## Companion Planting Chart

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Body

Keep this Companion Planting Chart! It lists which vegetables, herbs, and flowers are "friends" and grow best in the same bed. Find the best companion plants for tomatoes, potatoes, cucumbers, beans, and all common crops in the home garden.

Our Garden Planner now shows you the list of companions for each vegetable to make Companion Planting much more accessible when planning your garden bed. See the online Garden Planner.

## What Is Companion Planting?

Companion planting is when two plants are grown near each other to benefit one of those plants or both-so the benefit can be one way or mutual. This is a tried-and-tested way to reduce pests, attract pollinators, and boost growth! Here are common examples.

- Tomato and Basil are natural companions in the kitchen and garden. Basil repels certain insect pests such as thrips and also disorientates moths, which lay tomato hornworms.
- Aphids severely crimp your crop! But aphids can't stand garlic! With this in mind, garlic planted as a barrier keeps crops less vulnerable to pest attack. For example, grow potatoes between rows of garlic to serve as a pungent bodyguard.
- Nasturtium flowers grown close to kale, cabbage, broccoli, and any brassica crops will lure hungry caterpillars away from eating your crops.

See more examples and a full chart of proven companions below!


The Three Sisters trio-maize, climbing beans, and winter squash-is an age-old example of companion planting.

## 7 Benefits of Companion Planting

There are plenty more good reasons to plant certain crops together:

1. Deterring pests: Certain plants act as insect repellents or deter critters. For example, garlic's smell is unappealing to many pests.
2. Attracting beneficials: Some plants also attract beneficial insects. For example, borage attracts pollinating bees and tiny pest-eating wasps.
3. Shade regulation: Large plants provide shade for smaller plants needing sun protection. For example, corn shades lettuce.
4. Natural supports: Tall plants, like corn and sunflowers, can support lower-growing, sprawling crops such as cucumbers and peas.
5. Improved plant health: When one plant absorbs certain substances from the soil, it may change the soil biochemistry in favor of nearby plants.
6. Improving soil fertility: Some crops, like beans, peas, and other legumes, help to make nitrogen more available in the soil. Similarly, plants with long taproots, like burdock, bring up nutrients from deep in the soil, enriching the topsoil to the benefit of shallow-rooted plants.
7. Weed suppression: Planting sprawling crops like potatoes with tall, upright plants minimizes open areas, where weeds typically take hold.


Vegetable garden using companion planting practices.

## Evidence-Based Companion Planting Philosophy

Until recently, a lot of companion planting was based on little more than hearsay, but there's an increasing body of scientifically grounded research that actually proves that growing specific plants together can reduce pests, boost growth, and even help wildlife. We've collected it all and updated our companion planting chart below! Some background:

1. Traditionally, it was thought that vegetables had "friends" and "foes"-companion plants that either benefitted the vegetables' growth or impeded it. This isn't necessarily wrong, but we've found that nearly all the associations are positive ones; there are perhaps 2 or 3 "bad" combinations (e.g., black walnut trees, which secrete growth inhibitors through their roots). Bottom-line: there is simply more evidence for "good" companions than "bad" ones, so we now focus more on why vegetables need friends!
2. There are misconceptions about companion planting on the internet, which we found concerning. Many examples of companion planting were based folklore or hearsay. While observations in our own garden can be valuable, we decided that our reference guide should only highlight companion plant pairings backed up by scientific evidence and tried-and-true practices.
3. While traditionally, companion planting referred to vegetable plant pairs, we've added more flowers to our chart; many are excellent natural insect repellents. Nasturtium is heads and shoulders above them all, taking the brunt of pest attacks. (See more below.) Of course, any nectar-rich flowers such as zinnia, comfrey and ageratum will attract pollinators such as bees to the garden, helping to boost the pollination of flowering crop plants like tomatoes, beans, and squash.


Dill attracts beneficial ladybugs, which eat aphids. Dill is also a food source for caterpillars and butterflies.

## Examples of the Best Companion Plants

Here are examples of some of the best companion planting combinations for your garden. (See more in the chart below.)

- Basil and tomatoes as interplanted basil repels thrips, as mentioned above. Basil also deters the moths, which lay tomato hornworms and egg-laying armyworms. Basil also attracts bees, which improves pollination, tomato health, and flavor.
- Dill attracts ladybugs, which eat small garden pests such as aphids and spider mites.
- Borage pairs well with tomatoes, attracting pollinating bees. Borage also pairs well with strawberries, enhancing their flavor and vigor.
- Garlic and garlic spray have a strong scent that deters many insects. Aphids can't stand garlic! Garlic also repels onion flies, ermine moths, and Japanese beetles. Plant garlic between rows of potatoes as well as alongside lettuces and cabbages and near fruit trees, together with alyssum, to attract aphid-eating hoverflies.
- Mint deters aphids, ants, and flea beetles. Just be careful to plant mint nearby in its own pot or bed, as it is a very aggressive grower!
- Nasturtiums attract hungry caterpillars away from brassicas like cabbage, broccoli, and kale, so grow these pretty flowers close to those crops; nasturtium also lure black flies away from fava beans.
- Parsley attracts beneficial insects to protect and pollinate tomatoes. Plant these herbs between tomatoes.
- Poached egg plants (a wildflower) draw in hoverflies, which control aphids on nearby lettuce.
- Sage is a useful herb that repels carrot flies. Also, plant it around a cabbage patch to reduce injury from cabbage moths.
- Sunflowers pair well with cucumbers and pole beans: Sunflowers help provide support for climbing plants, as well as shade for crops, which, in hotter climates, can become sun-stressed.
- Tansy is a real draw to pest-eating bugs such as ladybugs, ladybirds, and predatory wasps. At the same time, tansy repels many of the common baddies such as cutworm which attacks asparagus, bean, cabbage, carrot, celery, corn, lettuce, pea, pepper, potato, and tomato plants. Tansy is a perennial, which means you only have to plant it once. What more could you want in a garden flower?

Add more flowers! Growing calendula or cosmos nearby will attract tiny parasitizing wasps to aphid-hungry hoverflies. And we also love marigolds for drawing in those pest-hungry beneficial bugs.


Nasturtium planted next to netted cabbage.
Credit: Catherine Boeckmann

## Companion Planting Chart: 20 Common Vegetables

In this chart, you'll find some of the most common garden crops and their suitable companion plants. For more plants, we'd point you to the online Almanac Garden Planner, which has a large database of companion plants and a new companion planting feature that makes it easier than ever for you to find perfect matches for your plants. (Simply select a crop, then click on the heart-shaped Companion Planting button. The selection bar will then show only those plants that your chosen crop will love. Select one and drop it into your garden plan.)

Crop Name Companions Benefits and Notes
ASPARAGUS Calendula Calendula, tomatoes, and petunias are thought to deter asparagus


Petunias
Tomatoes
beetles.

| Crop Name | Companions | Benefits and Notes |
| :---: | :---: | :---: |
| BASIL | Peppers <br> Purslane <br> Tomatoes | Purslane is used to shade the soil around basil plants, helping them to remain fresh in hot weather. <br> Basil improves the growth and flavor of tomatoes and peppers. |
| BEANS | Beets <br> Corn <br> Lovage <br> Nasturtium <br> Rosemary <br> Squash <br> Strawberries <br> Sunflower | Nasturtiums can be used as a trap plant to entice aphids away from beans. <br> Lovage and rosemary also have excellent insect-repellent qualities. <br> Sunflowers can be used to create shade for sun-stressed crops. Corn will benefit from the beans' nitrogen-fixing capabilities. Pole beans provide structural support. |
| BEETS | Brassicas <br> Bush beans <br> Garlic <br> Lettuce <br> Onion family | Beets are companions for chicory and endive. <br> Onions protect against borers and cutworms. <br> Beets add minerals to the soil, as beet leaves are composed of $25 \%$ magnesium. |
| BROCCOLI | Oregano Other Brassicas (Cabbage, brussels sprouts, cauliflower, etc.) | Oregano has insecticidal properties. Plant Brassicas together so that they can all be covered with nets to protect from pests such as cabbageworms. They also all like lime added to the soil. |


| CABBAGE | Garlic | Nasturtiums deter insect pests such as beetles and aphids. <br> Garlic planted alongside cabbage repels insects with its odor. |
| :--- | :--- | :--- |
|  | Nasturtium | Sage deters cabbage moths. |

Crop Name Companions Benefits and Notes

| CARROTS | Chives <br> Leeks <br> Onions <br> Peas <br> Radishes <br> Rosemary <br> Sage | Chives improve the growth and flavor of carrots and deter aphids, <br> mites, and flies. <br> Rosemary and sage repel carrot fly. <br> Leeks are thought to repel many flying pests (including carrot rust <br> fly). |
| :--- | :--- | :--- |
| Coes: Dill can reduce the yield of carrots. |  |  |
| Dill, coriander, and other members of the Carrot family should not be |  |  |
| planted near carrots (they tend to cross-pollinate). |  |  |


| CUCUMBERS | Beans <br> Borage <br> Dill <br> Lettuce <br> Nasturtiums <br> Oregano <br> Radish <br> Sunflowers <br> Tansy |
| :--- | :--- | | Dill is thought to protect against aphids and mites. |
| :--- |
| Nasturtium deters aphids, beetles, and bugs and improves growth |
| and flavor. |
| Oregano deters pests in general. |
| Radish, Nasturtium, and Tansy repel cucumber beetles; radish also |
| repels flea beetles. |
| Tansy also deters ants, beetles, bugs, and flying insects, as does |
| borage, improving flavor and growth. |


| Crop Name | Companions | Benefits and Notes |
| :---: | :---: | :---: |
| ONIONS | Beets <br> Cabbage <br> Carrot <br> Chard <br> Lettuce <br> Strawberry <br> Tomatoes | Onions protect against borers and cutworms. Their aroma disorients pests. <br> Onions benefit from marigolds as the smell of marigolds reduces the egg laying of onion maggot fly. |
| PEAS | Alyssum <br> Carrot <br> Chives <br> Corn <br> Grapes <br> Lettuce <br> Mint <br> Radish <br> Spinach <br> Turnip | Chives deter aphids. <br> Mint improves health and flavor. <br> Alyssum brings in pollinators and encourages green lacewings, which eat aphids. <br> Foes: Do not plant near garlic and onion, as they will stunt the growth of peas |
| PEPPERS | Basil <br> Marjoram <br> Onions <br> Oregano | Herbs like basil, oregano, and marjoram have a protective, insecticidal quality. |
| POTATOES | Basil <br> Beans <br> Calendula <br> Catmint <br> Cilantro <br> Garlic <br> Horseradish <br> Oregano <br> Peas <br> Tansy | Beans can improve the size of potato tubers. <br> Cilantro protects against aphids, spider mites, and potato beetles. Calendula, Tansy, and horseradish planted at the corner of a potato patch ward off Colorado potato beetles. <br> (Note: Tansy is considered invasive in some areas. See local guidelines before planting.) <br> Catmint also repels Colorado potato beetles but can bring cats into the vegetable garden, so it is a good idea to plant it in pots around the edge of the plot. |
| RADISHES | Chervil <br> Lettuce <br> Nasturtium Peas | Chervil improves growth and flavor. <br> Nasturtiums are a good trap crop for radishes. <br> Radishes are often used as trap crops for flea beetles. <br> Peas give nitrogen to the soil, which benefits radishes. |


| Crop Name | Companions | Benefits and Notes |
| :--- | :--- | :--- |
| WINTER | Beans <br> (pole) | Buckwheat brings in pest predators, which reduce insect pests. <br> SQUASH <br> andPUMPKINS <br> Buckwheat <br> Calendula <br> Corn |
| Marigold |  |  |
| Nasturtium provides general pest protection. |  |  |
| Calendula deters beetles and root nematodes. |  |  |
| Squash is traditionally planted with corn and beans ("three sisters") |  |  |
| to disorient the adult vine borer. |  |  |



## Video: How to Plan a Companion Planting

It really helps to see companion planting in action. In this video, Ben focuses on how to harness the power of flowers to deter pests, attract pollinators, and even improve your soil.


Watch Video At: https://youtu.be/HXKFeogLOBk

## More Companion Gardening Tips

Much of companion planting considers the height of different vegetables.

- Lettuce, radishes, and other quick-growing plants sown between hills of melons or winter squash will mature and be harvested long before these vines need more legroom.
- Leafy greens like spinach and Swiss chard will grow in the shadow of corn.
- Bush beans tolerate the dapple shade that corn casts and, since their roots occupy different levels in the soil, don't compete for water and nutrients.
- Don't get too fixated with pairing up crops. Correct spacing, sun, water, and good soil management are the most important influences on your growing.
- Why not start small with a few marigolds and zinnia seeds-and watch the beneficial bugs come! Other options to start with? How about calendula, nasturtium, basil, and borage?


## A Companion Planting Tool

All of this companion planning information is well and good, but honestly, who has the time to research scientifically rigorous companion planting combinations?

This is the reason we have our Garden Planner. Our team has spent many months-years even-trawling through much of the peer-reviewed research in this area, exhaustively working out what is proven and what is not. The result is the Garden Planner's Evidence-Based Companion Planting tool.


Simply select a garden vegetable on the screen and then click the 'Show Companions' button. The selection of plants is filtered to show only those plants that grow especially well with your chosen vegetable!!

For example, if you select sweet corn and click on the Companion Plantings button, it shows that beans are a great companion! Learn more about the Garden Planner.


## Learn More

1. For ideas and inspiration, see readers' companion garden plot plans with plant lists.
2. Are you just getting started with gardening, or do you need a refresher course? Check out our Vegetable Gardening for Beginners how-to page.
3. Need plant-specific growing advice? Read through our many Growing_Guides for vegetables, fruit, flowers, and herbs.

Have you tried companion planting? What's your go-to pairing? Tell us in the comments below!
About The Author

## Catherine Boeckmann



Catherine Boeckmann loves nature, stargazing, and gardening so it's not surprising that she and The Old Farmer's
Almanac found each other. She leads digital content for the Almanac website, and is also a certified master gardener in the state of Indiana. Read More from Catherine Boeckmann

