



Tennessee Home Fruit and Vegetable Garden

2021 Calendar

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Tennessee Extension Home Fruit and Vegetable Workgroup

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This calendar has been developed to assist you in formulating an overall plan for your residential vegetable garden. Utilize the calendar to schedule various planting, harvesting, and management practices. However, there are many other excellent resources available from UT Extension that will be an asset to you in planning and managing your garden, so they are linked within this calendar.

And, this calendar is also available online as a fillable PDF (extension.tennessee.edu/publications/Documents/W436.pdf).

We hope this calendar is one step in your successful home fruit and vegetable journey.

Getting the Most from the 2021 Home Fruit and Vegetable Calendar

Step 1. Be aware of climate and temperature trends in your specific location.

The dates listed in the calendar are averages for different regions of the state. However, there is a large range in growing season length across Tennessee, so it is always good to be familiar with the local climate data to most usefully adapt dates from this calendar.

A brief table is below. Additionally, more detailed information can be found by consulting [weather.gov/media/ohx/PDF/frostfreeze probs.pdf](https://www.weather.gov/media/ohx/PDF/frostfreeze probs.pdf). This National Oceanic and Atmospheric Administration (NOAA) publication will allow you to look at frost/freeze probability data for all stations in Tennessee.

	Bristol	Chattanooga	Clarksville	Crossville	Dyersburg	Jackson	Knoxville	Lawrenceburg	McMinnville	Memphis	Mtn. City	Nashville
Last Spring frost*	May 3	April 17	April 27	May 10	April 15	April 18	April 22	April 30	April 28	April 9	May 26	April 21
First Fall frost*	Oct. 6	Oct. 21	Oct. 4	Oct. 4	Oct. 16	Oct. 13	Oct. 17	Oct. 5	Oct. 6	Oct. 30	Sept. 18	Oct. 10

**The values reported here are the most conservative because they are dates where there is only a 10 percent chance of a frost occurring after (spring) or before (fall) these dates.*

Step 2. Utilize the full selection of UT Extension publications and resources for home gardeners.

Check out [UThort.com](https://www.uthort.com) to find all of these publications and more.

W 346-A Site selection and soil testing extension.tennessee.edu/publications/Documents/W346-A.pdf

W 346-B Garden planning, plant preparation and planting extension.tennessee.edu/publications/Documents/W346-B.pdf

W 346-C Managing plant nutrition extension.tennessee.edu/publications/Documents/W346-C.pdf

W 346-D Plant management practices extension.tennessee.edu/publications/Documents/W346-D.pdf

W 346-E Building and using raised beds extension.tennessee.edu/publications/Documents/W346-E.pdf

W 346-F Season extension methods extension.tennessee.edu/publications/Documents/W346-F.pdf

W 346-G Stewardship in soil management extension.tennessee.edu/publications/Documents/W346-G.pdf

W 346-H Growing tomatoes extension.tennessee.edu/publications/Documents/W346-H.pdf

W 346-I Harvest and storage extension.tennessee.edu/publications/Documents/W346-I.pdf

A series of ten crop specific publications on garden vegetables numbers D57-61, D68-71:
extension.tennessee.edu/publications/Documents/D57.pdf

W 661 Conventional and organic garden products extension.tennessee.edu/publications/Documents/W661.pdf

W 316 Home vegetable garden disease control extension.tennessee.edu/publications/Documents/W316.pdf

PB 595 You can control garden insects extension.tennessee.edu/publications/Documents/PB595.pdf

PB 1622 Disease and insect control in home fruit plantings extension.tennessee.edu/publications/Documents/PB1622.pdf

TASKS FOR JANUARY

- Check out this calendar as a fillable PDF to keep records through the year. extension.tennessee.edu/publications/Documents/W436.pdf
- Place orders for bareroot fruit crops, and select carefully for your location and needs.
- If you plan to graft trees/vines, collect and store scion wood.
- Work on your garden layout and planting plans for this year. These plans should be based on a rotation among vegetable plant families as well as any pest and disease issues that were seen the prior year. Test germination on remaining garden seed to ensure viability.
- Gather materials for producing transplants (if you grow your own). These should include new or sanitized containers and pathogen free substrate. extension.tennessee.edu/publications/Documents/W346-B.pdf
- Order seeds for your 2021 garden, especially those for transplants. Check out UT trial results to support your selection (see February). extension.tennessee.edu/publications/Documents/W657.pdf
- In some parts of Tennessee, seeds for cool-season spring transplants will need to be started in January.



Getting Started Well with Home Fruit

Selecting Crops that Fit Your Needs and Site – What Are Your Goals?

Home fruit can be very rewarding but also very challenging. Think of home fruit in terms of your goals and how much time, effort, and money you are willing to invest. Fruit can be grown for fresh eating, preservation or simply for interesting crops that support wildlife. The more you are interested in production, the more time and care the crop will need. Site selection, cultivar selection, site preparation, and ongoing management will be essential for rewarding production from fruit trees and small fruit plantings. If this all sounds like a bit too much effort, then start much smaller with a few strawberry, blueberry or caneberry plants in raised beds. Here is a simple flow chart to walk you through some important decisions.

tiny.utk.edu/HomeFruitRealities

Selecting Cultivars that Fit Your Needs and Site

- Select cultivars that are well suited to Tennessee climates. Consider chilling hours to make sure bloom time will not be too early or too late.
- Select cultivars that have resistance to common diseases in Tennessee. Our warm, humid climate means that resistance will be very important for many tree fruit diseases like cedar apple rust and fireblight.
- Select cultivars that produce fruit that you like and in a season of the year that fits your lifestyle.

Finding Those Crops and Cultivars

- There are many options for home fruit. It is best to select cultivars that will fit in your location and then find a supplier that has those cultivars. Purchasing whatever cultivar you see first is not a good place to begin.
- The UT Extension Home Fruit and Vegetable Workgroup has put together a list of possible suppliers according to cultivars suggested in our Extension publications. tiny.utk.edu/FruitSupplierList

JANUARY 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 Six weeks until early date to plant kale in West TN. Seed soon if using transplants.	2
3	4 Prepare your garden plan—by hand or digitally.	5 Make sure to follow a rotation of crop families.	6 Research any new cultivars to try this year and check out the UT garden trial report at uthort.com .	7 Review cultivars and crops that performed well last year in your garden.	8	9
10	11 When considering fruit plant purchases, those from tissue culture are lower in disease risk.	12	13 • NEW MOON Test germination of left over seed from last year.	14 Prepare seed order for remaining cool-season and warm-season seeds for transplants.	15 Remember that many diseases can be prevented by ordering disease-free seed.	16
17	18 Purchase or gather materials to prepare transplants.	19 Be sure to purchase pathogen-free media and clean containers for transplants.	20	21	22 These green-colored squares remind you to keep track of your garden.	23 There are several record sheets at the end of this calendar. There are also boxes on each month.
24	25 Adjust soil pH well before planting blueberries. pH lowering sulfur can take months to fully take effect.	26	27 Remove or bury any mummy berries from blueberry plots to reduce disease.	28 ○ FULL MOON	29	30
31	Notes on crops:			Notes on weather:		

TASKS FOR FEBRUARY

- Now is the time for dormant pruning on many fruit crops—make sure to remove any diseased wood while pruning for production.
- Dormant sprays are also an important early season fruit practice.
extension.tennessee.edu/publications/Documents/PB1622.pdf
- Seed cool-season crops for transplanting if needed. Broccoli, cabbage, cauliflower and similar crops will need approximately 8 weeks from seeding to transplanting. A late March or early April planting will require an early February seeding.
extension.tennessee.edu/publications/Documents/D59.pdf
- Gather scion wood for grafting fruit trees if still dormant (this varies by year and region).
- Order remainder of garden seeds for the 2021 garden. Direct seeded crops can be ordered later, but early provides best selection.
- Seed the earliest of warm-season transplants. An early May transplant date will require a February or early March seeding.
- If conditions allow, you may prepare soil for early seeded cool-season crops. Allow plenty of time for cover crops to decompose.
extension.tennessee.edu/publications/Documents/W346-G.pdf

Choosing Between Bare Root and Container Plants

Both bareroot and container offer benefits, so selecting what works best in your planting is based on understanding pros and cons.

Pros and Cons of Bare Root Plants

Bare root stock is planted in the early spring while dormant. It can be cheaper to purchase and ship and a wide range of cultivars are available from suppliers. Roots can begin growing in native soil immediately and avoid the risk of damage or circling found in container grown roots. However, planting times are restricted to the early spring.

Pros and Cons of Container Plants

Container-grown trees and plants may be planted throughout the year. This is their main benefit. They may be more expensive and harder to transport. Also, make sure to inspect roots for any damage or disease at purchase to ensure you aren't bringing in issues.

The 2019 Tennessee Top Performers Home Garden Variety Trial

Each year UT researchers collaborate with home gardeners across the state to complete trials to support cultivar selection specifically in Tennessee. Here are some of the top performers in recent trials. Plus, you can see all the results at: extension.tennessee.edu/publications/Documents/W657.pdf

Crop	Why We Love It
Calima bean	Rated highly for yield, size, health and flavor
Mascotte bean	Small filet bean on a compact plant for any space
Spacemaster cucumber	Compact plant with good size and flavor of fruit
Cool Customer cucumber	Large, productive pickling cucumber (on left below)
Marketmore 76 cucumber	Productive open pollinated slicer cucumber
Ambrosia muskmelon	Soft, aromatic flesh with traditional taste
Jambalaya okra	Productive hybrid plant with green, slender fruit
Sunburst squash	Beautiful yellow and productive patty pan squash
Tempest squash	Rated high for taste, production and long season
Zephyr squash	Top squash performer for appearance, taste, yield
Moonshine pumpkin	Medium white pumpkin that is a Tennessee favorite

Get all the information to join with us in the 2021 trial at:

[extension.tennessee.edu/MasterGardener/Pages/Vegetable Garden Trials.aspx](https://extension.tennessee.edu/MasterGardener/Pages/Vegetable%20Garden%20Trials.aspx)



FEBRUARY 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Investigate trials of vegetables before making purchases.	2	3 Prepare seed order for warm-season direct seeded crops.	4	5	6
7 Six weeks until early date to plant kale in East TN and cabbage/broccoli in West TN. Seed transplants now.	8 Use dormant oil sprays on your fruit trees to combat scale and other pests.	9 Prepare garden soil in West TN if not too wet. Early seeding can be easier in raised beds.	10	11 • NEW MOON Eight weeks from frost-free date in much of West TN. Seed warm-season transplants now.	12 Six weeks until early date to plant cabbage, broccoli, and cauliflower in East TN. Seed transplants now.	13 Could direct seed peas, mustard, kale and collards in West TN if soil can be prepared.
14	15 Monitor transplants closely to ensure that they are not over or underwatered.	16 Dormant sprays, like lime sulfur, can reduce disease on many fruit crops. Before bud break!	17 Make sure to store bareroot plants carefully if they arrive early.	18 Pruning fruit trees can reduce disease pressure and increase potential production.	19 Make sure that young transplants are not stretching. This would indicate low light or high N.	20
21	22 Could direct seed English peas, mustard, kale and collards in much of Middle TN.	23 Prepare garden soil in Middle TN and East TN if dry enough.	24 Eight weeks from frost-free date in Middle TN. Seed warm-season transplants now.	25 Eight weeks from frost-free date in much of East TN. Seed warm-season transplants now.	26 Dormant prune blueberries to remove 10-20 percent of canes each year to renew fruiting wood.	27 ○ FULL MOON
28 For caneberries, remove canes that fruited the previous season, then thin the rest.						
Notes on crops:				Notes on weather:		

TASKS FOR MARCH

- Plant fruit trees or plants. Make sure to prevent bareroot stock from drying out prior to installation. They can be heeled in outdoors.
- Remove straw protection from strawberry plants before bloom.
- Assemble your spray materials to prepare for fruit season.
- Seed the remainder of warm-season transplants. Tomato transplants need 6-8 weeks, so March seeding means May transplants.
extension.tennessee.edu/publications/Documents/W346-B.pdf
- Prepare garden soil if conditions allow. Remember that if you are tilling in a cover crop, a few weeks may be needed to decompose the cover crop material.
extension.tennessee.edu/publications/Documents/W346-G.pdf
- Seed or transplant cool-season crops. Hardy cool-season crops are usually seeded or transplanted 4-6 weeks before the frost-free date while less cold hardy cool-season crops are usually started 2 weeks prior.
weather.gov/media/ohx/PDF/frostfreeze probs.pdf
- Install row covers or low tunnels over early season transplants to increase day and night temperatures and support early season growth.
extension.tennessee.edu/publications/Documents/W346-F.pdf
- Don't forget to harden off any transplants (see April) to reduce stress and loss once placed in the ground.



Blueberries are pollinated well by the sonication of bumble bees. Make sure to avoid insecticide use during this important time of the season.

IN THE SPOTLIGHT Bountiful Blueberry Options

The three types of blueberries commonly grown in Tennessee are northern highbush (*Vaccinium corymbosum*), rabbiteye (*Vaccinium virgatum* syn. *V. ashei*), and southern highbush. Southern highbush has genetics of both the other two types. Rabbiteye are a great place to begin for homeowners as they can be somewhat more forgiving than highbush.

Rabbiteye

They are actually native to the southern US and have wider adaptability in terms of soil and management. They tend to be longer lived and more vigorous than highbush. Make sure to select cultivars with sufficient chilling requirements because many lower chilling cultivars suffer frost damage on early blooms. Rabbiteye have a later harvest season than highbush and will be ripe in July and August. Most rabbiteye varieties have resistance to anthracnose fruit rot and Phomopsis twig blight.

- Older cultivars known to perform well in Tennessee – Tifblue, Premier, Brightwell, Powderblue
- Newer Cultivars of interest – Titan, Ochlocknee, Vernon, Columbus

Highbush

These blueberries natively grow in areas that are moist or bog-like and prefer high organic matter sites that do not dry out. In mid-south Tennessee locations, northern highbush often perform best in cooler regions (they have greater chilling requirements) and generally require irrigation. They can be more disease prone and have a shorter lifespan versus rabbiteye. In recent years, genetics from both the northern type highbush and native southern blueberry species are being used to breed southern highbush for growing in climates not suitable for northern highbush. Make sure to select higher chilling southern highbush.

- Northern highbush cultivars to consider – Duke, Bluecrop, Spartan, Chandler
- Southern highbush to consider – Legacy, Ozark Blue, Summit, Sweetheart

MARCH 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Plant or seed lettuce outdoors in West TN. Plant Irish potatoes in West TN. Also direct seed beets.	2 Early to mid-March is the best time to plant asparagus. They prefer a 50 F soil temperature. See UT pub D-57	3	4 Be prepared for succession seeding of cool-season crops.	5 Use your soil test results to add pre-plant fertilizer applications to the garden.	6 Keep track of crops on the record sheet at the back of this calendar.
7	8 Plant blueberry and caneberries when dormant in winter/early spring.	9 Site selection is essential and good drainage us a must!	10 Tree fruits are fertilized about a month after bud break.	11 Could direct seed peas, mustard, kale and collards in East TN if soil can be prepared.	12 Time to transplant cabbage, cauliflower and broccoli in West TN.	13 • NEW MOON Row covers or low tunnels can be a great way to push early season crops.
14 Daylight Saving Time Begins	15 Watch for signs of maturity in cool crops such as radish to prevent harvesting too late.	16 Early date to plant potatoes in East TN.	17 Maintain succession seeding of cool-season leafy crops.	18 For a 5/10 transplant date, this would be the seeding date for warm-season transplants.	19 Carrots can be planted in most of the state in March.	20 VERNAL EQUINOX
21	22 Early date to transplant cabbage, broccoli in East TN.	23	24 Direct seeded cool-season leafy crops should still be mature in late April or early May.	25 Remember that a cover crop needs a few weeks to break down before planting.	26 Fertilize blueberry bushes at bloom; repeat in 6 weeks. Write down dates fertilized below.	27
28 ○ FULL MOON	29	30 Peas and potatoes should be all seeded by late March in West TN.	31 Remove mulch on strawberries and place between rows. Monitor the weather in case a need to frost protect arises.			
Notes on crops:				Notes on weather:		

TASKS FOR APRIL

- Finish site preparation if not completed. Use proper pre-plant fertilizer. extension.tennessee.edu/publications/Documents/W346-C.pdf
- Finish direct seeding and transplanting cool-season crops to prevent them from maturing under hot summer conditions.
- Harvest may begin on the earliest seeded leafy crops or root crops.
- Begin purchasing transplants of warm-season crops.
- It is common to seed some direct seeded warm-season crops a bit before the frost-free date (beans, corn). Be cautious of soil temperatures, though, especially if you are seeding untreated seeds or supersweet corn.
- Transplants of warm-season crops can be planted in Tennessee in April after frost free dates. However, soil temperatures support root growth, and sometimes early transplant dates are not all that helpful due to cool soils.
- Harden off your transplants before placing them in the garden. extension.tennessee.edu/publications/Documents/W346-B.pdf

Starting Out With Strawberries

Strawberries can be a great first home fruit crop because they can be harvested in a year or less and can be grown in small spaces, raised beds and containers. Pick a site that is well-drained and hasn't been in vegetables. Purchase high quality bare root or plug plants.

- **Short-day/June-bearing** strawberries produce a single large crop during a few weeks in the late spring — often May or June in Tennessee. These flowers were set the previous year under late summer/fall short-day conditions. When the days are longer in the summer, they produce runners which will form new daughter plants. These types of plants are usually grown in matted rows for multiple years. Examples include Earliglow, Allstar, Cardinal and Flavorfest. With the annual system (plasticulture), plants are set in late summer to early fall in double rows on raised beds with plastic mulch and drip irrigation. Varieties include Chandler, Camarosa and Sweet Charlie.
- **Everbearing/Day-neutral** strawberries produce fruit at multiple times throughout the growing season because flowers are initiated through the growing season. They produce very few runners, which makes them optimal for small gardens or areas with limited space. However, they often don't have the total yield of short-day types. Examples include Tristar, Tribute and Seascape.



An example of apple blooms in pink stage. These bloom stages are important to understand spray timing and protect crops and pollinators.

Getting Them in the Ground – Proper Fruit Planting

The Site

Drainage is essential for all fruit crops, so select a site that is well drained but also has deep enough soil to provide water for the growing crop. If the site and soil are poor, then go for small fruits and raised beds.

The Plant

Make sure the plants are not damaged or dried out before planting. Bare root plants should be planted soon after arrival. If required, you can heel them in outdoors in a soil trench (if not too cold) or hold them in the shipping package in a cool, dark area where the roots will not freeze or get too hot. Roots need to remain moist but not wet enough to decay. Dormant bareroot strawberry plants may be moistened, wrapped in plastic, and held in the refrigerator for a week or two. Soak/dip roots in water right before planting.

The Process

Dig a hole large enough to allow the roots to be spread out, making sure the edges are not smooth and compacted. Trim any damaged roots and spread them in the planting hole. Stick with native soil instead of adding lots of amendments to the hole to prevent a bucket effect of the young roots only growing in the small amended area. Don't add fertilizer as it can burn the young roots — wait until the plants are actively growing. Water in well and don't let the plants dry out!

APRIL 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 It could be a good time to plant beets and peas in East TN.	2 Nearing the end of dates to direct seed spinach.	3 Direct seeding of early beans and sweet corn could begin in West TN.
4	5 Make sure to follow soil test recommendations for pre-plant fertilization.	6 Prepare mulched beds ahead of time if using plastic mulch.	7 Don't forget to also prepare irrigation if using plastic mulch.	8 Nearing the end of dates to direct seed lettuce.	9	10 Keep track of the spring rains in the weather blocks at the bottom of the page.
11 Nearing the end of dates to direct seed kale in West TN.	12 • NEW MOON Many warm-season transplants can be placed in soil in West TN.	13 Determine how much pest control materials remain from previous year.	14 If buying transplants, look for stocky, dark green seedlings with no sign of pest or disease.	15 Remove nearby wild brambles to lower the risk of pests and disease pressures.	16 Direct seeding of early beans and sweet corn could begin in Middle TN.	17
18	19 Many warm-season transplants can be placed in soil in Middle TN.	20 Make sure to transplant at a time when the soil temp is warm enough for good root growth.	21 Remember—Don't apply insecticides during bloom to protect pollinators on fruit crops!	22 April and into early May is the time to plant turnips in East TN.	23 Blackberries are fertilized once when primocanes emerge and once following harvest.	24 When was that last frost this year? Make sure to note it!
25	26 Late spring planting of fruit is possible, but the stress will be higher as temps warm. Water well!	27 ○ FULL MOON Okra can be seeded for West TN.	28 Stone fruit fertilizer can be applied in 2 halves. Early and later to adjust for fruit lost to late frosts.	29 Control early weeds to combat insect and disease pressures.	30	
Notes on crops:				Notes on weather:		

TASKS FOR MAY

- Keep on the regular control sprays for fruit crops (see column on right).
- Harvest cool-season crops, and watch for pests/diseases (see June).
- Seed succession plantings of beans and sweet corn.
extension.tennessee.edu/publications/Documents/D61.pdf
- Prepare for early season fertilization on small fruits – blueberries and blackberries are often fertilized about a month after bud break.
- Prepare beds for transplants – black plastic can warm the soil and speed early growth. Make sure that irrigation is provided if plastic mulch is used. Sometimes natural mulches, such as straw, are applied a few weeks after planting as they can reflect light and actually slow soil warming.
- Continue transplanting warm-season crops. Peppers and eggplants prefer even warmer soil conditions than tomatoes and are often planted later. Make sure that young transplants are watered in and given a starter fertilizer solution to support early growth.
- Set up your irrigation system as transplants are placed in the garden. Drip irrigation is best to maintain dry leaves and reduce disease risks.
- Set up stakes, trellises, cages and support systems for your plants. It is best to have these set up at or soon after planting.
- Don't let weeds get started in the garden.
extension.tennessee.edu/publications/Documents/W346-D.pdf

Peppers Aplenty

For beautiful and tasty production across the season without high needs for frequent management, it is hard to beat peppers. From sweet to heat, the options are nearly endless! Here are some of our favorites from UT trials.

- For a traditional sweet bell pepper, try 'Red Knight', 'Revolution' or 'Alliance' which are all red at full maturity, or try 'Orange Blaze' or 'Mecate' for a vibrant orange or yellow fruit at maturity.
- Sweet peppers are not just bells these days. Italian frying peppers, or Corno di Toros are excellent sweet pepper options as well. 'Carmen' (matures to red), along with 'Escamillo' and 'Cornito Giallo', which mature to yellow, are all recent All-American Selection (AAS) winners. Try 'Just Sweet' or 'Oranos' for a smaller, quicker to harvest sweet yellow/orange fruit.
- Hot pepper diversity is truly impressive. Try the compact jalapeno 'Emerald Fire' or 'La Bomba' or the heatless jalapeno 'Felicity'. If you love the taste of habaneros without the heat, try 'Roulette', another recent AAS winner.

The Basics of Fruit Spray Schedules

Small fruits (blueberries, caneberries, strawberries) can be managed with low to moderate sprays (often only when issues are observed), but most fruit trees will require consistent and preventative sprays for good production.

Are sprays really needed if I don't see any pests or diseases?

Yes, because most of the sprays that are used in home fruit are protective, not curative. Having our plants protected before prime windows for infection are crucial. Once the disease infection or insect feeding has begun, we are often too late to attain adequate control. So, to ensure consistent protection, growth stages are used to time sprays. Keep in mind that weather will influence frequency of sprays. Frequent rainfall will mean more frequent sprays.

If I spray well, does that save me time in other management areas?

Preventative sprays for fruit trees are really only optimally effective when combined with good cultural management. Pruning is a great disease prevention tool to increase light and air movement. Sanitation that removes diseased stems and limbs as well as older fruit or leaves will reduce the inoculum in the area that can infect further. Plus, don't forget about site and cultivar selection — those are also crucial cultural practices essential for success in home fruit. It takes more than sprays alone for success.
extension.tennessee.edu/publications/Documents/PB1622.pdf



MAY 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1 Many warm-season transplants can be placed in soil in East TN.
2 Direct seed cucumbers in West and Middle TN.	3 Nearing time for 6 week fertilizer for blueberries.	4 Some gardeners wait until soil warms to install natural mulches such as straw.	5 Record your favorite cool-season crops this year at the end of the calendar.	6 In cooler parts of Tennessee, heat-loving plants such as peppers and eggplant can wait to be transplanted.	7 Remember, it is also about soil temps, not just air temps.	8 Seedless watermelons and supersweet corn will germinate poorly if soil is too cool.
9 Do your cool-season leafy crops need any fertilizer sidedressing?	10 Be ready to harvest cool-season crops at the peak of their quality.	11 • NEW MOON This is the early date for seeding okra in East TN.	12 Succession planting could also be done for zucchini or cucumbers.	13 Have some common insecticides and fungicides on hand.	14 Be scouting on a regular basis to prevent getting caught off guard by pests or diseases.	15
16 Direct seed cucurbits in East TN.	17 Remove weeds from strawberry canopy to improve airflow throughout season.	18 Install bird netting over blueberries and caneberries to prevent the birds from stealing your berries!	19 Sweet potatoes are often one of the last crops to be planted.	20 Continue succession seeding of corn and beans.	21 Control weeds continuously through season.	22 When you do see diseases or insects, make a record of them at the end of the calendar.
23	24 Good irrigation in the first year is critical for establishment of new fruit crops.	25 Be prepared to spray insecticides on blueberries if spotted wing drosophila damage occurs.	26 ○ FULL MOON	27 Harvest strawberries often. Remove and dispose of damaged berries to lower disease risk.	28	29
30	31	Notes on crops:		Notes on weather:		

TASKS FOR JUNE

- Scout for any issues with pests or diseases at least weekly. Continue cover sprays for fruit trees. If conditions support disease infection or if you see signs of disease, a protective spray program may be needed for vegetables. extension.tennessee.edu/publications/Documents/W316.pdf
extension.tennessee.edu/publications/Documents/PB1622.pdf
- Tip pruning of caneberries as well as early picking of small fruits.
- Be on the lookout for maturity in the first corn and bean plantings (see July). extension.tennessee.edu/publications/Documents/D58.pdf
- Manage soil after cool-season crops are removed. Those areas may be a location for a summer cover crop such as buckwheat to prevent weed growth and add organic matter.
- If a warm-season crop is planted immediately after cool-season crops are removed, make sure to follow a crop rotation.
- Apply fertilizer to blueberries and other small fruit.
- Some of the latest warm-season crops to be planted are often watermelons and pumpkins as well as sweet potatoes.
- Make sure your irrigation system is functioning well and manage weeds. extension.tennessee.edu/publications/Documents/W346-D.pdf

Scouting – Playing Sherlock Holmes in your Home Fruit

- Do it frequently—at least once or twice a week and inspect multiple trees and plants.
- Make sure to check the interior of the plants and the underside of leaves—don't just glance over the plants.
- Look for discoloration or distortion and signs of insects (feeding damage or egg laying damage as on this apple from plum curculio).
- Take a hand lens, markers and bags for samples, and a camera.
- Do your own research, but don't be afraid to send in samples to your local Extension office or the UT Soil, Plant and Pest Center.



Fast Facts about Fungicides in the Home Garden and Orchard

- Protective fungicides are the main tool, so it is important to have sprays applied before infection windows, cover well with the spray, and follow recommended spray intervals.
- Few garden fungicides have strong curative properties. Focus on prevention.
- Fungicides can't replace sanitation, rotation, and disease resistant cultivars. Use these practices together for the best effect.
- Always follow the label and ensure that pollinators are protected.

<i>Bacillus subtilis</i> – Serenade Garden Disease Control, Cease	Organic. These products contain live bacteria and can generally be used up to the day of harvest.
Captan – Captan	Protective fungicide for many fruits.
Chlorothalonil – Daconil, Bonide Fung-onil, Ortho Garden Disease Control	Best used as a protectant. Specific crops, mixing rates, as well as pre-harvest intervals and maximum number of sprays per year are on label.
Copper (Copper sulfate, fixed copper) – Bonide Liquid Copper Fungicide, Monterey liquid copper, Camelot O	Organic. Some formulations are easier to get in solution and spray. Specific crops, mixing rates, as well as pre-harvest intervals and maximum number of sprays per year are on label.
Lime Sulfur – Hi-Yield lime sulfur spray	Organic. Can be applied dormant or in season to control a range of fungal and bacterial diseases. Very corrosive.
Mancozeb – Dithane, Manzate, Bonide Mancozeb Flowable w/Zinc	Best used as a protectant. Specific crops, mixing rates, as well as pre-harvest intervals and maximum number of sprays per year are on label.
Myclobutanil – Immunox, Monterey Fungi-Max	Protectant with some curative activity. Pay close attention to label and listed crops.
Neem oil – Garden Safe Fungicide, Monterey Neem Oil	Organic. Botanical extracts with insecticidal activity. Sprays should always be made to avoid flying bees and other pollinators.
Potassium bicarbonate – GreenCure, Milstop, Agricure	Organic. Specific diseases controlled or suppressed are on the label.
Sulfur – Bonide Sulfur Plant Fungicide, Yellow Jacket Special Dusting Sulfur, Espoma Earth-tone 3n1 Disease Control	Organic. Some sulfur products are mixed with an insecticide (Earth-tone 3n1 also contains organic pyrethrin), so sprays should be made to avoid flying bees and other pollinators.

Vegetables: extension.tennessee.edu/publications/Documents/W661.pdf

Fruits: extension.tennessee.edu/publications/Documents/PB1622.pdf

JUNE 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 Many warm-season crops, such as corn, and many cucurbits can still be succession planted.	2 Remove covers over crops if temps get too hot or crops need pollination.	3 Support your growing tomato plants with stake and twine or cages.	4 If there have been frequent rains or lots of moisture, a protective fungicide might be needed.	5 Are the tomatoes flowering yet? Mark it down on the page at the end of the calendar.
6 Succession planting of beans should be nearly done in West TN.	7 Keep scouting for pests and disease. Check leaf undersides and interior leaves.	8 Fertilize and irrigate blueberries as needed to promote plant vigor..	9 Early beans may be close to harvest in many areas. Some can mature in only 50-55 days.	10 • NEW MOON Still time to get some okra seeded.	11 Keep an eye out for cool-season crops to harvest.	12 Strawberry harvest may be nearing the end of the season.
13 Keep track of when you apply fertilizer and how much you apply.	14 Keep an eye on plant health and be ready with fungicide if needed.	15 Renovate (if needed) and fertilize strawberries.	16 Harvest summer squash while the skin is still glossy.	17 Watch for ripe blueberries! And, watch for insect pests. Spray only if observed.	18 Be ready for side-dressing for many vegetable crops that are setting fruit.	19
20 Enjoy the longest gardening evening of the year! JUNE SOLSTICE	21 Keep your eye on the blackberries. Early cultivars may be close to ripe!	22 Soft tip blackberry primocanes when 8-12 inches over the top trellis wire to encourage laterals.	23 Succession planting of beans should be nearly done in East TN.	24 ○ FULL MOON	25 Watch out for early blight on your tomatoes.	26 Make sure to keep track of anything you spray. A record sheet is found at the back.
27 Keep an eye out for mature sweet corn. A 70-day cultivar seeded on April 20 could be ready!	28 A summer cover crop of buckwheat can work well behind a spring cool-season crop.	29 Peppers can be transplanted through June, but later crops may need attention to water.	30 Time your pumpkin planting to mature in early to mid-fall. August pumpkins are less exciting.	A 100-day pumpkin seeded on June 30 would be estimated to mature around October 10.		
Notes on crops:				Notes on weather:		

TASKS FOR JULY

- Keep blueberries and blackberries picked frequently for best quality and to reduce pest issues.
- Continue cover sprays for fruit trees.
- Pick tomatoes, beans, corn and other warm-season crops.
- Practice proper canning, freezing, or drying to preserve garden produce for later use.
- Manage irrigation as needed, but try to reduce leaf wetness and overhead watering.
- Manage vegetable nutrition through proper side dressing and in-season fertilizer applications.
extension.tennessee.edu/publications/Documents/W804-A.pdf
- Manage weeds.
extension.tennessee.edu/publications/Documents/W346-D.pdf
- Scout frequently for insect or disease issues and spray as needed. See June.
extension.tennessee.edu/publications/Documents/W316.pdf
- Select cool-season crops and cultivars for fall and make seed order. Some cool-season crop transplants may need started in July.
- Pumpkins should be seeded according to maturity. A 100-day pumpkin seeded on July 1 would be estimated to mature October 11.



IN THE SPOTLIGHT How Do You Know When to Harvest?

Fruit	
Blueberries	Look for full blue coloration as well as appearance of a whitish waxy covering. Heavy rain can induce cracking.
Blackberries	Ripe berries are fully colored and detach easily from plant. Harvest early in the morning before heat buildup. Pick into shallow containers to prevent crushing and get into cool storage quickly.
Strawberries	Pick when fully ripe and tender on plant for highest sugar content. Pick carefully and pull by stems rather than soft fruit.
Apples	Watch for the background color to change from green to yellow (check the stem cavity). Skin color can vary across sites and seasons. Seeds also turn brown. The flesh texture softens, so press with your thumb. Pick gently and by hand.
Pears	Asian pears are harvested when soft and ripe from tree. European pears are harvested at full size, mature, but not ripe. They are held in a refrigerator for a couple of weeks and ripened at room temp.
Peaches	Texture will become softer and give slightly when squeezed. Ground color should no longer be green, but a pale yellow (white flesh) to yellow (yellow flesh). Aroma is also a useful indicator.
Warm-season Vegetables	
Beans, snap	While pods snap easily (as opposed to being tough and flexible) and seeds are still green.
Corn, sweet	Kernels should be filled out nearly to the end of the ear and milky if crushed. Silks dried down.
Cucumber	When seeds are small, flesh is still firm, and color is green.
Eggplant	When fruit is still shiny and the color has not dulled. Edible from 1/3 grown until full grown.
Muskmelon	When melons can be lifted and the vine pulls away from the fruit with little resistance (slips).
Okra	When pods are 2 ½ to 3 ½ inches long and tender.
Pepper	When full size and firm. Green is immature, and fruit will color to red, yellow, or orange and contain more sugars when ripe.
Potato, sweet	After reaching desired size, but before moist and cool fall soil conditions reduce quality and storage life.
Squash, summer	When skin is still tender and glossy and the large end (zucchini) is 1 to 2 ½ inches in diameter.
Squash, winter	When rind has hardened and is not easily scratched.
Tomato	When uniformly colored (pink to orange) but still somewhat firm.
Watermelon	When tendrils next to fruit die back and the rind on the underside of the fruit turns from white to a creamy yellow.

JULY 2021

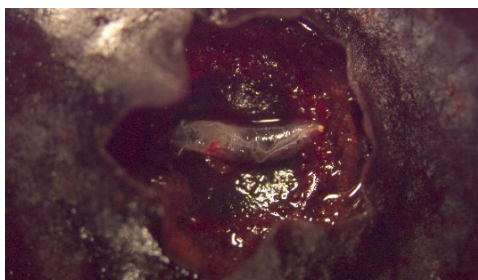
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				1 Don't forget to get those pumpkins seeded soon.	2 Keep scouting; don't get too busy with harvests.	3 Record those harvests on the record sheets at the back of this calendar.
4	5 Make sure that you have enough seed for fall cool-season crops. Or plugs for fall strawberries.	6 Many cool-season crops will need to be seeded in July.	7 A 6-week-old transplant for an August 22 planting would be seeded today.	8 Do not fertilize blueberries after July to prevent growth that can be at risk of winter injury.	9 Keep an eye out for mature sweet corn. You must hurry to beat the varmints!	10 • NEW MOON
11	12 Don't let the weeds get ahead of you. Annual weeds that go to seed only create future issues.	13 Have you seen any of those pesky tomato/tobacco hornworms? If so, make a record of them!	14 Watch the irrigation and make sure that growing plants are not getting too dry or wet.	15 Practice good sanitation. If a plant is damaged/diseased remove it and place it far from other crops.	16 Keep on picking!	17
18	19 Do you have enough seed for a late planting of summer squash or other cucurbits?	20 In many parts of Tennessee, late July will be the time to start fall cool-season transplants.	21 Remove floricanes of blackberry after fruiting to lower disease risk. Also, time for fertilizer.	22 Don't let disease get ahead of you. There is still much harvest time left if plants are healthy.	23 Make sure to follow pre-harvest intervals listed on pesticide labels.	24 ○ FULL MOON Keep a record of your sprays and track their efficacy for future reference.
25	26 Look up some new recipes to try with your summer harvest!	27 Are your Brussels sprouts planted? Long season cool crops may need to be planted soon.	28	29 Irrigate fruit crops as needed for the rest of the year to prevent drought stress.	30 Fruit fill of berries is a critical time for adequate water.	31
Notes on crops:				Notes on weather:		

TASKS FOR AUGUST

- Keep late blueberries picked as well as keep watch for tree fruit.
- Keep picking warm-season crops. Proper picking times are critical to enjoy the highest quality in home vegetable crops. Timely picking supports the highest level of production.
extension.tennessee.edu/publications/Documents/W346-I.pdf
- Practice proper canning, freezing, or drying to preserve garden produce for later use.
- Don't let the weeds get ahead of you and produce seeds.
- Late plantings of summer squash can be done this month.
- Keep an eye on soil moisture levels, irrigation and any need for side dressing for fruiting crops.
- Prepare soils for fall cool-season crops and maintain crop rotations.
- Transplant fall cool-season crops that take the most days to mature.

Spotlight on Spotted Wing Drosophila (SWD)

- This new pest, *Drosophila suzukii*, is a fruit fly that lays eggs in soft skinned fruit.
- Unlike other fruit flies that affect damaged or overripe fruit, SWD affects healthy fruit as they start to ripen.
- Blueberries, blackberries, and raspberries are among the most often damaged crops



SWD larvae in blueberry fruit. Image credits Frank A. Hale, University of Tennessee, Bugwood.org

Control Steps:

- 1. Trapping and monitoring** – Traps can be purchased or constructed (yeast-sugar mix), but they are most useful to indicate presence and do not seem to reduce populations.
- 2. Avoidance** – Some crops or cultivars that fruit early in the season can be used to avoid the highest levels of SWD
- 3. Sprays** – Insecticide sprays can be used, but only control adults.
- 4. Timely picking** – Pick frequently and don't let berries get overripe.

Blackberries For Tennessee Gardens

Blackberries are dependable plants with the potential to produce for many years. They tend to be tolerant to different soil types and pH levels. Blackberries are found in thorned and thornless cultivars with erect or trailing growth habits. Thornless blackberries are easier to prune and maintain, but all are likely to require trellising. Floricane types bear fruit on second year canes while primocane types can bear fruit on first year canes.

Cultivar	Cultivar Description	Harvest season
Floricane Fruiting		
Caddo	New release with large fruit size and yields similar to standards. Low acidity and high soluble solids, so flavor as well as storability and plant health are assets.	Early
Natchez	Erect plant with thornless canes. Has large fruit and high yield potential. Winter hardiness can be poor in cooler parts of the state. May require pruning to prevent over production.	Early
Ponca	New cultivar that was selected for flavor and sugar content.	Early
Ouachita	Erect growth habit on a thornless plant. High yield potential and fruit with excellent flavor. This cultivar has lower chilling hour requirements.	Early to mid
Kiowa	Erect, thorny plant with large fruit size that is moderately susceptible to rosette disease. It has a long fruiting period for home harvest. Low chilling hours requirement.	Mid
Osage	Erect, thornless canes produces fruit with good flavor. A newer cultivar for possible trial.	Mid
Von	Thornless cultivar recently released by NC State. Fruits around same time as Navaho with a clean plant. Fruit are low in acid with 9-10% soluble sugars.	Mid-late
Chester	Semi-erect plants with thornless canes. Berries have a tart flavor and average quality. Older cultivar.	Late
Triple Crown	Thornless canes are semi-erect, bearing large, sweet fruit. Requires trellising for support.	Late
Primocane Fruiting (less trialed in Tennessee)		
Prime-Ark Freedom	Erect plant with thornless canes. Fruit is soft. Recommended for home production or local sales.	Early floricanes and primocane
Prime-Ark 45	Erect plant with thorny canes. Small to medium sized firm fruit that can be used for home growers or shipping	

AUGUST 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1 Transplants for many fall crops in East TN are planted in early to mid-August.	2 Practice good sanitation in the garden to prevent disease spread.	3 Record any disease issues and how well disease is controlled by any applied sprays.	4	5 Keep on scouting and manage weeds. It can help this year and next year!	6 How can you determine when to plant fall crops? Example: A zucchini that will mature in 50 days.	7 Knoxville first frost average is October 22. 50 days + 10 for fall slower growing + 14 days to harvest is an August 9 seeding.
8 ● NEW MOON	9 If you are buying fall transplants, look for young, actively growing plants.	10 Make sure you have the seed for direct seeded cool-season crops.	11 Side dress matted row strawberries with nitrogen to promote good fruit bud development.	12 When should you plant fall crops? Example: A broccoli transplant that will mature in 60 days.	13 14 Nashville first avg. frost is Oct. 28. 60 days + 10 for slower fall growth. We can plan to harvest for a couple weeks after frost. 70 days back from Nov. 11 is Sept. 2. Or July 22 to grow a 6-week-old transplant yourself.	
15	16 Get those "best of show" crops ready for the county fair!	17 Direct seeded fall cool-season crops will require attention and water for best germination.	18	19 How can you determine when to plant fall crops? Ex: a lettuce that will mature in 35 days.	20 21 Nashville first avg. frost is Oct. 28. 35 days + 10 for slower fall growth. We can plan to harvest for a couple weeks after frost, though. Count back 45 days from Nov. 11. Aim for about a Sept. 27 seeding.	
22 ○ FULL MOON	23 Plan your cover crops for fall and make sure you order enough seed.	24	25 Consider cover crops for between rows of your fruit orchard.	26 Winter squash is ready to harvest when rind hardens. Does it scratch with your fingernail?	27	28
29	30 Continue irrigating through autumn to prevent drought stress.	31				
Notes on crops:				Notes on weather:		

TASKS FOR SEPTEMBER

- Keep picking warm-season crops. Canning, freezing and drying are all options for preservation.
extension.tennessee.edu/publications/Documents/W346-I.pdf
- Don't let those late season weeds get ahead of you and go to seed.
- Keep an eye on soil moisture levels and manage pests as some of the warm-season fruiting crop harvests come to a close.
- Later planted beans, tomatoes, summer squash and other warm-season crops may require frequent attention in scouting and pest management to ensure good yields.
- Make sure that fall cool-season crops are properly watered and fertilized. Germination and early growth of leafy crops and brassicas require even moisture and appropriate nitrogen levels.
extension.tennessee.edu/publications/Documents/D70.pdf
- Transplant and direct seed fall cool-season crops. Keep in mind that days to harvest estimates often need to be lengthened in the cooler and lower light days of fall.
extension.tennessee.edu/publications/Documents/D68.pdf
- Many cover crops are best seeded in September to get good stands.



Success Starts with Soil and Site – Soil Testing

One of the most useful but overlooked practices for the home gardener is soil testing. Knowing what nutrients are in your soil and the current pH can make a big difference in your success in both fruit and vegetable.

Sampling: the *where* - the results are only as good as the sample!

- Samples will be needed from every area you plan to plant. If the area is uniform, one composite sample can be made. Collect 10 to 15 subsamples in a grid or zigzag pattern to make sure the sample represents the whole area.
- If the soil appears different across the area, you will need to take multiple samples to represent each distinct section.

Sampling: the *how*

- If using a spade, remove a shovelful of soil 6 inches deep. Then take another thin slice of the soil with the spade that covers the whole 6 inches of the hole. The center of that slice is a great soil sample.
- If using a soil probe, take soil cores that are 6 inches deep for vegetables. For fruit growing areas, take a sample at 6-12 inches as well. A soil core is likely best for these deeper samples.
- Be sure to remove any grass, rocks, and other debris from the sample.
- Mix together all the subsamples in a clean (non-galvanized) bucket/container and allow them to air dry before packaging.

Sampling: the *who*

- The UT Soil, Plant and Pest Center (<https://soillab.tennessee.edu>) has all the needed testing and mailing information. Soil test boxes can be obtained from the local Extension office.
- Select the crop boxes on the sample sheet to ensure you are given the correct recommendations for what you plan to grow.

Sampling: the *what*

- Soil test reports provide information on current soil conditions and recommendations for amending this soil to reach optimum productivity for the crop. For more info check out this UT Extension publication:
extension.tennessee.edu/publications/Documents/W804-A.pdf

SEPTEMBER 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		Early fall is often the driest time of the year in TN. Be prepared to meet crop water needs.	1 Keep track of how much and how often watering is needed. Without rain, estimate 1-2 inches per week.	2 Do some research on cover crops to make sure they are best for your system and crop rotation.	3 Most cabbage, broccoli and cauliflower should be transplanted by mid-September in West and Middle TN.	4
5	6 It's Labor Day! Keep on picking those warm-season crops.	7 • NEW MOON	8 Begin selecting fruit cultivars to plant in the fall, dormant in the winter, or in early spring.	9 Keep on eye out for pests/disease on your cool-season crops. Row covers can reduce insects.	10	11
12	13 Brassicas, lettuce and many fall crops are fast growing and may need a fertilizer side-dressing.	14 Make sure that there is sufficient water for fall cool-season crops.	15 Have you seen any of those pesky armyworms? If so, make a record of them!	16 Soil tests should be taken 6 months before planting caneberries.	17 Want a few leafy crops for fall without managing a whole garden? Build a small raised bed. Containers can also be a great way to produce a bit of fresh produce for late fall.	18
19	20 Many cover crops may produce best in East TN with a September seeding.	21 ○ FULL MOON Vetch and other legumes benefit from early fall seeding, while rye can be sown later.	22 September through November are the times to plant garlic across Tennessee. AUTUMNAL EQUINOX	23 In fact, here in Tennessee, we can grow both hardneck and softneck garlic. See November for info.	24 Remove warm-season crops as they finish producing to lighten the load of fall cleanup. If the plants were healthy, it could be a great time to begin a compost pile.	25
26	27 It is getting close to the end of seeding for fall leafy crops in Middle and East TN.	28 A row cover or low tunnel can add a couple of weeks to the fall season.	29 Watch for high temps under row covers and tunnels on very warm September days.	30 To assure good growth and fruit set in spring, maintain healthy foliage on fruits crops to frost.		
Notes on crops:				Notes on weather:		

TASKS FOR OCTOBER

- Continue picking any remaining warm- or early cool-season crops.
extension.tennessee.edu/publications/Documents/W346-I.pdf
- Keep an eye on soil moisture levels and manage pests as warm-season fruiting crop harvests finish and cool-season begins.
- If you are participating in the Tennessee Home Garden Variety Trial, be sure to send in your evaluations soon.
[extension.tennessee.edu/MasterGardener/Pages/Vegetable Garden Trials.aspx](https://extension.tennessee.edu/MasterGardener/Pages/Vegetable%20Garden%20Trials.aspx)
- Ensure that fall cool-season crops are properly watered and fertilized. As temperatures cool, less water will be needed.
- Seed/transplant fall cool-season crops with shorter days to harvest.
- October is still a great time to seed cover crops.
extension.tennessee.edu/publications/Documents/W346-G.pdf
- Take soil tests and make adjustments to pH as recommended.

The Real Deal on Soil pH and Blueberries

Is soil pH really that big a deal with blueberries?

Yes! Soil pH, a measure of the acidity or alkalinity, affects how available mineral nutrients are to plants. All plants have an optimum range of pH to enable adequate uptake of nutrients from soil. Blueberries are known as ericaceous plants that require a low pH and will show nutrient deficiencies (often iron) under high pH conditions. Poor pH management is a very common cause of decline and death in home blueberries.

Key steps for pH management in blueberries

Start early! Take a soil test a year or more before planting and follow recommendations because lowering soil pH with sulfur is a biological process that takes time. Incorporating sulfur along with organic matter far in advance of planting will be key to early success in blueberry plantings. Most recommendations are based on use of elemental wettable sulfur (90 percent) applied months before planting. Amounts will vary based on current pH and soil texture. Aim for a pH of between 4.5 and 5.0 initially and add more sulfur later if needed rather than trying to achieve too much pH change over a short time period. Keep in mind that once plants are in the ground, it is very challenging to adjust pH. If your soil has a high pH, it may be better to grow in raised beds than to invest time and effort into large changes in soil pH.

IN THE SPOTLIGHT Apples and Disease Resistance

Selecting cultivars with resistance to the most common diseases is important to enable successful crop harvests. Resistance is often used in conjunction with carefully managed spray programs to prevent (or lower) the impact of many of these diseases. Recent breeding efforts provides access to disease resistant cultivars — here are some common options:

Red Free	Summer apple that is near the earliest of disease resistant options with crisp texture and some storability. Red fruit can be eaten fresh or dried. Ripens over several weeks.	Scab-R, Fireblight-MR Rusts-VR, Powdery-MR
Williams Pride	Good climatic range and deep red fruit with crisp flesh (sometimes with red tones). Early to fruit but with a long bloom period, making it a good pollinator. Wide picking window as fruit stay on tree.	Scab-VR, Fireblight-R Rusts-VR, Powdery-R
Liberty	McIntosh descendent released in the late 1970's. Often eaten fresh but also used for sauce. Spur bearing, and not thought to be self-fertile or good for pollinating others.	Scab-VR, Fireblight-R Rusts-VR, Powdery-R
Freedom	Modern disease resistant apple released in the 1980's. Eaten fresh or cooked with very good resistance to scab.	Scab-VR, Fireblight-VR Rusts-R, Powdery-R



OCTOBER 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1 Keep good notes on the cultivars that did well or not as well in your garden this year.	2 Make sure to clean up warm-season crops to prevent disease spread.
3	4 Getting close to the end of time to direct seed fall crops in West TN.	5 Late seeded cool-season crops may survive low temps but may not grow and produce much yield in some areas.	6 • NEW MOON	7 Be on the lookout for fruit from late seeded warm-season crops.	8 Also be on the lookout for first frosts in parts of East TN.	9
10	11 Many cover crops can still produce well in East TN if planted in mid-October.	12 You don't have to seed the whole garden in cover at once. Cool-season sections can be last.	13 October is a great time to take soil samples.	14 Take 10-15 sub-samples about 6 inches deep.	15 Make sure that late season crops have adequate (but not excessive) water and nutrients.	16 What were your favorite peppers and tomatoes this year? Make sure to write down the varieties.
17	18 Sometimes the taste of brassica crops is better after they are exposed to a bit of frost.	19 Have you had a frost yet? Write it down in the record sheet in the back of this calendar.	20 ◯ FULL MOON	21 Bring your tools in from the garden. Clean them well.	22 Extend the life of your tools with proper sharpening and oiling. See November.	23
24	25 We are getting close to first frosts in many areas of West TN.	26 Fall is a great time to address voles or other issues in fruit plantings.	27 Review soil reports and make additions if needed to adjust pH for next year.	28 Remove and dispose of floricanes that already fruited on canberries.	29 If apple scab, peach scab, or pear leaf spot occurred, rake and destroy leaves to prevent disease overwintering.	30
31 Enjoy a homegrown jack-o'-lantern for Halloween!	Notes on crops:			Notes on weather:		

TASKS FOR NOVEMBER

- Finish the picking of remaining warm-season crops. If frost is approaching, unripe tomatoes can be harvested to slowly ripen indoors.
extension.tennessee.edu/publications/Documents/W346-H.pdf
- Make sure to remove crop and fruit debris from the garden and orchard that was diseased to reduce inoculum. Sanitation in home fruit is also crucial and discussed below with some key examples.
- Fall is a great time to set up a compost pile with the (disease-free) debris from your garden along with leaf and lawn clippings.
www2.ca.uky.edu/agcomm/pubs/ho/ho75/ho75.pdf
- Ensure that fall cool-season crops are properly watered, fertilized and harvested. As temperatures cool, less water will be needed.
- There are some cover crops that can still be seeded in November, so don't assume that a late fall crop prevents you from seeding.
extension.tennessee.edu/publications/Documents/W235-G.pdf
- Fall is a great time to address rodent issues by maintaining bare soil under the trees, removing or crushing dropped fruit, mowing between trees and perimeters, and using rodenticides if problem worsens.

Sanitation – Preparing Now for Success Next Year!

Sanitation is the cultural practice of removing plant material that can harbor diseases and pests. It is crucial for a range of issues including:

- **Scab in apple** – One of the most common fungal diseases in humid climates, the fungus overwinters in leaves on the ground. Fall leaf removal or mowing as well as N fertilizer application (to speed leaf breakdown) can reduce spore production next year. Plus, early season sprays and cultivar resistance are helpful in reducing scab issues.
- **Mummy berry in blueberry** – This fungal pathogen can infect blueberry flowers and then destroy fruit as they shrivel and drop from the plant. The overwintering structures release spores the next year to infect new blooms and fruit. So, removal of infected fruit is crucial to control infection.
- **Fireblight in apples and pears** – This very damaging bacterial disease overwinters in cankers on stems. So, removal of these areas during the winter is essential to lower the risk of spread and infection the next spring. Cultivar resistance is also crucial to manage fireblight.
- **Black rot in grapes** – Fungus overwinters on tendrils, canes and leaves and berries. These berries are one of the main sources of spores the next year to infect young leaves. Sanitation as well as sprays are often needed for control.

IN THE SPOTLIGHT Novel Fruit Crops for Tennessee

We mostly focus on common fruits, but there are many novel options for the home grower as well. Here is a snapshot of some of the most common, uncommon fruits for home growers in Tennessee!

Figs – *Ficus carica*:

- Site is crucial for this marginally hardy crop. Protected sites, southern exposures and at least 6-8 hours of sun are essential as is soil drainage.
- Select cultivars that are cold hardy and can self-pollinate. Try Brown Turkey, Celeste, or Magnolia.
- In many parts of Tennessee, cold winters can kill figs back to the ground. So, it can be useful to grow figs as container crops that are protected during the winter and moved outside during the growing season.

Pawpaws – *Asimina triloba*:

- Native species to Tennessee that is often found as an understory tree (usually less than 25 feet). One of the few fruit crops that can produce under some shade but production is better with more light.
- Pawpaw is the only species in the genus native to North America — it has a tropical flavor and texture like custard.
- Seedlings can be grown from seed, but many cultivars are also available grafted. Make sure to have two genetically different trees for cross pollination — actually pollinated by flies.



NOVEMBER 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Carrots can be stored in ground for a little while, but be sure to pull them before the ground freezes.	2 Did you get your garlic planted?	3 Keep harvesting your various cool-season crops.	4 • NEW MOON	5 Clean up any stakes or debris from the garden.	6
7 Daylight Saving Time Ends	8 Even if it is a mid-November seeding, a cover crop like rye can still be of benefit.	9	10 Keep track of the first killing frost for warm-season crops.	11	12 Keep notes on the crops and cultivars that performed well for you this year.	13 Write those notes in the record sheets in the back of this calendar.
14	15	16 What were some of your pest issues this year?	17 What were some of the disease issues you faced?	18 Knowing your gardening challenges is great info to help select crops for next year.	19 ○ FULL MOON There are many resistant varieties that can help you address disease issues.	20
21	22 Prune and destroy all dead or diseased fruit tree limbs when dormant.	23	24	25	26	27
28	29	30				
Notes on crops:				Notes on weather:		

TASKS FOR DECEMBER

- Harvest any remaining fall cool-season crops. Lettuce, chard, and beets can be less cold hardy than kale and spinach in some areas.
- Take stock of the completed gardening season and make sure you have good records of problems encountered and control practices that worked well. Use the information from the completed season and rotation guidelines to plan for next year.
- Sort and count any remaining seeds to determine what may need to be ordered.
- While it may seem early, December can be a great time to order seeds for your 2021 garden, especially those you plan to grow as transplants (see January - March).
- Clean any remaining stakes, plants or debris from the garden (excluding any plants that you intend to overwinter). Try to rotate this overwintering area of the garden to make sure that every section receives a cover crop as often as possible.
- Clean, repair (if needed) and store your garden tools for next year.
- Make sure to do any sanitation that remains for home fruit.

Dialing in on Dormant Sprays

We often think of disease and insect control sprays as exclusively used in the growing season, but some key pest control practices actually happen while the plant is dormant. Let's take a look at a couple of the most common dormant pest control practices and materials.

Lime Sulfur – This material is one of the oldest in use in fruit growing and can still be effective in addressing fungal diseases in fruit trees, such as apple scab and peach leaf curl and anthracnose control for grapes and blackberries. Lime sulfur is a caustic material and should be used with caution, but it is approved for organic systems and can be a key part of both organic and conventional disease management in the home fruit orchard. It should be applied in winter when temperatures are above freezing but before bud break.

Dormant Oils – These oils are mixed with water and used to control scales and mites by suffocation and are applied in February and March while the plant is still dormant. Temperatures should be above 40 degrees F and the oil will dry well on the trees. Good coverage is essential.

The Big Picture on Pruning

There are two main types of pruning in home fruit trees and plants..

- *Dormant pruning* is the most common and is done when active growth is not occurring. This means that much of the energy reserves in the plant are stored in the more permanent and mature parts of the tree (trunk and roots), so critical reserves are not lost. When active growth starts in the spring, these reserves will support active new growth. Heavy dormant pruning can lead to rapid, vigorous growth, so it should be used in moderation to direct the shape of the tree or plant and remove any damaged or diseased tissue. Dormant pruning can be used to assess plant health and ensure healthy tissue for spring growth. Often pruning cuts are made back to healthy tissue. The blueberry stem images below illustrate pruning cuts that reveal healthy tissue (left) or dead tissue (right) that should be further pruned.
- *Summer pruning* is carried out when the plant is actively growing. So, energy resources and reserves are removed and less vigorous growth is encouraged. Summer pruning is usually reserved for vigorous, upright, new growth on trees or bushes or training cuts, such as tipping of caneberrries. Pruning should be avoided in the late summer/fall because new growth can increase the potential for winter injury.



DECEMBER 2021

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1 There can be great December harvests of cool-season crops in many parts of Tennessee.	2 Sort and count remaining seeds to prevent over-ordering for next year.	3 You could even test germination (take percentage of 10-25 seeds) to confirm viability.	4 ● NEW MOON
5	6 It is almost seed catalog time. Don't be afraid to get some early orders in.	7 Mulch strawberries when temperatures expected to drop below 20°F — but only if they are dormant!	8 Clean and store your tools for next year.	9 It could be a great time to select and order bareroot fruit for next year.	10	11
12	13 Start to think about the garden plan for next year.	14 Map out crop rotations for next year in light of any diseases or pests encountered.	15 It is a great time to service tillers and other equipment. Sharpen blades and change oil.	16	17 Mulch blueberry bushes to a depth of 5-6 inches when dormant.	18
19 ○ FULL MOON	20	21 Gardening hours start increasing from here! DECEMBER SOLSTICE	22	23	24	25
26	27	28	29	30	31	
Notes on crops:				Notes on weather:		

In-Season Nitrogen Fertilization for Vegetable Crops

Crop	Timing in season/fruit or plant size	Application rate/100-foot row, 36-inch centers			
		33-0-0 or 34-0-0 Ammonium nitrate	15.5-0-0 (calcium nitrate)	Bloodmeal, feathermeal (12-0-0)*	Soybean (7-1-2), cottonseed (6-2-1) meal or fish fertilizer (5-1-1)*
Tomato	1st fruits are 1 inch diameter	1 lb	2 lb	2.8 lb	5.7 lb
Pepper	1st fruits are 1 inch diameter	0.5 to 1 lb	1 to 2 lb	1.4 to 2.8 lb	2.8 to 5.7 lb
	Later in season (if needed)	0.5 to 1 lb	1 to 2 lb	1.4 to 2.8 lb	2.8 to 5.7 lb
Vine crops (Cucumbers, melons, pumpkins, squash)	Vines are 1 foot long	0.75 to 1 lb	1.5 to 2 lb	2 to 2.8 lb	4.2 to 5.7 lb
Sweet corn	Plants are 12-18 inches tall	1 to 1.5 lb	2 to 3 lb	2.8 to 4 lb	5.7 to 8.5 lb
Okra, eggplant	3 to 4 weeks after seeding/transplanting	0.5 to 1 lb	1 to 2 lb	1.4 to 2.8 lb	2.8 to 5.7 lb
	6 to 8 weeks after seeding/transplanting	0.5 to 1 lb	1 to 2 lb	1.4 to 2.8 lb	2.8 to 5.7 lb
Broccoli, cabbage, cauliflower, Brussels sprouts	2 to 3 weeks after transplanting	1 lb	2 lb	2.8 lb	5.7 lb
	5 to 6 weeks after transplanting	0.5 lb	1 lb	1.4 lb	2.8 lb
Kale, collards, lettuce, spinach, mustard	3 to 4 weeks after seeding	0.5 to 0.75 lb	1 to 1.5 lb	1.4 to 2 lb	2.8 to 4.2 lb

**Natural or organic fertilizers will be available more slowly than chemical (often 1-4 months).*

This calendar is also a fillable PDF to enable digital record keeping:

extension.tennessee.edu/publications/Documents/W436.pdf

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Garden and Orchard Climate and Management Overview

(Use this page as a summary of notes recorded in the separate month calendars)

General climate	Last frost	First frost	Extreme weather events	Other notes
General climate	Spring temperature trends	Summer temperature trends	Fall temperature trends	Winter temperature trends
Rainfall	Spring rainfall total	Summer rainfall totals	Fall rainfall totals	Other notes
Irrigation	Spring irrigation summary	Summer irrigation summary	Fall irrigation summary	Other notes
Soil management	Spring tillage	Summer cover crops	Fall cover crops	Other notes
Fertilization	Pre-plant fertilization	Side-dressing	Fertigation (fertilizer dissolved in irrigation)	Other notes

Pest and Disease Management Records

(Use this page to keep records throughout the gardening season)

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