W 436



Tennessee Home Fruit and Vegetable Garden

2022 Calendar

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INSTITUTE OF AGRICULTURE
THE UNIVERSITY OF TENNESSEE

2022 Tennessee Home Fruit and Vegetable Calendar

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This calendar has been developed to assist you in formulating an overall plan for your residential vegetable garden and fruit production. 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.

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Getting the Most from the 2022 Home Vegetable and Fruit 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/frostfreezeprobs.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 and extension.tennessee.edu/publications 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 thirteen crop specific publications on garden vegetables numbers D57-61, D68-71, 75, 127, 142: 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

- Use the online version of 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 materials carefully for your location and needs. tiny.utk.edu/FruitSupplierList
- 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.



2020 Tennessee Top Performers Home Garden Variety Trial

For the past five years, UT Extension researchers have collaborated with home gardeners across the state to complete trials to support cultivar selection for yield, quality, and health. Top performers in recent trials are listed in the table below. Full results are available at extension.tennessee.edu/publications/Documents/W657.pdf.

Crop	Why We Love It
Maxibel bush bean	A long, slender filet bean with good yield, health and flavor
Rattlesnake pole bean	Mottled purple bean for fresh or dry use
Green Light cucumber	Thin skinned snacker that was tasty and productive
General Lee cucumber	Standard slicer with good yield and health
Sweetie Pie watermelon	Dark green icebox melon with good flavor
Sugar Cube muskmelon	Small sized melon that packs a full-sized flavor
Jambalaya okra	Productive hybrid plant with green, slender fruit
Desert zucchini	Dark green and productive disease resistant option
Grandprize squash	Yellow squash with great yield over a long season
Golden Glory zucchini	Dark yellow zucchini with good yield and flavor
Obsession basil	Large basil with good disease resistance

Get all the information to join the 2022 trial at
mastergardener.tennessee.edu/home-garden-vegetable-trial

Pathogen of the Month: Anthracnose in Blackberry

While it may seem odd to be focusing on a fungal disease in winter, offseason action can be crucial to controlling this disease. Anthracnose *(Elsinoe veneta)* is a fungus that overwinters on canes of blackberry. Then spring rain enables spores to spread from the floricanes to the new primocanes. So, removing all previous season floricanes (that bore fruit last year) in the fall or winter as well as pruning any canes showing lesions (image on left) are both crucial sanitation steps In addition to removing inoculum, pruning out old canes and managing weeds increases air flow and reduces disease risk.

In addition to sanitation, a delayed dormant (before new shoots are 3/4 inch long) spray can also be useful in the late winter or early spring. There are options in spray materials that include copper products or older materials like lime sulfur. Keep in mind that lime sulfur is a caustic material and should be used with care and caution, but it is an option for both organic and conventional disease management in the home fruit orchard. It should be applied at green tip when plants break dormancy but not when more than 3/4 inch of green tissue is present because the sprays will often burn green tissue. See this resource for more information:

https://smallfruits.org/files/2020/12/2021-Caneberry-Spray-Guide.pdf

JANUARY 2022

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 ● NEW MOON	**3** Prepare your garden plan—by hand or digitally.	**4** Make sure to follow a rotation of crop families.	**5** Research any new cultivars to try this year and check out the UT Garden trial report at uthort.com.	**6** Review cultivars and crops that performed well last year in your garden.	**7**	**8**
9	**10** When considering fruit plant purchases, those from tissue culture are lower in disease risk.	**11**	**12** Test germination of leftover seed from last year.	**13** Prepare seed order for remaining cool-season and warm-season seeds for transplants.	**14** Order seeds from a reputable source to reduce seedborne disease risk.	**15**
16	**17** ○ FULL MOON Purchase or gather materials to prepare transplants.	**18** Purchase media from a reputable source and buy new pots or sanitize old ones to reduce disease risk.	**19**	**20**	**21** These green-colored squares remind you to keep track of your garden.	**22** There are several record sheets at the end of this calendar. There are also boxes on each month.
23	**24** Adjust soil pH well before planting blueberries. pH lowering sulfur can take months to fully take effect.	**25**	**26** Remove or bury any mummy berries from blueberry plots to reduce disease.	**27**	**28**	**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 2022 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

Pest of the Month: Tree Fruit Mites and Scales

We often think of insect control sprays as exclusively used in the growing season when pests are observed, but some important pest control practices actually happen while the plant is dormant.

One of the most useful and versatile spray options for home fruit growers is dormant oil. These mineral oil-based sprays are very useful in both conventional as well as organic growing. They are mixed with water and used to control scales and mites by suffocation. Application is in February and March before bud break. The spray is typically applied to the point of runoff when temperatures are above freezing. Good coverage of the trunk and limbs is essential to achieve good control.

Dormant Pruning: Setting Your Fruit Crops Up for a Healthy, Productive Future

Don't wait for spring to get started on a great growing season. In fact, a large portion of one of the most important management and training practices—pruning—is done when plants are dormant.

Dormant pruning is completed when active growth is not occurring. Typically, dormant pruning is done after the coldest temperatures have likely been experienced but before plants break bud to start the new growing season. 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. These reserves will support active new growth in spring. So, dormant pruning is a key tool to guide plant growth, shape the plant, and open up the canopy which allows sunlight to enter, air to circulate, and spray to have better coverage. 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 also be used to assess plant heath and ensure healthy tissue for spring growth. Often pruning cuts are made back to healthy tissue if any decay or disease is observed.



FEBRUARY 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1 ● NEW MOON Investigate trials of vegetables before making purchases.	**2** Prepare seed order for warm-season direct seeded crops.	**3**	**4**	**5**
6 Six weeks until early date to plant kale in East TN and cabbage/broccoli in West TN. Seed transplants now.	**7** Use dormant oil sprays on your fruit trees to combat scale and other pests.	**8** Prepare garden soil in West TN if not too wet. Early seeding can be easier in raised beds.	**9**	**10** Eight weeks from frost-free date in much of West TN. Seed warm-season transplants now.	**11** Six weeks until early date to plant cabbage, broccoli, and cauliflower in East TN. Seed transplants now.	**12** Could direct seed peas, mustard, kale and collards in West TN if soil can be prepared.
13	**14** Monitor transplants closely to ensure that they are not over or underwatered.	**15** Dormant sprays can reduce pest and disease issues on many fruit crops.	**16** ○ FULL MOON Eight weeks from frost-free date in Middle TN. Seed warm-season transplants now.	**17** Pruning fruit trees can reduce disease pressure and increase potential production.	**18** Make sure that young transplants are not stretching. This would indicate low light or high N.	**19**
20	**21** Could direct seed English peas, mustard, kale and collards in much of Middle TN.	**22** Prepare garden soil in Middle TN and East TN if dry enough.	**23** Make sure to store bareroot plants carefully if they arrive early.	**24** Eight weeks from frost-free date in much of East TN. Seed warm-season transplants now.	**25** Dormant prune blueberries to remove 10-20 percent of canes each year to renew fruting wood.	**26**
27 For caneberries, remove canes that fruited the previous season, then thin the rest.	**28**					
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/frostfreezeprobs.pdf
- Install row covers or low tunnels over early season transplants to increase day and night temperatures and support season growth. extension.tennessee.edu/publications/Documents/W346-F.pdf
- Don't forget to harden off any transplants to reduce stress and loss once placed in the ground.



IN THE SPOTLIGHT
Transplant Tricks of the Trade

- **Start with a pathogen free soilless media.** Germination mixes are designed to start your seedlings off disease free. They are also designed to drain well while holding enough water to support germination and growth. Most are made from peat or coconut coir along with perlite.
- **Follow suggested temperatures for germination.** One of the most common issues that causes poor germination is lower than ideal temperatures. Warm-season crops, such as tomatoes, peppers and eggplants, will germinate slowly when too cool and are more likely to have disease issues.
- **Light is critical.** Most indoor locations don't have enough light to grow stocky seedlings. Watch your seedlings for color and stem thickness (are they stretching?). Supplemental fluorescent or LED lighting can be key.
- **Don't overwater.** Growing media should be allowed to dry out slightly (but not completely) between waterings. Air movement and light are important in managing the growing environment and drying out the media.

Pathogen of the Month:
Cedar Apple Rust

Cedar apple rust is one of the most common and damaging fungal pathogens to home apple trees. It defoliates and weakens trees and has a winter home on our native eastern redcedar trees (actually *Juniperus virginiana*). Cedar apple rust *(Gymnosporangium juniperi-virginianae)* requires multiple hosts to be successful. Spores from infected apple trees can infect cedar trees. This infection produces spring galls on the cedar trees that then release another type of spore to infect young leaves on nearby apple trees (see image on left). It is a vicious cycle in many areas.

While removing nearby cedar trees can be a help, it is often not possible or effective enough. So, in the home orchard, selecting apple cultivars resistant to cedar apple rust is a great step. Additionally, careful attention to fungicide sprays early in the season when leaves are emerging, young and highly susceptible to infection are most effective. Often the best control is achieved when multiple techniques (resistance, sanitation and sprays) are used together. See extension.tennessee.edu/publications/Documents/PB1622.pdf.

MARCH 2022

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

Take Another Look at Lettuce

Have you tried planting iceberg head lettuce like you see in the grocery store in your garden only to be disappointed by the results?

Well, there is a reason the central valley of California grows most of the iceberg, which can require specific conditions for optimum performance. It is time to take a look at some other lettuce types that can perform quite well in spring and fall in Tennessee gardens.

- Many leaf lettuce cultivars are well suited to the home garden. Try 'Starfighter', 'Tropicana', 'Green Star', or 'New Red Fire' and don't be afraid to pick these cultivars and many others immature.
- Bibb or butterhead lettuce provides a softer leaf texture and can be grown in green or red. Try 'Sylesta', 'Mirlo (image on top right)', Nancy or 'Skyphos' (red leaf lettuce image on top right).
- Oakleaf can provide great textural and color interest. Try 'Oscarde' or 'Panisse'.

If grown when spring temps are still relatively cool, romaine can be successful. Try 'Salvius', 'Coastal Star' or great fall options like 'Winter Density'.

For more info see: extension.tennessee.edu/publications/Documents/D68.pdf.





Pathogen of the Month: Fireblight

Fireblight *(Erwinia amylovora)* is a bacterial disease that affects several ornamental and fruit trees, specifically apple and pear as they are in the Rosaceae family. It can be devastating in home fruit production in terms of lost crops and even lost trees, so preparation and vigilance are essential for successful crops.

The bacteria enter trees though wounds and even flowers in the spring. This means that spring spreading of the pathogen can be accomplished by wind, rain, pruning tools and even bees as they pollinate flowers. After infection, the bacteria moves quickly through the plant tissue. The dead shepherd's crook branches are a telltale sign. Several tactics are needed for control. First, focus on disease resistant cultivars- especially in pear trees. Then, make sure you are not overfertilizing and creating lush growth. Keep a close eye for dead twigs and remove them 6 inches below the visible dead area. Keep tools sanitized between cuts to prevent disease spread. Protective sprays can also be helpful in the home orchard, especially from the break of dormancy through petal fall.

Check out extension.tennessee.edu/publications/Documents/PB1622.pdf.



APRIL 2022

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

Pathogen of the Month: Black Rot on Grapes

One of the most damaging diseases of grapes is caused by a fungus *(Guignardia bidwellii)* that can infect almost every part of the grape from leaves (see image on top right) to tendrils to berries (image on immediate right). We might see the devasting effects in the summer on diseased fruit, but the time for prevention is long past at that time. Sunny sites, good air movement and fall to winter sanitation are key. Then, early in the growing season, a good fungicide program will be needed especially from early bloom until a few weeks after bloom.





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, it is 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.

See extension.tennessee.edu/publications/Documents/PB1622.pdf.

MAY 2022

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

Pathogen of the Month: Early Blight

This fungal pathogen is a key nemesis in the vegetable garden. Its scientific name keeps changing (now known as *Alternaria linariae*) but the defoliation and reduced yield it brings remain consistent.



Preventing damage is a multi-step process. Start with good sanitation and crop rotation as spores can be splashed from the soil if crop residue from previous years remains. Pruning for air movement and drip irrigation to keep leaves dry will help. Plus, gardeners can even remove diseased leaves to reduce spread during the season.

A good protective fungicide schedule will be helpful during the season to protect uninfected leaves. Don't wait until you see infection to start.

Don't forget that there are several newer tomato cultivars with some resistance including 'Defiant', 'Iron Lady', 'Mountain Magic', 'Plum Regal' and more.

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.

Bacillus subtilis – 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 so use extreme caution.
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 2022

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

Pest of the Month: Tobacco Hornworm



Gardeners might be impressed with this interesting caterpillar and the sphinx moth it will become if it wasn't for the rapid and complete defoliation that these ravenous hornworms produce in our tomatoes. There are a couple of different species but we tend to see the *Manduca sexta* (tobacco hornworm) here in Tennessee (image on far right).

In the garden, vigilance in key in the summer to see the bare stems after leaf feeding and the excrement (frass on leaf in immediate right image) that are telltale signs. You can individually remove caterpillars in small plantings, but you likely will want to use a biological or traditional insecticide for control. *Bacillus thuringiensis* (Bt) is a great choice for low impact production, just be ready to reapply as it must be ingested and can wash off with rain.

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

IN THE SPOTLIGHT
How Do You Know When to Harvest?

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 2022

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

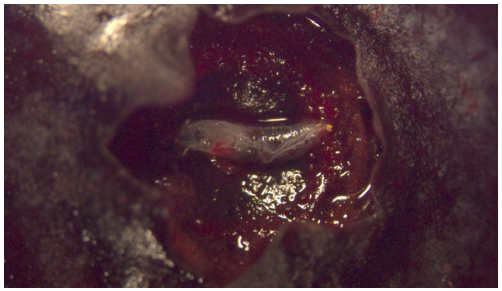
TASKS FOR AUGUST

- 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.

Pest of the Month: Spotlight on Spotted Wing Drosophila (SWD)

This relatively 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, spotted wing drosophila 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 spotted wing drosophila.
3. **Sprays –** Insecticide sprays can be used, but only control adults.
4. **Timely picking –** Pick frequently and don't let berries get overripe.

When to Harvest Home 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. Sugar content can continue to increase after berries color. Fruit with a dull color can taste sweeter than shiny berries. 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.
Grapes	Grapes move into the ripening phase during veraison. The skin and pulp become softer and the berries change colors while sugars increase and acids decrease. Color can be helpful; however, using a refractometer to measure soluble solids is the most accurate way to determine the best time to harvest grapes for juice, wine, or fresh eating.
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 with 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.



AUGUST 2022

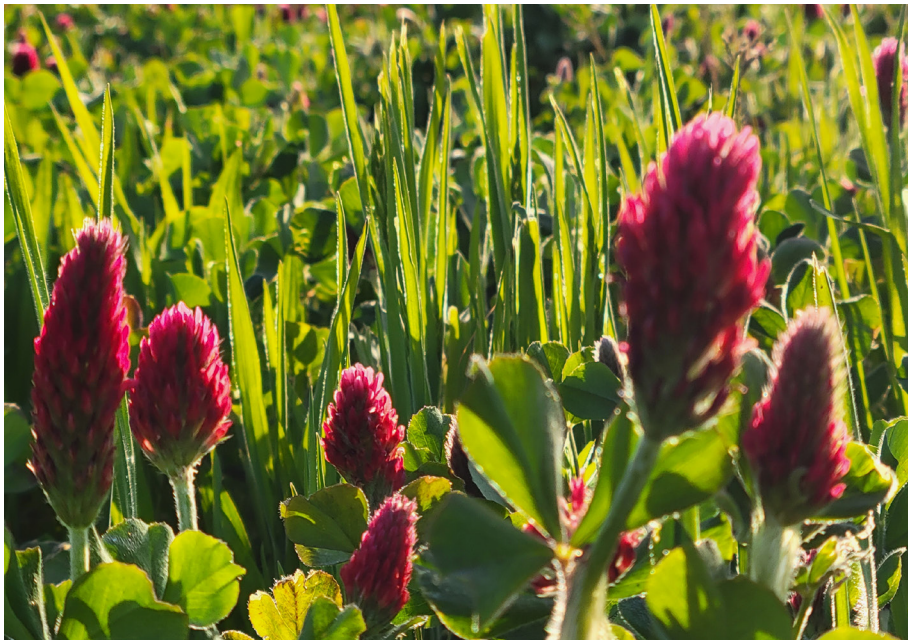
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 Practice good sanitation in the garden to prevent disease spread.	**2** Record any disease issues and how well disease is controlled by any applied sprays.	**3** Keep on scouting and manage weeds. It can help this year and next year!	**4** How can you determine when to plant fall crops? Example: A zucchini that will mature in 50 days.	**5** Knoxville first frost average is October 22. 50 days + 10 for fall slower growing + 14 days to harvest is an August 9 seeding.	**6** Transplants for many fall crops in East TN are planted in early to mid-August.
7	**8** If you are buying fall transplants, look for young, actively growing plants.	**9** Make sure you have the seed for direct seeded cool-season crops.	**10** Side dress matted row strawberries with nitrogen to promote good fruit bud development.	**11** ○ FULL MOON When should you plant fall crops? Example: A broccoli transplant that will mature in 60 days.	**12**	**13** 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.
14	**15** Get those "best of show" crops ready for the county fair!	**16** Direct seeded fall cool-season crops will require attention and water for best germination.	**17**	**18** How can you determine when to plant fall crops? Ex: a lettuce that will mature in 35 days.	**19**	**20** 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.
21	**22** Plan your cover crops for fall and make sure you order enough seed.	**23**	**24** Consider cover crops for between rows of your fruit orchard.	**25** Winter squash is ready to harvest when rind hardens. Does it scratch with your fingernail?	**26**	**27** ● NEW MOON
28	**29** Continue irrigating through autumn to prevent drought stress.	**30**	**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 requires 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 estimate often need to be lengthened in the cooler and lower light days of fall. extension.tennessee.edu/publications/Documents/D68.pdf
- Many fall cover crops are best seeded in September to get good stands and winter cover—even spring bloom for some!



IN THE SPOTLIGHT
Cover Crops

Cover crops can be a great addition to the summer or winter garden to add organic matter and prevent nutrient and soil loss as well as suppressing weeds. However, proper selection of cover crops is important for optimum benefits. Here are a few common types.

- Legumes (peas, beans, clover (on left), vetch, alfalfa) have root nodules that contain N-fixing bacteria. This nitrogen will be available for later crops after the legume is killed and incorporated into the soil.
- Many cover crops are grasses (cereal rye, barley, wheat and oats) that would be grain crops if grown to maturity. They are grown because they are economical, easily established, and can produce large amounts of plant material in a relatively short period of time. These crops stabilize the soil, prevent erosion, and help break some plant disease or pest cycles in addition to increasing organic matter.
- Buckwheat, rape and radishes are examples of cover crops that are neither a grass nor a legume. These crops can increase organic matter, improve soil structure and some brassicas have biofumigation properties (decomposing tissue releases compounds to suppress pests or disease in the soil) when incorporated.

extension.tennessee.edu/publications/Documents/W346-G.pdf

Pest of the Month: Cabbage Loopers

Fall cabbage, broccoli and collards are tasty and a great way to extend the garden season. One of their biggest challenges, though, is caterpillar leaf feeding from cabbage loopers and other immature moths.



Alton N. Sparks, Jr., University of Georgia, Bugwood.org

Gardeners can protect their crops with tight fitting screens or row covers (see October) to prevent moths from laying eggs that become damaging caterpillars. They can also use biological or chemical insecticide products, but close scouting and vigilance is key to preventing the rapid damage these leaf feeding pests often create.

SEPTEMBER 2022

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

Pathogen of the Month: Mummy berry

Fall attention to sanitation in the blueberry patch can be a huge asset in preventing losses next year from a damaging fruit pathogen — mummy berry *(Monilinia vaccinii-corymbosi).* Removing any infected fruit (mummies) from the ground in the fall is crucial to breaking the disease cycle. These fruit can overwinter and produce fungal structures that will produce spring spores to infect the leaves and flowers of the next year's crop. Infected fruit at first appear healthy but then shrivel and become discolored. They will then drop off the plant and start the whole cycle again. Breaking the cycle with good sanitation in the fall is a great cultural management step for the home fruit grower.



IN THE SPOTLIGHT
Season Extension



Season extension practices provide some control over the environment around our crops (roots and/or shoots) to enhance productivity or keep plants alive until conditions are more appropriate for growth. They can allow earlier spring starts and later fall harvests

Raised beds
Raised beds can warm up quicker and drain faster in the spring to support early season gardening. Soil temperatures can impact germination as well as root growth and water and nutrient uptake. It is also easy to add row covers and low tunnels to raised beds.

extension.tennessee.edu/publications/Documents/W346-E.pdf

Transplant
Transplanting older plants into the garden rather than direct seeding enables plants to be grown when outdoor conditions would prevent or slow growth.

Mulches
Mulches (dark ones) can increase soil temperatures by absorbing solar radiation. They can also maintain more moderate moisture.

Floating row covers
These are nonwoven plastic films or agricultural fabrics that can be applied directly over crops. They increase air and also soil temperatures by trapping sunlight. Because of their light weight and permeability, they do not need structural support. Tomatoes and peppers have tender growing points that may need protection from abrasion by floating covers. Plus, these covers can also reduce insect feeding by excluding the pests.

Low tunnels
Low tunnels cover crop rows and are supported by 2 to 3 feet tall wire or plastic hoops and stretched tight to create the appearance of a miniature greenhouse. Tunnels can be made of agricultural fabrics or lightweight clear polyethylene plastic. Vents help prevent overheating (see image at top of page).

extension.tennessee.edu/publications/Documents/W346-F.pdf

OCTOBER 2022

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

Pest of the Month: Voles

These small rodents can be damaging in many fruit crops in Tennessee. It is often the fall when their populations are the highest and their feeding on roots and lower stems is most damaging because of reduced alternate food sources. Keep an eye out for their tunnels in fruit plantings — especially blueberries where mulch provides ideal protection. Even with this drawback, mulch is still preferred for blueberries. But for fruit trees, keeping a clean area around the trunk will reduce food and cover. For gardeners with small plantings, traps can be used in the runways much in the same manner one would trap mice.

Check out this short video with Dr. Lockwood discussing vole control: youtube.com/watch?v=p_UaWo4PjLg



Garlic in the Garden

- Garlic is a monocot in the allium family planted as a clove (bulb) rather than seeds.
- It is planted in the late fall (September through early November) and harvested in early summer. Most varieties require 180-220 days to mature.

Sites and types:

- Choose a loose, friable soil (good organic matter) with pH between 6.0 and 6.5.
- Try a slightly raised bed for good drainage during potentially wet TN winters.
- Tennessee is transitional between the hardneck and softneck growing regions, so we can try them all! Elephant garlic (actually a leek) is also grown in TN. Try several to find one or more that have the hardiness, flavor and size that you like best.

Planting and management in the garden:

- Often planted in grids of 4-by-4 inches with cloves 1-1 ½ inches deep.
- Winter crops can have lower pest levels, but do scout for disease/insects.
- Control weeds; they can definitely reduce yields in garlic crops.

When to harvest and how to cure:

- Pull some bulbs in mid-May to mid-June and look for segmented cloves with a tight outer skin. Should have 4-6 wrapper leaves (which are shells around garlic) when harvested.
- For hardneck garlic, you will also want to remove the scapes (immature flowers) to enable the energy to be invested in the bulb (image on bottom right).
- Cure in well-ventilated area out of the sun for about 6 weeks. extension.tennessee.edu/publications/Documents/D75.pdf





NOVEMBER 2022

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	.	**1** Did you get your garlic planted? It isn't too late!	**2** Keep harvesting your various cool-season crops.	**3**	**4** Clean up any stakes or debris from the garden.	**5**
6 **Daylight Saving Time Ends**	**7** Even if it is a mid-November seeding, a cover crop like rye can still be of benefit.	**8** ○ FULL MOON	**9** It may even be close to a first frost in Memphis by now!	**10**	**11** Keep notes on the crops and cultivars that performed well for you this year.	**12** Write those notes in the record sheets in the back of this calendar.
13	**14**	**15** What were some of your pest issues this year?	**16** What were some of the disease issues you faced?	**17** Knowing your gardening challenges is great info to help select crops for next year.	**18** There are many resistant varieties that can help you address disease issues. extension.tennessee.edu/publications/Documents/W657.pdf	**19**
20	**21** Prune and destroy all dead or diseased fruit tree limbs when dormant.	**22**	**23** ● NEW MOON	**24**	**25** Carrots can be stored in ground for a little while, but be sure to pull them before the ground freezes.	**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 2023 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.

Pathogen of the Month: Bacterial Leaf Spot in Peppers

Wondering why winter would bring up the topic of the most prevalent leaf disease on peppers? Well, as it turns out, the key steps to preventing spring and summer issues with bacterial leaf spot (BLS- *Xanthomonas campestris* pv. vesicatoria) actually take place in the winter. They are selecting resistant pepper cultivars and buying seed that has been tested and found free of the bacteria that often travels on seeds to spread to seedlings in the greenhouse.

Try some of the new resistant cultivars, such as bell peppers Alliance, Red Knight, Revolution (image on right), Playmaker and King Arthur. Or check out jalapenos that are resistant like Emerald Fire or banana peppers Sweet Sunset and Hot Sunset. If you are buying seedlings, check carefully for leaf lesions. Copper sprays can reduce damage in the field but prevention through clean seeds and resistant plants is the best route to optimum pepper health and production. Here's to good winter decisions leading to great summer harvests!

IN THE SPOTLIGHT: Crop Rotation

For the home gardener, rotation involves moving crops to different locations in the garden to prevent the build-up of pathogens in the soil. It is best to rotate away from a crop family for 3 years — what we call a 4 year rotation. This type of rotation is most effective against pathogens that survive in soil or on crop remains for a short period of time. It is common for pathogens to infect related crops, so rotation is based on not planting the same families in the same area. the potential for winter injury.

extension.tennessee.edu/publications/Documents/W316.pdf

Crop family	Common home garden crops
Apiaceae	Carrot, celery, parsnip
Chenopodiaceae	Beet, spinach, chard
Cucurbitaceae	Cucumber, squash, pumpkin, watermelon
Poaceae	Corn
Malvaceae	Okra
Brassicaceae	Broccoli, mustard, Brussels sprouts, kale, collards, kohlrabi, turnip, cabbage, cauliflower, radish
Solanaceae	Tomato, potato, pepper, eggplant
Alliaceae	Chives, garlic, leek, onion
Fabaceae	Beans, peas, edamame
Asteraceae	Lettuce, sunflower, endive



DECEMBER 2022

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

Crop	Cultivars grown	Date seeded transplants	Seeded or transplanted in the garden	First flower	First harvest	Insect issues	Disease issues	Last harvest

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)

Crop and issue	Date of action	Material and method used	Rate and volume used	Notes on efficacy



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