



March is for Gardening: Starting a Backyard Garden

As the snow melts, the days get longer and the temperatures warm, many homeowners think about making this the year they start a vegetable garden. It can be a great family activity, providing everyone some outdoor time together while getting a little exercise. And the results can be delicious!

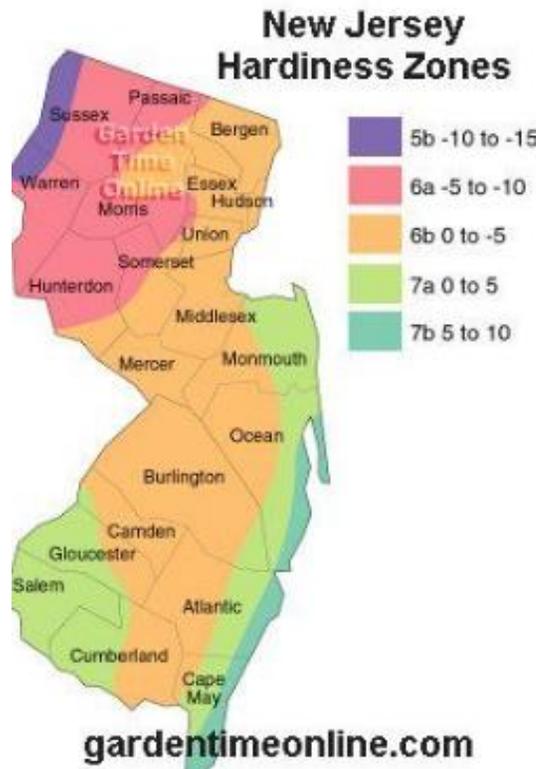


countryliving.com, illustration by Michael A. Hill

Hardiness Zones

It's important to know the hardiness zone of your location when you start to plan your garden – it will determine what will grow successfully in your area and the timeframes for your growing seasons. The US Department of Agriculture (USDA) has developed a Hardiness Zone map to determine your zone and help determine which plants are most likely to thrive in your area. The hardiness zones provide important information for growing fruit and vegetables including the latest average frost date in the spring, the first average frost date in fall and the average temperature. This information helps you plan when to plant and harvest your produce.

Most of NJ is in hardiness Zone 6, except for the northwest corner of the state which is Zone 5 (cooler) and a few spots on the shore and in Gloucester, Salem and Cumberland Counties are Zone 7 (warmer). Duke Farms is in zone 6B, where our average spring last frost date is May 15, our average Fall first frost date is October 15 and the length of the growing season is approximately 170 days. This tells the gardener not plan to plant warm-season crops (e.g., tomatoes, peppers, zucchini) before May 15 because they will likely not survive if a late frost occurs, and not to pick a variety that won't reach maturity in less than 170 days.



Activity: What Hardiness Zone Do You Live in?

Locate your part of the state on the hardiness map to determine your hardiness zone. If you live outside of New Jersey, enter your zip code in this [Planting Zones by Zip code tool](#).



grow yourself than purchase, such as fresh herbs. Consider asking friends and neighbors for suggestions of what grows well in your area, or try something new, like purple carrots. Be sure to include flowers in and around your garden to attract bees for pollination (and because they will be beautiful). Most vegetable crops, such as tomatoes, broccoli, and peppers, are **annuals** (plants that flower and die in one season) but you may wish to explore including **perennials** (plants live for more than two years) in your garden. Perennial edibles that grow in NJ include strawberries, asparagus, blueberries and rhubarb.

Determine the size of your garden - Start with a size that you are confident you can maintain throughout the season, spending time a few days a week weeding, watering, amending and harvesting. After you have been through an entire season, you can consider expanding the next year.

Develop a layout - Get a pencil and paper and start designing a layout for bed design and placement. Remember – it doesn't have to be all rectangles. When determining bed sizes, be sure you can easily reach the middle for planting, harvesting and weeding. Include pathways that are wide enough to kneel comfortably. Choose the location for perennials carefully because they will be there for many years to come. If the garden is on a slope, make the rows run across the slope rather than up and down it, or your garden soil will migrate to the bottom of the slope on the first heavy rain. It's best to develop raised beds for planting to allow for good drainage. Raised beds can be created with or without wood edges. If you don't want to make the financial and time commitment of building raised beds yet, you can simply raise the soil a few inches above grade – you'll be glad you did.

Fence? It is impossible to keep out all animals, so expect to share your harvest. In many areas, it is necessary to surround your garden with a fence to keep out the hungriest creatures. White-tailed deer are a common garden nuisance in New Jersey. They can jump over eight feet high but if your garden is small, a 4-foot fence might be enough to keep the deer from jumping over it. To keep out rabbits, you can use surround your garden beds with 1-inch mesh or smaller chicken wire fencing. At Duke Farms, we have a ten-foot-tall fence around our community garden and many gardeners surround their plots with shorter, chicken wire fencing. If you plan to fence your garden, be sure you can access any beds that are adjacent to the fencing from the front of the bed.

Gardening Tools

There are essential tools that every gardener needs when they start to garden. The list below will get you off to a great start. These are tools that will be well-used, so buy the best quality tools that your budget will allow.

- Garden gloves: Gloves should be durable but not too bulky – you'll need to handle small seeds and tender seedlings. Be sure they fit; poorly fitted gloves cause accidents and



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blisters to develop. Water resistant, breathable fabric with nitrile coating will protect your hands and nails from punctures.

- Hose and nozzle: Choose a garden hose that can reach and spray every area. Vinyl hoses are lighter weight and less expensive but kink easier and don't last as long as rubber construction. Select a nozzle or watering wand with various settings, including a gently spray for young seedlings. A watering wand has extended reach to get to out-of-the-way areas or the back edges of garden beds.
- Hand tools
 - Cultivator: Also known as a hand rake, a cultivator is used for weeding, smoothing soil and defining rows.
 - Trowel: Trowels are used for general planting and weeding. Select one that is comfortable in your hand. Those with stainless steel heads are more durable than plastic and will last longer.
 - Hand hoe: Used for weeding close to plants, moving soil and digging narrow and shallow trenches for planting.
 - Hand snips: Used to trim plants as well as harvest vegetables and herbs that are not easily removed from the plant.
- Kneeling pad: To cushion your knees when weeding, planting and harvesting in your garden.
- Tub trug or large bucket: These can be used for carting weeds, produce and supplies. If you have the room, a wheelbarrow can also be used.
- Stirrup hoe: This is a long-handled tool used for standup weeding. It makes quick work of clearing paths and between larger plants.
- Pitchfork: Used for large weeds and breaking up compacted soil.



Preparing the Soil

The first step to creating a garden bed is clearing away the existing vegetation. Weeds may be pulled by hand-make sure you get the roots, so they don't re-sprout. If you're starting with a lawn, you may want to rent a gas-powered sod cutter to remove the grass. Then you need to prepare your space. You may also consider using a mechanical rototiller to prep your space, but we recommend only tilling during this setup phase. (Tilling can disrupt the life and structure within the soil (from worms to beetles to bacteria), which isn't ideal.)

Once your space is prepped, using your layout, mark out the garden beds and the pathways. Do not walk in your beds- you want that soil to stay loose with no compaction. In the beds, loosen the top 1 foot of the soil and mix in a thick layer of compost (at least four inches thick). If your weeds or grass were particularly thick, you can try sheet mulching by layering cardboard and compost to kill weeds while preserving soil structure. The compost will add nitrogen, phosphorus and potassium to the soil as well as valuable micro-nutrients. It will also improve your soils ability to retain water. If additional soil is needed

to raise your beds to the desired height, you can purchase organic garden soil in bags or bulk from local garden centers.

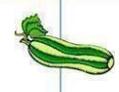
Now You’re Ready to Plant!

See our article [NJ Fruits and Veggies](#) on the [Duke Farms Distance Learning Portal](#) to learn about what crops grow best in central NJ and when to plant them out. If you live outside this area, contact your local cooperative extension agency or visit your local garden center.

Crop Placement

Keep in mind that those seeds and seedlings will grow quickly. Be sure to consider the following:

- Place shorter plants on the south side of the garden and taller plants on the north end. This helps to prevent shading.
- Allow enough space for the plants to get proper ventilation and sun when mature. Use the chart below to estimate the space needed. Don’t overplant!

XL 1 plant per 2 square feet	L 1 plant	M 4 plants	S 9 plants	XS 16 plants
Watermelon 	Tomato 	Lettuce 	Bush bean 	Radish 
Zucchini squash 	Eggplant 	Basil 	Beet 	Carrot 
Pumpkin 	Broccoli 	Marigold 	Spinach 	Onions 
Melon Winter squash Summer squash	Cabbage Cauliflower Cucumber Okra Pepper	Corn Parsley Potato Strawberry Turnip	<small>homesteadingsurvival.com</small>	

uafcommunitygarden.wordpress.com

- To maximize your space, consider growing these vertically on trellises: peas, beans, cucumbers, winter squashes. Be sure to select the correct variety – bush beans and bush/patio cucumbers will not benefit from being trellised.



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- There are web-based garden planning tools available to help! Check out these to help: growveg.com (free for 7 days) or [Kitchen Garden Planner \(gardeners.com\)](https://www.gardeners.com/kitchen-garden-planner). If you are looking for preplanned gardens, you can find them at [Pre-Planned Gardens \(gardeners.com\)](https://www.gardeners.com/pre-planned-gardens).

Once you've planted your seeds and plants, be sure to give them a good drink of water. In the first few weeks, be sure that the soil is moist, but not saturated.

Help Your Garden Grow!

Your garden needs water, sun and warmth to grow. Mother nature will help, but you will need to do your part. At a minimum, you'll need 15-30-minute gardening sessions, several times/week. Develop these good gardening habits:

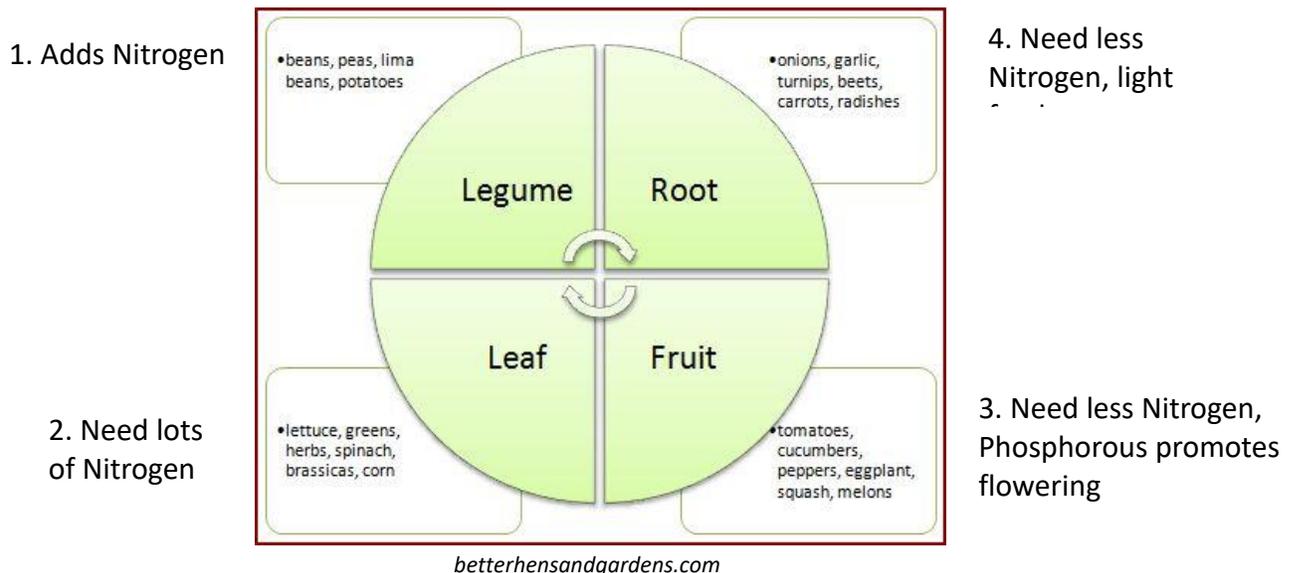
- **Water slow and low:** Most **established** plants need 1 to 2 inches of water per week. Some crops, like celery and eggplant, will need more. If it hasn't been provided via rain, it's best to water 'slow and low' – water once a week, slowly at the base of the plant to encourage deeper and stronger root growth. Watering in the morning is preferred, but late afternoon is okay as well. A layer of mulch (e.g., shredded and composted leaves, straw, mulch hay, shredded bark) will help minimize weeds and retain moisture in the soil.
- **Remove weeds:** The weeds will compete with your plants for nutrients in the soil. It's best, and easier, to remove them when they are small. Hand weed or use a hoe. Remember to remove the weeds from the garden.
- **Remove failed plants:** If something dies or develops a disease, pull it out and don't worry about it. Focus on your successes!
- **Feed your plants:** After your plants settle in for a few weeks, they will benefit from a regular feeding (i.e., every 2 weeks) of an organic liquid fertilizer. We recommend using a fish emulsion or liquid kelp, both generally available in concentrate. Be sure to dilute correctly before applying to your garden. It's best to apply in the morning or the late afternoon (not during the sunniest part of the day).
- **Monitor for pests and diseases:** Every garden is affected by insects and diseases. Watch your plants carefully on be on the lookout for changes. You can often keep your garden healthy if you treat these conditions early, without using chemical pesticides. This [Savvy Gardening Guide to Vegetable Garden Pests](#) can be useful in identifying common offenders.
- **Manage your plants as they grow:** Plants will benefit from being kept in order. Tall and climbing vegetables require staking or trellising. It's best to install the stakes at planting time and then secure the plants to the stakes as they grow. If you wait until the plant has grown before staking, you run the risk of injuring the plant roots. Trim off dead or diseased leaves.
- **Enjoy your harvest:** If all goes well, you may be harvesting more than you can eat! You can share your surplus with friends and neighbors or freeze/can your extra produce to enjoy during the cold winter months. If you've got extra berries, try your culinary skills and make some jam- it makes a great gift!

What to Consider for Next Year?

In the fall, you will likely start thinking about your plans for next year's garden. It's a good idea to 'put your garden to bed for the winter'- clean up the spent plant debris and put 1-2 inches of compost on your garden beds to enrich the soil over the winter.

As you start planning, these are a few topics to consider. This is just a starter list of ideas- each one can be researched independently for additional information.

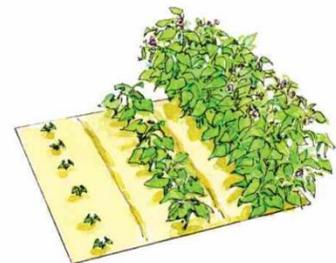
- Crop rotation:** Vegetable crops are classified in different plant families. Plants in the same family are susceptible to similar diseases and pests. They also need similar nutrient requirements. Practicing crop rotation helps to minimize insect/disease damage and balance the loss of soil nutrients (or make use of nutrients that have developed). Plants in the same family should NOT be planted in the same garden location year after year. For example, if tomatoes are planted in an area of a garden one year, peppers, eggplant, potatoes and tomatoes should not be planted in that area the next year because all these plants belong to the nightshade family. Refer to this table for determining what to plant where next year.



- Succession planting:** Succession planting refers to planting the same crop at different times, so they are not all ready to harvest at the same time.

You might decide to do this extend your harvest. Consider planting green beans or radishes three weeks apart.

- Companion planting:** This refers to combining 2 or more plants for a mutually beneficial purpose. The plants help each other by minimizing weeds, repelling certain insects, attracting beneficial insects, filtering sunlight, providing shelter or support or improve the soil. Check out [Modern Farmer Companion Planting Guide](#) for additional information. Some examples are:



The Year-Round Vegetable Gardener, Jabbour



- Tomatoes and basil (the basil improves the taste of tomatoes, repels some insects and attracts bees for pollination)
- Chives and carrots (Chives improve the taste and texture of carrots. Chives are good for pest control like aphids and carrot rust flies.)
- **Interplanting or intercropping:** This technique combines two or more types of vegetables in the same bed at the same time to maximize growing area and get more produce out of your space without expanding. By increasing the density of the planting, the weeds are minimized. The key is to combine plants with different maturity dates, growth patterns and growing requirements. Fast growers (e.g., arugula, beans (bush), beets, broccoli raab, green onions, lettuce radish, spinach) can be planted with slower growing crops (e.g., broccoli, brussels sprouts, cabbage, kale, corn, tomatoes).

A great example of interplanting was developed by the native Americans – the three sisters garden using corn, beans, and winter squash.

Most of all, be proud of what you've done and enjoy your garden! It's a great way to spend time outdoors, relieve some stress and eat more fruits and vegetables.

