

# THE TENNESSEE VEGETABLE GARDEN

## GROWING TOMATOES

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*Vegetable production is increasingly popular for Tennessee residents. Home vegetable gardening benefits include financial and nutritional value resulting from providing fresh vegetables as well as enhancing personal health and well-being through gardening activities. However, a basic understanding of soils, site selection, and crop maintenance is required before a gardener can take full advantage of the many benefits of home vegetable production. To meet these needs, this series of fact sheets has been prepared by UT Extension to inform home gardeners and propel them to success in growing vegetables.*

## TOMATOES — THE HEART OF THE HOME GARDEN

As the most popular crop grown by home gardeners in the United States, tomatoes (*Solanum lycopersicum*) are certainly king of the garden. This is definitely because of the number of participating gardeners, but it is also due to gardeners' passion about their home-grown tomatoes. The number and variety of tomatoes currently on the market and maintained through personal seed saving is a testament to the importance of this botanical fruit that is most often referred to as

a vegetable. Tomatoes are a great source of vitamins C and A, as well as lycopene, which has been shown to be beneficial to cardiovascular health.

There is both art and science in producing the home-grown tomato. In this factsheet, we will focus on the science and detail some of the most common and useful practices for growing tomatoes in the home garden.

**Figure 1 (above).** Tomatoes come in an amazing and beautiful variety of shapes and colors.

# SELECTING TOMATO TYPES AND PLANTS

## TOMATO TYPES AND CULTIVARS

Gardeners must make two important decisions related to the types and cultivars of tomatoes for the home garden. The first is related to the determinate or indeterminate habit of the plant. Determinate tomatoes are those that will “top themselves.” This means that the primary growing tip is genetically programmed to form a flower at a certain point, and the plant does not grow any taller. Determinate tomatoes are typically shorter and can be easier to manage in the garden. Tomato fruit are set over a relatively short period of time and then ripen

over a concentrated harvest interval (often four to five weeks).

Indeterminate varieties continue to grow and produce both new leaves and new flowers from their primary growing point. This continued growth means they will be taller and continue to set and mature fruit through the summer and fall. Unless damaged by insects, disease or environmental stress, indeterminate tomatoes will produce until killed by low temperatures in the fall. So, they will require taller stakes to provide good support.

When choosing between determinate and indeterminate tomato plants, consider your intended use. Determinate plants may be best for more concentrated yield for canning while indeterminate plants may produce over a longer period of time

for fresh eating. Also consider the time available to invest in plant support, training, disease and pest control, and picking throughout the season.

The second decision important in selecting tomatoes for the home garden is the specific tomato cultivar. Hundreds of tomato cultivars are commercially available to home gardeners with many more saved by residents for personal production. The most important considerations are the disease resistance and the gardener’s preference in terms of fruit color, size, shape, taste and days to harvest. Table 1 provides some examples of tomatoes that have performed well in trials in the region (courtesy of University of Kentucky). Another good source of information is the All-America Selections website. This site details vegetable cultivars that have been

Growth habit	Cultivar**	Days to harvest	Fruit type, color, estimated size	Disease resistances***
Determinate	Early Girl F1	58	Slicer, red (4-5 oz.)	V, F1, F2
Determinate	Celebrity F1	75	Slicer, red (7-8 oz.)	F1, F2, V, N, TMV
Determinate	Plum Dandy F1	76	Paste, red	F1, V, EB
Determinate	Plum Crimson F1	80	Paste, red (4 oz.)	VI, F1, F2, F3, EB
Determinate	Mountain Fresh F1	77	Slicer, red (8-16 oz.)	VI, F1, F2, EB-tolerant
Determinate	Plum Regal F1	80	Paste, red (4 oz.)	V, F1, F2, TSWV, LB, EB
Determinate	Carolina Gold F1	71	Slicer, gold (10 oz.)	V, F1, F2
Determinate	Valley Girl F1	65	Slicer, red (7-8 oz.)	V, F1, F2
Indeterminate	Big Beef F1	70	Large slicer, red (9-16 oz.)	F1, F2, V, N, TMV, LS
Indeterminate	Cherokee Purple OP	72	Large slicer, purple (10 oz.)	
Indeterminate	Pink Girl F1	72	Slicer, pink (8 oz.)	AC, F1, LS, V
Indeterminate	Better Boy F1	75	Slicer, red (12 oz.)	F1, N, V
Indeterminate	Brandywine OP	78	Large slicer, many colors (10-16 oz.)	
Indeterminate	Mountain Magic F1	72	Cherry, red (2 oz.)	EB, V, F1, F2, LB
Indeterminate	Matt’s Wild Cherry OP	60	Cherry, red (<1 oz.)	EB, LB
Indeterminate	Cupid F1	71	Grape, red (<1 oz.)	AC, F1, LS, BS
Indeterminate	Supersweet 100 F1	65	Cherry, red (<1 oz.)	F1, V
Indeterminate	Sungold F1	65	Cherry, gold (<1 oz.)	F1, TMV
Indeterminate	Juliet F1	60	Grape, red (1-2 oz.)	Cracking, EB
Indeterminate	Jolly F1	75	Pear, pink (1-2 oz.)	

**Table 1.** Tomato cultivars\* suggested for home garden production

\* Cultivar information from University of Kentucky Extension publication ID133.

\*\* F1 denotes hybrid cultivars, OP denotes open pollinated cultivars (see discussion below)

\*\*\*AC=Alternaria stem canker, BS=bacterial speck, EB=early blight, Fx=Fusarium wilt races 1,2,3, LB=late blight, LS=gray leaf spot, N=root knot nematode, TMV=tomato mosaic, TSWV=tomato spotted wilt virus, V=Verticillium wilt, VI=viruses



**Figure 2.** ‘Matt’s Wild Cherry’ tomatoes.

tested at many sites across the country and found to be good performers in home garden-like conditions ([all-americanselections.org/winners/index.cfm](http://all-americanselections.org/winners/index.cfm)).

## PLANT SELECTION

Tomato cultivar selection is important, but the selection or production of high-quality plants is also crucial. Tomato fruit yield and garden performance begin with high quality plants. Tomatoes can be direct seeded, but due to the 90-120 days from seeding to harvest, transplants are common for garden tomatoes to reduce the time to harvest. Because of this convention in both commercial and garden production, the time to harvest listed in cultivar information (such as in Table 1) will be estimates of time from transplant to harvest of ripe fruit.

Tomato plants can be produced by the gardener or purchased. Starting your own transplants can enable the largest selection of cultivars, but it can be a challenge to maintain appropriate conditions (see W 346-B “The Tennessee Vegetable Garden: Garden Planning, Plant Preparation and Planting,” for additional information on home transplant production). Whether grown or purchased, tomato plants

should be stocky with strong root systems. Plants that have been grown with suboptimum light or improper temperature conditions will often be “leggy” or have thin stems with larger distances between leaves. Also look for transplants that have a healthy green color and are free from damaged or yellowed leaves that indicate insects or plant stress. Inspect leaves for any sign of disease. Avoid purchasing transplants grown out of state, as these have been a major source of disease problems in Tennessee gardens. Purchase locally grown transplants, if possible. Transplant-borne diseases such as bacterial spot are difficult or impossible to control once introduced into the garden. Tomato plants are commonly 6 to 8 weeks old when ready for garden planting.

All transplants should be “hardened off” before planting. This term refers to slowly subjecting plants to outdoor conditions to lessen their stress at transplant and help them to better handle the sun, wind and temperatures they will experience in the garden. Many garden centers will have plants that have been through these conditions to enable them to have the best chance of transitioning well to your garden environment, but it can be a good idea to ask what the recent conditions have been when buying plants.

## HEIRLOOM TOMATOES

Heirloom is a term that commonly is used to describe cultivars that are expected to deliver characteristic homegrown tomato flavor. Many heirloom tomatoes have qualities that may not be present in commercial cultivars, such as softer texture or thinner skin. These traits may make fruit preferable for home eating. However, issues in handling and the lack of disease resistance are drawbacks of heirloom tomatoes, such as Cherokee Purple and Brandywine. In more precise terms, commercial heirloom cultivars are those that were introduced by seed companies before 1940 while family heirlooms are maintained and distributed by

home gardeners or farmers. Heirlooms are able to be maintained by seed collection. This means that they are open-pollinated or non-hybrid cultivars that produce plants from seed that are identical to the parent. Hybrid refers to a tomato cultivar produced specifically to combine traits from two parents. Most of the new cultivars released are hybrids because the crossing of specific parents enables cultivars to have distinct and desirable disease resistance, taste, shape, color and other traits. However, a cross of two distinct lines means seeds from a hybrid tomato fruit will not produce a plant that is genetically similar to the parent. Therefore, hybrid seeds or plants must be purchased each year rather than grown from seeds saved from a previous crop.

## GRAFTED TOMATOES

Grafting refers to the shoot (called a scion) of one cultivar being placed on the lower stem and roots of another (rootstock) (Figure 3). They then



**Figure 3.** A recently grafted tomato with the scion seen above the clear clip and the rootstock below the clip. A clear plastic clip tightly holds the scion and rootstock together as plant tissue grows and connects the two plants. Credits: Ken Chamberlain and Vegetable Production Systems Lab – OSU OARDC

grow together to become one plant. Grafting is a mechanism that allows desirable fruit traits of one tomato cultivar to be combined with desirable growth or disease resistance traits of another. It most commonly is used to provide resistance to soil-borne diseases or nematodes, but it can provide increased stress resistance as well. Grafting also can be a means to improve yield through strong root growth or plants that last longer in the field or garden. Grafting is costly because it initially requires two plants and extra handling and care in seedling production and during healing of the graft union. Grafted plants are available for sale by many seed companies and transplant producers. They may be an asset to your garden, but the conditions at your site will determine whether the benefits of yield or disease resistance are worth the extra time or cost of grafted plants.

## SELECTING AND PREPARING THE GARDEN SITE

### SITE CONSIDERATION AND CROP ROTATIONS

Tomato production is best carried out in a garden site with medium-textured, well-drained soil with a good level of organic matter and supply of nutrients (see W 346-A “The Tennessee Vegetable Garden: Site Selection and Soil Testing,” for more information on garden site selection). If a suitable in-ground site is not available, many tomato cultivars can be grown in raised beds (see W 346-E “The Tennessee Vegetable Garden: Building and Using Raised Beds”) and containers. Soil tests should be taken to determine the pH and nutrient level of the soil (see W 346-C “The Tennessee Vegetable Garden: Managing Plant Nutrition” for more information on soil sampling and testing). Tomato gardens should have at least a 6.1 soil pH with an optimum target range of 6.5 to 6.8. Keeping

the pH in these ranges is important for nutrient utilization and can lessen the impact of some soil diseases, such as Fusarium wilt. Follow lime recommendations on the soil test report to attain this level.

Many diseases and pests that infect vegetable plants can be reduced if specific crops are not grown in the same location in consecutive years. Diseases and pests often impact specific crop families, and it is best to grow tomatoes in a site only once every three to four years. Vine crops, such as pumpkins and squash, sweet corn, or beans and peas are good crops to grow in the intervening years. Rotation does not eliminate problems, but it can be a good step in helping to reduce disease and nematode issues.

### SOIL PREPARATION

Garden soil should be prepared in a similar fashion as for other garden vegetables (see W 346-A). A fine, but not powdery, seedbed 6 to 8 inches deep is ideal. Remember to incorporate any plant residue or cover crop biomass a few weeks before planting to allow time for breakdown of that material. Lime also should be applied in the fall or applied and incorporated several weeks before spring planting to allow time to alter the soil pH.

### INITIAL FERTILIZATION

Tomatoes produce a significant plant and fruit biomass and require relatively large amounts of nutrients to achieve optimum productivity. Fertilizer will generally be applied before planting and during crop growth. The pre-plant fertilizer application often uses a complete fertilizer (one with all three primary macronutrients), such as 10-10-10 or 6-12-12. Your soil test report will suggest fertilization materials and rates according to the balance of nutrients in the soil. Fertilizer should be evenly spread and incorporated or banded near transplant roots (see W 346-C). Make sure not to apply chemical fertilizer where it can directly contact young plants because the high salt level can burn young roots or stems.

## OPTIONS FOR PREVENTATIVE WEED CONTROL

### *Cultural practices*

Weeds are one of the largest challenges in the home garden, so a combination of control measures is best. Cultural practices to prevent weed issues rely on removing annual weeds before they have a chance to mature and produce seeds. Likewise, perennial weeds may be physically pulled and should be completely removed to ensure that rhizomes (plant stems that can produce new weed plants) are not able to remain and cause additional problems.

Other practices that can reduce weed pressures in the home garden are mulching (discussed below) and appropriate uses of cover crops which can cover the ground and outcompete weeds. Solarization, or the heating of soil by covering with plastic sheeting, can also be a tool to reduce weed seeds and subsequent weed and disease issues. All of these tactics are presented in more detail in W 346-D “The Tennessee Vegetable Garden: Plant Management Practices.”

### *Chemical control*

Herbicides are not often used in home gardens because of the low number of products available to consumers and the challenge in using these products in gardens where many crops are being produced across several seasons. Some pre-emergence (applied before weed seeds germinate) herbicide products may be useful if application rate and timing are carefully followed. See UT Extension publication W 245 “Common Herbicides for Fruit and Vegetable Weed Control” for more details. Post-emergence products are more challenging to use because of their broad range of activity and the risk of overspray or drift onto garden vegetables. Additionally, tomato plants are one of the most sensitive crops to herbicide damage and can be severely harmed by small amounts of herbicide drift that may not damage other

nearby crops. Use caution in managing any nearby lawn or garden area where there is any chance that spray drift or herbicide residue in soil could contact garden tomatoes.

## MULCHING

Mulching materials, such as straw, leaves, grass clippings or compost can be applied after planting. When applied 3 to 6 inches thick, these mulches provide weed control for most annual weeds, moderate soil moisture levels, and reduce some disease problems. Organic mulches (from previously living things, not meaning USDA-certified organic) are often not applied at planting because they can cool early season soil temperatures by blocking sunlight from warming the soil. It may be best to apply them after the plants are established and soil temperatures have warmed. Organic mulches can be an asset in the heat of summer by moderating and cooling soil temperatures. See W 346-D for additional information on mulching.

Inorganic or plastic mulches can also provide benefits to home garden tomato production. Black is the most common plastic color because it prevents weed growth while warming up the soil in the early season to aid in early growth. As with organic mulches, plastic mulches moderate soil moisture levels and also reduce some risks of leaf diseases by reducing soil splashed on leaves from precipitation. Install 4-foot-wide strips of plastic in the row area and seal the edges with about 6 inches of soil about two weeks before the planned transplanting date. Plastic mulch is a great addition to raised beds because the two methods increase early season drainage and soil warming. Install plastic after lime and fertilizer applications have been completed. It is essential to also install drip irrigation under the plastic mulch because it is impermeable to rainfall.

Tomatoes are planted through slits cut in the plastic. Tomato stakes also can be driven through the plastic, but be careful to avoid the underlying drip line (Figure 4).

## PLANTING

### Garden layout

It is best to plan the planting arrangement and measure distances between rows and plants ahead of time (Table 2). The distance between plants in the row (in-row spacing) depends on the type of tomatoes being grown and the pruning methods that will be used. Determinate varieties do not grow as tall as indeterminate and can normally be spaced closer in the row. Gardeners can chose to plant at a wider in-row

Tomato type	In-row spacing	Between-row spacing
Determinate	18-24 inches	48-60 inches
Indeterminate	24-36 inches	60-72 inches

**Table 2.** Plant spacing estimates for garden tomatoes.



**Figure 4.** These young tomatoes in a 2015 trial at the UT Plateau AgResearch and Education Center illustrate different mulching techniques used with drip irrigation and the Florida weave support system.

spacing to allow easier access. Pruning will be discussed in detail below and is commonly used to manage growth in indeterminate tomatoes. Between-row spacing can be related to the type of tillage equipment being used and can be wider if needed. Keep in mind, though, that wider plant and row spacing will also mean more space open for weed growth.

**Planting techniques**

When soil is properly prepared and the threat of spring frost is passed (Table 3), tomatoes transplants can be planted in the garden. Young plants should be around 6 to 10 inches tall and properly hardened off at transplanting. In well-prepared soil, a hole is dug deep enough to cover the root ball of the plant. If transplants have been grown

in fibrous containers that are planted rather than removed, make sure that all parts of the container are covered with soil to prevent water loss from exposed edges. Often, a soluble starter fertilizer will be added to the planting hole to provide moisture and nutrition for the young transplant.

Tall, leggy plants are a challenge in the home garden. It may be best to install the support system (Figure 5) at planting to support the tall plants and plant them at a normal depth. Some gardeners make a trench to lay a portion of the stem horizontally under the soil or they bury the plant extra deep. While roots will emerge from these buried stems, such practices can lead to stem breakage or lower soil temperature, aeration or nutrients for the deeply planted roots. Additionally,

both of these practices will negate the impact of grafted rootstocks if grafted plants are used. The best practice is to select and plant healthy and appropriately sized tomato plants.

**WATER MANAGEMENT**

For best growth, keep the soil in the root zone moist enough to prevent wilting of tomatoes. This is especially important soon after transplanting when the plant is transitioning to garden conditions. Garden tomatoes will generally require 1 to 1.5 inches of water per week, but this number can change according to environmental conditions and plant size. Managing

Location	Bristol	Chattanooga	Clarksville	Crossville	Jackson	Knoxville	Memphis	Mountain City	Nashville
Last spring frost	May 3	April 17	April 27	May 10	April 19	April 28	April 9	May 26	April 21

**Table 3.** Spring planting dates with only a 10 percent chance of temperatures lower than 32 F after that date as determined by 30-year NOAA weather data from local stations.



**Figure 5.** Florida weave support system being used on garden tomatoes. Three layers of twine have been installed in this image.

water in garden tomatoes is based on knowing the rainfall received on your site and then applying water if rainfall is not sufficient.

Most years in Tennessee there will be periods of the spring, summer and early fall when rainfall is insufficient or inconsistent for the best tomato plant growth. Tracking the volume over the season will help make irrigation practices more precise. When irrigating, it is best to apply 1/2 to 3/4 inch of water twice a week rather than the full amount in one irrigation event. This will reduce runoff and provide more consistent soil moisture but provide enough water to wet the soil for several inches. Likewise, it is best to deliver irrigation to the root zone of the plants through trickle or drip irrigation rather than overhead watering. Drip irrigation will be more efficient in water use and will keep the plants leaves dry. Soaker hoses are also common in the home garden and deliver water directly to plant roots. They can be purchased or constructed from used garden hose. Soaker hoses can be cost-effective and versatile in the garden, but they

do not deliver water as evenly as drip irrigation lines. If sprinkler irrigation is the only option, apply at a time when leaves will dry before nightfall to lower the risk of leaf disease.

## PLANT MANAGEMENT – SUPPORT AND PRUNING

Proper plant management and support are needed to produce both the best yield and the best quality tomatoes (See W 346-D for additional information on pruning and support). An added bonus of good plant management and support is that it can save time during picking.

### **Plant support**

Tomatoes are normally supported with stakes or cages. Staking can be carried out for individual tomato plants or installed and tied as a row (see below). If stakes are used, they should

be durable hardwood about 4 to 5 feet tall for determinate types or 6 to 8 feet for indeterminate tomatoes. Aim to have about 1 foot of the stake length in the ground for stability. For individual staking, tie plants loosely to the stakes at 8- to 10-inch intervals. Make sure to use cloth or a string material that will not damage the stems as the plant weight increases. Stakes also can be placed every two plants and twine woven around them to form a basket that supports all the plants in the row. This method is sometimes called the “Florida Weave.” String is tightly stretched horizontally along both sides of the stakes at the same height, with plants held between the string layers (see Figure 6). Twine is wound around each middle stake to maintain tension and tied off at the end stakes. These layers of support are repeated every 8 to 10 inches vertically as the plant grows (see Figure 5).

When cages are used for support, they must be strong enough to support the plant for the entire growing season. Cages can be purchased or constructed at home with materials



**Figure 6.** This image shows two large lateral branches (suckers) that can be removed to maintain a single stem on an indeterminate tomato plant. Notice that the bloom and young fruit are clearly on the main stem of the tomato.

such as concrete reinforcing wire. As a guide in cage construction, a 6-foot length of wire will form a cage about 21 inches in diameter. Cages should be well anchored in the soil to support the weight of the plants and fruit and allow access to ripe fruit for removal without damage.

### Pruning

The method of pruning and plant management depends on the type of tomato and the method of support. Indeterminate tomatoes that produce fruit clusters and leaves throughout the season are commonly trained to a single stake or grown in a cage. If stakes are used, lateral branches (called suckers) are often removed to create a plant with a single main stem (see Figure 6). Suckers can compete for plant resources and be a challenge to support on a single stake. The removal of suckers is less commonly practiced if tomato cages are used. Yields per plant are usually higher in a cage than when supported by stakes because fruit is harvested from both the main stem and lateral branches. Fruit may ripen slower in cages, but sunscald (fruit tissue death due to high temperatures) is often reduced.

Determinate tomato plants are generally pruned less than indeterminate plants, and some gardeners chose not to prune them

at all. Because their main stem stops growing at a certain point, many of the fruit of a determinate tomato are produced on lateral branches. Sometimes a few leaves and lateral branches are removed below the first flower cluster because it can increase early yield and fruit size. It is best to leave one or two suckers below the first flower to avoid leaf curling, stunting and reduced yield. Determinate plants can be challenging to train to a single stake because of lateral branches, but cages and the Florida Weave system work well.

## NUTRIENT MANAGEMENT AND FERTILIZATION

In addition to initial fertilization discussed above, tomatoes need adequate nutrition throughout the growing season to produce well. "Sidedressing" is the application of fertilizer in a small furrow 2-4 inches to the side of the row during plant growth because all the nutrient needs of tomatoes cannot be well supplied by only a pre-plant fertilizer application. The timing of this is application of fertilizer is often made after the first cluster of fruit has set and young tomatoes are the size of a golf ball or

slightly smaller. Timing is important because young tomatoes that are supplied with too much nitrogen will produce much stem and leaf growth which can slow or reduce fruit set and yield. Often these sidedressings are repeated once a month while the plant is bearing.

One of the most important concepts for home tomato growers is calculating fertilizer needs across the whole season. The most common nutrients applied in a sidedressing are nitrogen and potassium. Nitrogen is needed for many plant growth processes while potassium is important for many reactions in the plant and for high fruit quality. An example is provided below.

Common targets for nitrogen and potash (K<sub>2</sub>O) over a season are often around 0.5 lb/100 sq. ft. and 0.7 lb/100 sq. ft., respectively. If 3 lbs. of 10-10-10 (10% N, K<sub>2</sub>O) was added at planting to 100 sq. ft., then 0.3 pounds of N and K<sub>2</sub>O (3 lbs x 10%) were applied.

Two subsequent monthly sidedressings of 1.5 lbs. of 6-12-12 (6% N, 12% K<sub>2</sub>O) per 100 sq. ft. beginning after the fruit set on the first cluster would provide a total of 0.18 lb N and 0.36 lb. K<sub>2</sub>O to come quite close to N and K<sub>2</sub>O seasonal targets. Recommendations in the soil test report also provide fertilization tactics throughout the growing season.



**Figure 7.** Cracking (L) and blossom end rot (R) on tomato fruit. Edward Sikora, Auburn University, Bugwood.org

## COMMON CHALLENGES IN HOME TOMATO PRODUCTION

### PHYSIOLOGICAL ISSUES

- Blossom end rot (BER) involves the death of cells at the flower end of the fruit followed by decay (Figure 7). This condition is related to inadequate calcium levels in the developing fruit. Maintaining proper pH can reduce BER risk because lime (calcium carbonate)



supplies calcium while increasing the pH and making it easier for the plant to take up calcium. Calcium nitrate fertilizer can also be added to the soil as a means of preventing BER and should be applied as a sidedressing three to four weeks after transplanting, but use caution due to the possibility of oversupplying nitrogen as presented above. Providing uniform soil moisture by using irrigation and mulches is also a benefit because calcium must dissolve in soil water to be taken up by plants. Tomatoes may also have less BER if they are not pruned too heavily or excessively fertilized. Sometimes, BER affects only the early fruit and clears up without action.

Misshapen fruit is often related to poor pollination, which can lead to different growth rates in areas of the fruit. Examples include catfacing, puffiness and odd fruit shapes. Temperatures that are cool (below 50 F), especially at night can lead to poor pollination, but warm temperatures, fertilization or humidity issues can also impact pollination.

Cracking (Figure 7) can appear as concentric rings around the top of the

fruit or cracking down the fruit. It can be related to variety characteristics, but is most often linked with irregular patterns in growth and/or water issues. Swings in moisture or nutrition can both lead to cracking, which is best prevented by maintaining optimum and consistent moisture. Modern varieties are less prone to cracking than heirlooms.

## **HARVEST, HANDLING AND STORAGE**

Most home garden tomatoes are harvested fully ripe. This practice will enable full flavor development but also reduces shelf life and produces fruit that are more susceptible to damage during handling. Fruit harvested at 60-80 percent full color will ripen well in the home if handled correctly. Cherry tomatoes are often picked slightly before full maturity to prevent cracking that can occur quickly after ripening. Most gardeners removes the fruit from the vine while leaving the calyx (small

green leaves and stem) on the plant. Removing the calyx and stem can reduce fruit punctures during picking and handling. Tomatoes are best picked into shallow boxes and placed one to two layers deep to prevent damage.

Fully ripe tomatoes are generally of the highest quality when stored at room temperatures in the home and eaten within 2 to 3 days. So, it is best to harvest tomatoes from the garden when they will be consumed in a few days. Tomatoes are chilling sensitive and refrigeration can cause flavor loss. It is common for newer hybrid cultivars to retain a firmer texture and avoid decay for longer periods after harvest than many heirloom cultivars. If frost is on its way at the end of the season and tomato fruit is still on the plants, they can be harvested green to slowly ripen in the home. They may not be quite as flavorful as an August garden tomato, but they can be an excellent addition to a fall salad, providing a final taste of summer for the year!

## **ADDITIONAL RESOURCES AND REFERENCES**

Contact your county Extension office with questions about managing soil or plants in the home garden.

UT Extension publication PB 595 “You Can Control Garden Insects.”  
[extension.tennessee.edu/publications/Documents/PB595.pdf](https://extension.tennessee.edu/publications/Documents/PB595.pdf)

UT Extension publication W 316 “Home Vegetable Garden Disease Control.”  
[extension.tennessee.edu/publications/Documents/W316.pdf](https://extension.tennessee.edu/publications/Documents/W316.pdf)

UT Extension publication SP 277-W “Foliar Diseases of Tomatoes.”  
[extension.tennessee.edu/publications/Documents/SP277-W.pdf](https://extension.tennessee.edu/publications/Documents/SP277-W.pdf)

Ohio State Univeristy publication “Growing Tomatoes in the Home Garden.”  
[ohioline.osu.edu/hyg-fact/1000/pdf/1624.pdf](https://ohioline.osu.edu/hyg-fact/1000/pdf/1624.pdf)

University of Kentucky publication “Vegetable Cultivars for Kentucky Gardens — 2013.”  
[www2.ca.uky.edu/agc/pubs/id/id133/id133.pdf](http://www2.ca.uky.edu/agc/pubs/id/id133/id133.pdf)



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