



Growing Tomatoes

in Rockbridge County

It's hard to live in Rockbridge County and not be tempted by our beautiful, lush landscapes to spend time in a garden watching things grow. Tomatoes tend to be a particular favorite amongst gardeners. We hope this month-by-month guide will ensure you years of success as you enjoy your garden.

January/February

While you are stuck inside, it's time to dream about your garden and what you want to grow. Though you may see a limited selection in the grocery store, there is a vast variety of tomatoes to choose from, and nothing tastes better than one that is homegrown. Cherries are usually small and sweet. Beefsteaks are large and great sliced on sandwiches. Paste tomatoes have less seeds and are perfect for sauces and canning. Tomatoes come in many colors: red, orange, pink, yellow, green and purple. Some varieties mature earlier than others (55 to 105 days from the transplant date).

Two important distinctions for growers are:

Determinate vs Indeterminate

Determinate varieties are smaller and more compact plants (about 4 feet at maturity) with a shorter period of fruit production. Indeterminate varieties are long-vined and produce fruit until killed by frost..

Heirloom vs Hybrid

Heirloom varieties have been passed down for their excellent eating quality, but may have less disease resistance, hardiness and/or yields than hybrids which are cross-pollinated to improve these factors. If you save heirloom seeds, they will produce the same plant as long as the plants were isolated from other tomato varieties, however, hybrid seeds will not.

If you want to start your tomato plants from seed, we recommend the following catalogs that you can order or view online:

**Southern Exposure Seed Exchange Johnny's Selected Seeds
Totally Tomatoes**

Even if you are not starting plants from seeds, these catalogs have a wealth of information about tomato varieties and how to grow tomatoes (and other vegetables) including best varieties for taste, disease resistance, yield and various uses. They also sell garden supplies.

Planning your garden space:

Location

- Plant tomatoes where they will get 6 to 8 hours of direct sunlight.
- Do not plant tomatoes and other vegetables in the root zone of walnut trees. Walnut trees produce a toxin that can cause "walnut wilt", a disease that can kill your plants.
- Plant your garden close to your watering source and in a breezy area if possible.

Raised beds vs Inground gardens

If your garden space is full of clay, rocks and weeds, you may find a raised-bed garden to be a great alternative. This gives you the ability to make a weed-free soil that has the water-drainage and nutrients your plants need.

Fencing

Various animals will eat the fruit (squirrels, birds, groundhogs, voles, chipmunks), but rabbits and deer do the most damage to plants. A fence 2 feet high will keep out rabbits. Since deer can jump 8 feet, other deterrents may be more reasonable. Rockbridge Farmer's Co-Op sells sprays designed to repel deer by scents. If you are unsure what is eating your plants, borrow a hunter's trail camera. It will film each time there is significant motion in your garden.

March/April

Soil Preparation

Soil test

Though you can test your soil any time of year, it is best to do a soil test in the fall to check that your soil acidity and nutrients are sufficient for growing tomatoes. This gives you more time to amend the soil if needed. You can pick up a soil test kit from the Virginia Cooperative Extension office in downtown Lexington. You will have to send your soil sample to Virginia Tech. For a fee of \$10, they will send you a report on your levels of key nutrients, your pH, and recommended amendments. Tomatoes require a slightly acidic soil (6.2 to 6.8 pH is optimal).

Drainage

Tomatoes require a well-drained, loam soil. Unfortunately, soil in Rockbridge County has high amounts of clay. Its density prevents roots from getting the oxygen they need, and the hard soil prevents roots from spreading. Also, water cannot drain well which can cause roots to get waterlogged and rot. Adding sand only hardens the soil. To amend clay soil, mix in large amounts of composted organic material and keep soil covered with a mulch.

Starting Seeds

If you plan to grow your plants indoors from seeds, sow seeds 6 weeks before the last frost date (May 12 in Lexington). This would be around April 1st. Plant seeds 1/4 -inch deep in a sterile potting medium and maintain soil temperature at 68-86 degrees for good germination. As soon as seedlings emerge, locate them in a sunny spot. Be sure they have enough light so that the stems do not become leggy and thin. If you use grow lights, position plants 4 to 8 inches below the lights for 12-18 hours per day, but off at night. Seedlings grow best at temperatures of 64 to 75 *F. Provide air circulation and keep soil surfaces moist.

May/June

Purchasing Transplants

Look for plants that are short and stocky with dark green color and straight, sturdy stems. They should have no flowers (you can pinch them off). Initially, you want the plant's energy to be going into developing roots rather than flowers.

Local nurseries: **Shaner's Greenhouses**, located just north of Lexington city, sells vegetables and flowers.

Mountain View Greenhouse in Rockbridge Baths sells vegetables and flowers

Fancy Hill Plants on the southern end of Rockbridge County has an excellent assortment of heirloom vegetable varieties and plant care products.

Hardening Off

7 to 10 days before planting, place plants outside when temperatures are **above 55 degrees**. The first day place them in shade where they are protected from wind. Gradually increase the time they are outside and their exposure to light and wind. Bring them in at night until the last couple days.

When to Transplant

Tomatoes are tender plants and will die if exposed to frost. Though Lexington's average last frost date is May 12, keep in mind that the varying slopes and land elevations in our county cause microclimates. Temperatures in the county can vary as much as 10 degrees. Do not plant tomatoes until the average soil temperature is above 60 degrees and night temperatures are consistently above 55 degrees. Though most people are tempted to plant as early in the season as possible, we recommend planting after Memorial Day. Tomatoes planted in warmer soil will catch up with early plantings and likely do better.

How to Transplant

Try to plant on a cloudy, wind-free day or in the late afternoon to prevent transplant shock. Make your hole deep. The stems of tomatoes grow roots when in contact with the ground. Set tomato transplants in holes covering the stems so that only two or three sets of true leaves are exposed. (Pinch off lower leaves a day before planting).

Tomatoes are heavy feeders and do best in medium to rich soils. Add fertilizer to the hole at the time of planting. Too much nitrogen will delay fruiting, but higher amounts of phosphorous is beneficial. Espoma Organic Tomato-Tone is excellent and sold locally. Fancy Hill Plants sells a fish bonemeal mix that they highly recommend. Follow instructions on labels to fertilize through the season, but do not over-fertilize. Water well after planting.

Mulching

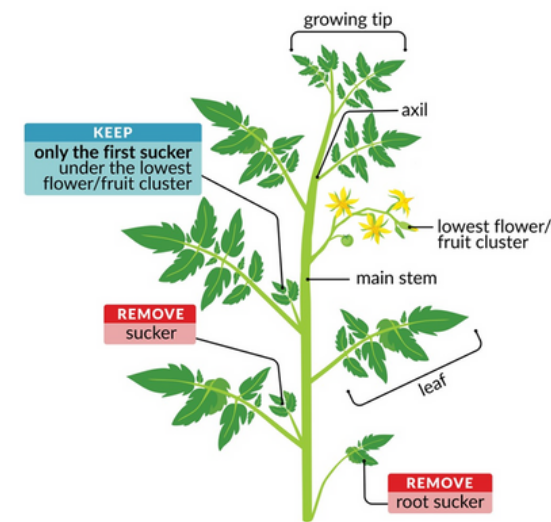
The most common diseases of tomatoes in Rockbridge County are caused by soil-borne fungi that splash up on your plant leaves during rains or watering. Immediately after you plant your tomatoes, put down a thin layer of mulch such as straw, grass clippings, shredded leaves, pine needles, or newspaper. Because organic materials delay soil warming, however, wait until the soil is thoroughly warm before adding a 2 to 4-inch mulch layer that will prevent weed growth and hold in soil moisture.

Staking

Soon after planting, it is important to stake or cage your tomato plants to prevent disease and fruit rot. A stake or cage that is 4 feet above ground is adequate for determinate tomatoes, but indeterminate varieties require one that is at least 5 feet. Stakes should be set 4 inches from each plant and plants should be spaced at least 30 inches apart. Caged plants should be spaced at least 36 inches apart in rows 60 inches apart.

As the plants grow, pull the stems toward the stakes and tie loosely. To keep leaves off the ground and increase fruit yield and air circulation, you can prune staked tomatoes to either one or two main stems (determinate tomatoes don't need pruning).

At the junction of each leaf and the first main stem new shoot will develop. If plants are trained to two stems, choose one of these shoots, normally at the first or second leaf-stem junction, for the second main stem. Remove all other shoots, called suckers, weekly to keep the plant to these two main stems. Pinch suckers off with your fingers. Tomato plants may also be set along a fence or trellis and tied and pruned in a manner similar to that used with stakes. A disadvantage to pruning is there will be less leaves to protect your tomatoes from sunscald.



Source: Wisconsin Horticulture
Division of Extension

Using wire cages requires a large initial expenditure and a large storage area, but many gardeners feel that the freedom from pruning and staking is worth it. The cages, if heavy-duty, will last many years. Be sure get fencing with at least a 5-inch spacing between wires so that you can get your hand inside to harvest the tomatoes. If tomato plants in wire cages are pruned at all, once is enough; pruned to three or four main stems will improve air circulation. Wire-cage tomatoes develop a heavy foliage cover, reducing sunscald on fruits and giving more leeway when bottom leaves become blighted and have to be removed.

Insects

Tomatoes generally have few severe pest problems. Pests that can impact tomatoes are aphids, flea beetles, hornworms, stink bugs, Colorado potato beetle, fruit worms, mite, whiteflies, cutworms, and Japanese beetles. Most of these can be treated using Safer Insect Killing Soap available at Rockbridge Farmer's Co-Op. Pyrethrin or 100% pure neem oil sprays are also effective in killing these pests. Check the bottle's label and use as directed.

The first pests to appear on your plants may be aphids and/or flea beetles. Aphids are tiny, sap-sucking insects that you will find on the bottom of leaves. Healthy plants should be able to tolerate these early spring pests. You can pinch off leaves that are highly infested. Flea beetles are tiny, mostly black, shiny beetles that chew small holes in foliage. The damage they do will be to the bottom leaves of your tomato plants, which you will eventually be pruning to prevent them from dragging on the ground. If your infestation is particularly bad, Safer Insect Soap is effective in killing both of these pests. Hand-picking is the best way to get rid of hornworms, but don't pick them if these green caterpillars have white rice-like cocoons on their backs. These will hatch beneficial parasitic wasps that will kill the hornworms for you.

July/August

Plant disease-resistant varieties for a good harvest. Common diseases in this region include: early blight, Septoria leafspot, verticillium and fusarium wilts, late blight, and bacterial spot.

Fungus is the most common cause of diseases that affect tomatoes in Rockbridge County. Some are soil-borne and others are spread during wet, humid weather. For this reason, it is important to take the following steps:

- Space plants out for good circulation (at least 30 inches)
- Keep tomato vines staked and off the ground
- Prune off bottom leaves that touch the ground. As plants mature, it is good to have 12 inches between the bottom leaves and the soil
- Keep a layer of mulch between the soil and plants
- Water plants early in the day so they have time to dry in the sun
- Water plants at the soil level to avoid splashing soil onto the leaves
- Don't handle wet plants (you can spread disease)

- Older bottom leaves will first succumb to fungal diseases. Immediately pinch off leaves that are yellowing or spotted when plants are dry. Clean tools or hands before touching other plants.
- The fungi that cause Septoria leaf spot and early blight overwinter on plant debris, so be sure to clean out all parts of the plant and fallen fruit at the end of the season and put it in the burn pile. Do not put it in your compost bin.
- If possible, wait 3 years before planting tomatoes (or other nightshades) in the same spot.

Other problems

Blossom-end rot is caused by irregular soil moisture or a calcium deficiency. Poor color, yellow spots, or sunscald is caused by lack of foliage cover. Fruit cracking and splitting is caused by irregular soil moisture (such as when heavy rains follow a hot, dry period).

Tomatoes typically start turning color in July, but ripening can be delayed by hot weather. Daytime temperatures above 90°F and night temperatures above 70°F result in reduced flowering and fruit set. Extreme heat and cold can lead to uneven ripening and reduced flavor.

Watering

Tomatoes need moist but not soggy soil. Keep moisture amounts even by watering during dry weather. Otherwise, when heavy rains come, plants will grow quickly and split. Water once a week deeply 1 inch (2 inches during prolonged hot periods).

Harvesting

Harvest when fully vine-ripened but still firm. Tomatoes can also be picked when they start to change color and placed on a counter to ripen. This prevents damage to the tomatoes from cracking, sunscald, frost or pests.

September/October

If you didn't do a soil test this year, this is the perfect time to do it. You can begin amending your soil right away as needed in preparation for next year's garden. A soil test is recommended every 3 to 5 years.

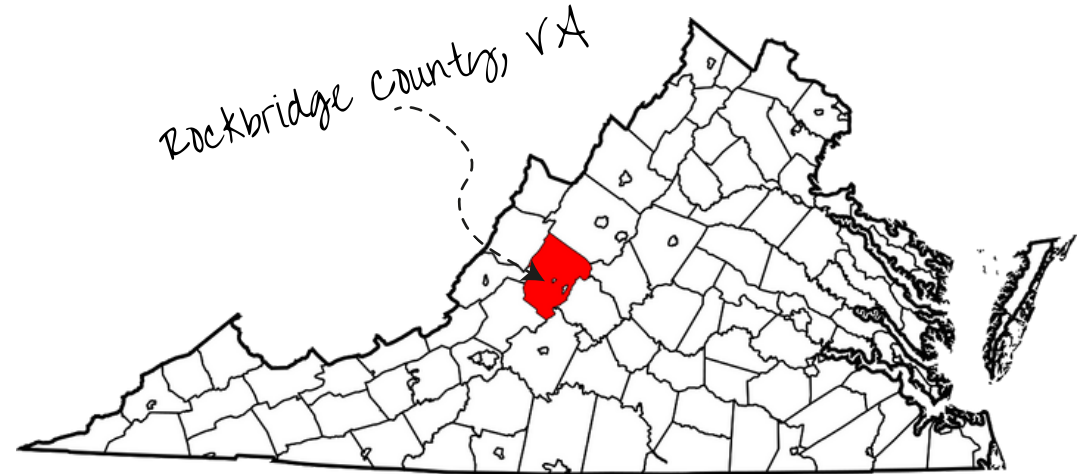
The chance of frost begins in Lexington around October 2nd. By October 23rd we are almost certain to have had at least one frost. Keep in mind that county temperatures can be much cooler. The average frost date for our county is considered October 15th.

Once frost has killed tomatoes, thoroughly clean out and dispose of all plant debris where disease and insects can overwinter.

Many people think of winter as when everything dies, but for gardeners, this is the season of rest-- for you and for your soil. Do not leave your garden soil bare during the winter. Covering the ground with mulches, compost, or a cover crop can improve soil fertility and quality, suppress weeds, and manage soil erosion.

November/December

Enjoy your rest.



For more information: Virginia Tech Extension Publication 426-418,

<https://digitalpubs.ext.vt.edu/vcedigitalpubs/4183189132728711/MobilePagedReplica.action?pm=2&folio=1#pg1>



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