

Companion Planting for Southern Appalachia



A Practical Guide from 10+ Years of Northeast Tennessee Gardening



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The Truth About Companion Planting

Let's be honest: most companion planting advice you'll find online is folklore passed down through generations without much scientific backing. "Plant marigolds with everything!" "Carrots love tomatoes!" "Never plant onions near beans!"

Most of this advice is harmless, but it makes gardening more complicated than it needs to be. Companion planting isn't about memorizing magical combinations but following a few simple rules.

After more than a decade of gardening in the Tennessee Tri-Cities, I've learned to focus on what makes a difference: **diversity, plant families, strategic height planning, and creating ideal environments for beneficial insects.**

Companion planting can make your garden more productive and beautiful. This guide won't give you a magical chart of "plant this with that." Instead, I'll share some simple rules and my honest experience about what really makes a difference.



My diverse garden full of life and beauty

Know Your Plant Families

This is the single most important concept in companion planting. Plants in the same family share diseases, attract the same pests, and compete for the same nutrients. Keeping family members separated is one of the few companion planting rules with solid evidence behind it.

The Major Vegetable Families

Nightshades (Solanaceae): Tomatoes, potatoes, peppers, eggplant. These share many diseases and pests—keep them in different areas of your garden.

Brassicas (Cruciferae): Broccoli, cabbage, cauliflower, Brussels sprouts, kale, collards, radishes, turnips, arugula, mustard greens. All susceptible to cabbage worms and clubroot.

Cucurbits (Cucurbitaceae): Squash, melons, cucumbers, pumpkins, zucchini. Squash bugs and vine borers love them all.

Alliums (Amaryllidaceae): Onions, garlic, leeks, chives, shallots. Actually beneficial to scatter throughout your garden—their strong scent deters many pests.

Umbellifers (Apiaceae): Carrots, celery, fennel, parsley, dill, cilantro. Their flowers attract beneficial insects.

Legumes (Fabaceae): Beans and peas. These fix nitrogen in the soil, benefiting neighboring and following crops.

Amaranth Family (Amaranthaceae): Spinach, Swiss chard, beets. Related but generally trouble-free together.

Daisy Family (Asteraceae): Lettuce, chicory, endive, artichokes, sunflowers, dandelions. One of the largest plant families—yes, lettuce is related to sunflowers!



Peppers are nightshades—keep them away from tomatoes, eggplant, and potatoes



The Diversity Principle

Pests have a harder time finding their target plants when they're surrounded by non-host plants.

Studies on cabbage root flies found that egg-laying dropped from 36% in bare soil to just 7% when the soil was covered with clover. The flies got confused by all the "wrong" plants and couldn't efficiently locate their targets.

This is why monoculture (planting large blocks of the same crop) invites problems. A pest that finds one plant in a monoculture has found them all. But in a diverse garden, pests waste energy searching through "wrong" plants.

Practical Application

- Interplant different families throughout your beds instead of grouping by type
- Tuck herbs and flowers between vegetables
- Let some vegetables bolt and flower to attract beneficial insects
- Plant strong-smelling herbs (basil, oregano, rosemary) throughout the garden



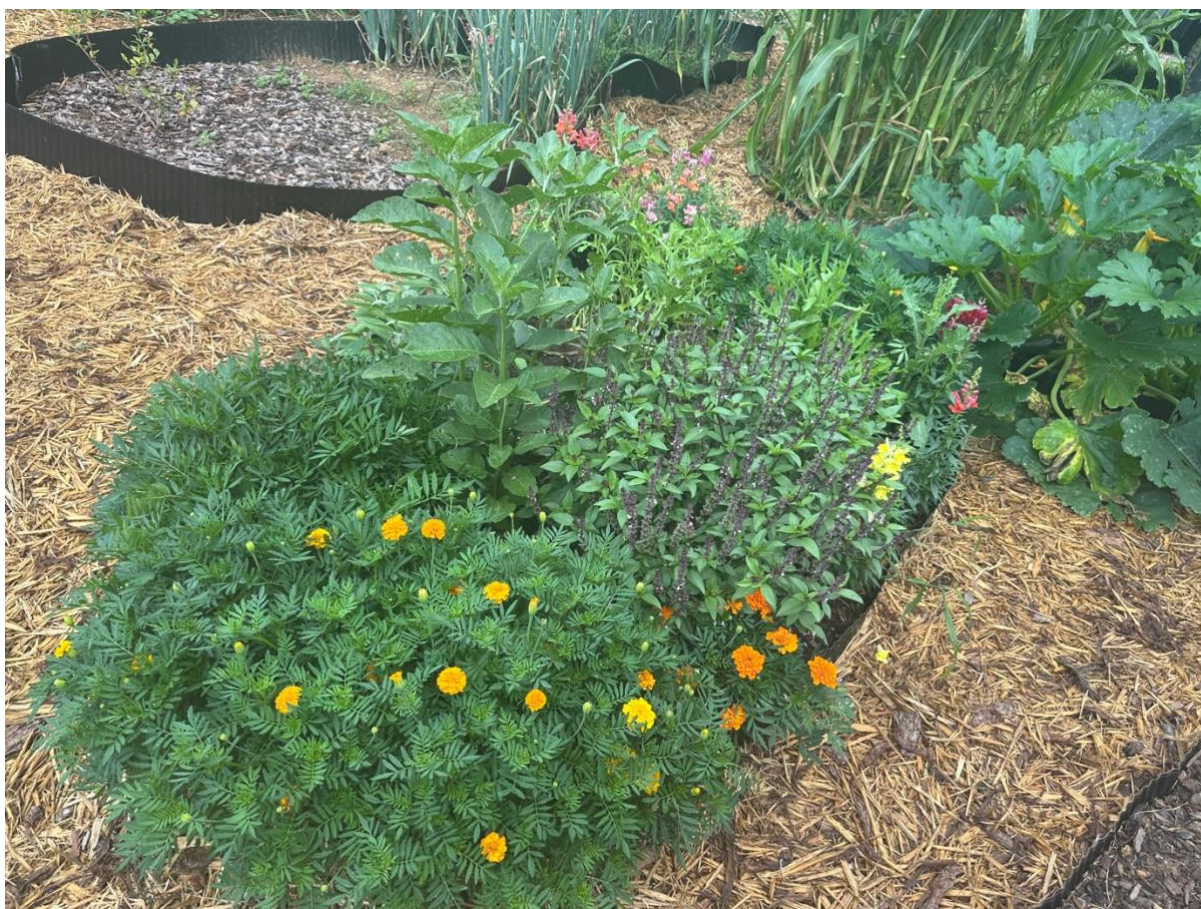
Nasturtiums interplanted with lettuce—diversity in action

The Science Behind Marigolds

Research has also proven that French marigolds help tomatoes.

A 2019 study from Newcastle University found that French marigolds release limonene (the same compound that makes up 90% of citrus peel oil), which repels whiteflies. The catch? **You have to plant them from the beginning of the season.** Adding marigolds as an emergency treatment once you already have whiteflies won't help.

The marigolds work by preventing whitefly populations from building up in the first place, not by driving away established infestations. So plant them early and keep them all season.



French Marigolds next to ashwagandha, Thai basil, and snapdragons

Combinations I Use

These aren't magic—they're just practical pairings that work well together in my garden:

Basil with tomatoes: I always plant these together. The basil's strong scent may help deter pests, they have similar water needs, and I use them together in the kitchen anyway.

Onions and garlic throughout the garden I scatter alliums everywhere. Their scent genuinely seems to confuse pests looking for their target plants.

Onions with strawberries: A classic combination. The onions help deter pests that would otherwise feast on the berries.

Lettuce and carrots under tomatoes: In my raised beds, I plant lettuce (shallow roots) and carrots (deep roots) under the tomato canopy. The lettuce appreciates the shade, and they're not competing for the same soil layer.

Tomatoes, cucumbers, and pole beans on the same trellis: Different families, different needs, no competition. The beans even fix nitrogen that benefits everyone.



Tomatoes and beans share a trellis with lettuce growing underneath and cucumbers on the other side of the trellis (lower right)

Strategic Height Planning

One of the most practical aspects of companion planting is simply thinking about plant heights and light needs. This isn't folklore—it's geometry.

The Basic Principle

- Tallest plants on the north side (they won't shade others)
- Medium-height plants in the middle
- Short plants on the south edge where they get full sun



Tall tomatoes climbing the fence in the back, medium peppers in the trellis in the middle, with low-growing lettuce in the front and vining cantaloupe trailing over the edge



Root Depth Pairing

Another practical principle: pair shallow-rooted plants with deep-rooted ones. They're accessing water and nutrients from different soil layers, so they don't compete.

Good Pairings

- Spinach (shallow) with carrots (deep)
- Lettuce (shallow) with tomatoes (deep)—the lettuce appreciates shade from tomato leaves
- Radishes (shallow, fast) with slow-growing anything—they'll be harvested before competing



Cucumbers have shallow, spreading roots

What About the Three Sisters?

The famous corn-beans-squash combination sounds perfect in theory: corn provides a trellis for beans, beans fix nitrogen for the corn, squash shades the ground to retain moisture and deter weeds.

What sounds good in theory doesn't always work out in practice, though. **I find this combination tricky to pull off.** In fact, I've never pulled it off, and I've never known anyone else who has either.

Here's why it's tough:

- Corn is shallow-rooted, and heavy pole beans can pull it down.
- The timing is finicky: Corn needs a good head start before the beans go in.
- Squash makes it nearly impossible to walk through to harvest,
- Modern sweet corn varieties are shorter and weaker than traditional varieties.

The theory is sound—it's just harder to execute than the pretty diagrams suggest. If you want to try it, use a sturdy dent or flour corn variety, not sweet corn.



Corn growing in its own patch—sometimes simpler is better

Trap Crops: A Double-Edged Sword

Research from Lincoln University found that Blue Hubbard squash can attract over 90% of squash bugs, vine borers, and cucumber beetles away from your main crop.

Sounds great, right? Here's the catch:

You have to actively kill the pests on the trap crop. If you don't, you've just created a breeding ground. The pests reproduce on the trap crop and then move to your main plants anyway, except now there are more of them.

For trap cropping to work:

- Plant the trap crop 2 weeks before your main crop so it's larger and more attractive
- Monitor the trap crop daily during peak pest season
- Destroy pests on the trap crop (hand-pick, use row cover, or targeted organic sprays)
- Be aware that trap crops can attract pests you don't already have



Squash can be a trap crop—but requires active management

Give Potatoes Their Own Space

Potatoes are one crop I don't try to interplant with much. Here's why:

- They need a lot of space above and below the ground.
- Harvesting means digging up the entire bed.
- Their dense foliage shades out most companions.
- They're susceptible to many diseases that spread easily.

The exception: I do plant fast-growing radishes or lettuce between potato rows at planting time. These are harvested long before the potatoes need so much space.



Potatoes thriving in their own dedicated raised bed

Nasturtiums: The Workhorse Flower

If there's one flower I recommend for every vegetable garden, it's nasturtiums. They earn their space several times over:

- Act as a trap crop for aphids (aphids love them)
- Every part of the plant is edible, with an onion-like flavor
- Bush types work as living mulch, suppressing weeds and retaining moisture
- Climbing types can share trellises with tomatoes, beans, or cucumbers
- Beautiful addition to any garden
- Attract pollinators and have a strong smell that can confuse pests



Nasturtiums—beautiful, edible, and functional



Building a Garden Ecosystem

The ultimate companion planting strategy isn't about specific plant pairings—it's about creating an ecosystem that naturally keeps pests in check.

Native Plants for Beneficial Insects

These Appalachian natives attract ladybugs, lacewings, parasitic wasps, and other beneficial insects:

- Coneflowers (Echinacea)
- Black-eyed Susans (Rudbeckia)
- Goldenrod (doesn't cause allergies—that's ragweed)
- Mountain mint (Pycnanthemum)
- Milkweed—also essential for monarchs
- Sunflowers—plus birds love the seeds



Native flowers attract beneficial insects and are beautiful



The Bottom Line

Companion planting doesn't have to be complicated. Focus on these principles:

- **Don't plant the same family together**—they share diseases and pests
- **Embrace diversity**—mixed plantings confuse pests
- **Plan for height and light**—tall plants north, short plants south
- **Scatter alliums and herbs**—their scent deters pests
- **Include flowers for beneficial insects**—especially natives
- **Give potatoes their own space**

Skip the complicated charts. Ignore the folklore about some plants being friends and others being enemies. Instead, plant a diverse garden with different families mixed together, include plenty of flowers, and let nature do what nature does.

Happy gardening!



Candace, Founder of Rooted in the Mountains



Let's Grow Together

Gardening in our part of the world is both a challenge and a joy. We deal with unpredictable weather, persistent pests, and clay soil. But we also get to experience the magic of growing food in one of the most beautiful places on earth. Every garden is different, and every season teaches us something new.

For more tips and tricks, [visit our blog](#) and [follow us on Instagram](#). Happy gardening!



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