/ListofCompanionPlants.html>

<http://cceniagaracounty.org/wp-content/uploads/2014/02/companion-planting-info.pdf>

<http://utahpests.usu.edu/htm/utah-pests-news/spring2010/companion-planting/>