



Proper Vegetable Garden Planning for Disease Prevention

Warmer temperatures mean spring is right around the corner, and gardeners everywhere are ready to get plants in the ground. However, prior to planting, growers should develop a plan for this year's vegetable garden. A thoughtful approach to garden layout and preparation can influence disease pressure as well as the overall success of the crop. Here are few areas to consider to get ahead of diseases as you make your vegetable garden plans.

Planting Site

The best vegetable garden sites are sunny with adequate moisture and fertile, well-drained soil. Avoid low spots, which can worsen soilborne diseases, and shady locations, which can worsen foliar diseases. Prior to planting, it is advisable to draw a planting map. This allows consideration into site limitations and succession planting. Scale models of the garden space can be drawn on graph paper, made in Microsoft Excel, or designed using one of many available apps (Figure 1). Choose perennial locations carefully to make tilling more convenient.

Taller crops, such as sweet corn or tomatoes, should be planted on the north or west side of the garden to avoid shading shorter plants. Retain these maps from year to year, and refer when planning next season.

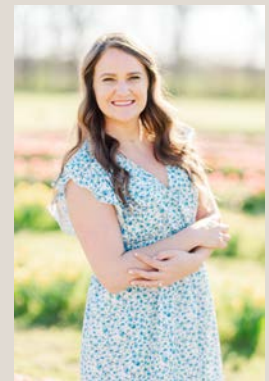


Figure 1: An example of a garden map made in Microsoft Excel.

(Image: Kim Leonberger, UK)

Crop Rotation

If the same garden site is used each year, avoid planting the same or closely related crops in an identical place each year. A three-year rotation is recommended, however, even a year or two out of a certain plant family can be beneficial. Crop rotation prevents disease-causing pathogens from building up in soil. Multiple vegetable crops are closely related and are prone to many of the same disease issues.



Mary Dossett

Agent for Horticulture
Advisor for McCracken County
Extension Master Gardeners



Savannah Gilbert
Horticulture Assistant

<https://mccracken.ca.uky.edu/>

Closely related crops are listed below.

- Tomatoes, Peppers, Potatoes, and Eggplant
- Cucumbers, Pumpkins, Squash, Watermelons, and Muskmelons
- Peas, Broad Beans, Snap beans, and Lima Beans
- Cabbage, Cauliflower, Kale, Collards, Brussels Sprouts, Broccoli, Kohlrabi, Turnips, Rutabaga, Chinese Cabbage, and Mustard
- Lettuce, Endive, and Salsify
- Chives, Garlic, Leeks, Onions, and Shallots
- Beets, Swiss Chard, and Spinach
- Carrots, Parsley, Celery, Celeriac, and Parsnip



Compost Piles

Avoid composting diseased plants or produce, since home compost piles typically do not reach temperatures high enough to kill pathogens. Accelerate the rate of decomposition by turning compost piles at least once per month. Avoid adding fresh material to finished compost piles, as the new material will not break down in time for spring planting. Water should be added to very dry compost piles at turning to allow for more complete decomposition. For more information on composting for the garden, see [Home Composting](#).



Keep Records

Each garden season is like a school year, with lessons to be learned. Whether by app or a physical garden journal, keep track of disease and pest issues as they occur, to help develop strategies to prevent or manage these issues. Also include details about cultivars and their performance, as well as, weather patterns.

Additional Resources:

- Bean & Pea IPM Guide for Small Acreage & Backyard Production ([PPFS-VG-22](#))
- Cole Crop IPM Guide for Small Acreage & Backyard Production ([PPFS-VG-23](#))
- Cucurbit Crop IPM Guide for Small Acreage & Backyard Production ([PPFS-VG-19](#))
- Tomato & Pepper IPM Guide for Small Acreage & Backyard Production ([PPFS-VG-21](#))
- Home Vegetable Gardening in Kentucky ([ID-128](#))
- Vegetable Cultivars for Kentucky Gardens ([ID-133](#))
- Homeowner's Guide to Fungicides ([PPFS-GEN-07](#))
- Home Composting: A Guide to Managing Yard Waste ([HO-75](#))

Revised by Kim Leonberger, Plant Pathology Extension Associate, and Nicole Gauthier, Plant Pathology Extension Specialist for Vegetables

Original article by Kim Leonberger, Plant Pathology Extension Associate and Emily Pfeufer, Former University of Kentucky Extension Plant Pathologist

Periodical cicadas emerge across Kentucky this spring: How to protect your trees and shrubs

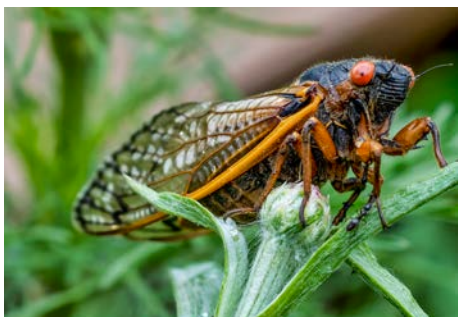
Source: Jonathan Larson, entomology extension associate

Kentucky will be the epicenter for the emergence of Brood XIV of 17-year periodical cicadas this spring. Periodical cicadas have appeared in Western Kentucky counties over the past few years, but the largest emergence area for 2025 will occur across most of Central and Eastern Kentucky. While these time-keeping, red-eyed insects are not harmful to humans or pets, their egg-laying habits could damage the branches of young trees and shrubs. Tree netting is the most effective, non-invasive way to protect your landscaping and fruit trees.

The 17-year periodical cicadas are expected to emerge from the soil to molt into their flying, adult form in late April to early May, when the soil warms to the mid-60s. Periodical cicadas emerge much earlier than annual cicadas and in greater numbers. Cicadas do not bite or sting, and the feeding habits of the adults do not damage plants. Some may find the abundance of molted shells and loud, near deafening singing a nuisance, while others will enjoy this pageantry of nature. The periodical cicadas' choral song, however, is a cue to protect landscaping and orchards. Female cicadas will lay their eggs into the new, lower branches of several species after mating: apple, arborvitae, ash, beech, berry and grape vines, crab apple, cherry, dogwood, hickory, holly, maple, lilacs, magnolia, oak, peach, pear, rose bushes, spirea and willows are the most likely targets.

The cicada's ovipositor is long and sharp, and they will inject 200 to 600 eggs into the stem tissue. This "flagging" may cause the tender branches to snap. The fallen branch makes for a much shorter journey for the hatching nymphs from egg to soil but is not beneficial for the growing tree. Once the eggs hatch, the nymphs will feed on root sap, and a heavy population of nymphs in the soil may also impact the tree's root system. While using insecticides may be less costly, the safest and most effective way to prevent tree and shrub damage is by using cicada netting, which prevents females from laying their eggs. Netting is suggested for use on new and smaller trees and should be installed when the cicadas begin to sing, about mid-May for most of the area. Trees that are established in the landscape—too tall to net for most people — will grow throughout the egg-laying period.

More information can be found at the University of Kentucky Martin-Gatton College of Agriculture, Food and Environment publication here: <https://entomology.ca.uky.edu/ef446> . You can also contact McCracken County Extension office for more information on protecting trees and shrubs from cicadas.



Fire Blight Alert and Risk Map Overview

By: Nicole Gauthier, Plant Pathology Extension Specialist, and Kimberly Leonberger, Plant Pathology Extension Associate

Apple and pear trees are at bloom across much of the state. Infection by the fire blight bacterium occurs during bloom, thus, protectant antibiotics should be applied when risk is high.

Risk for infection can be assessed using the [Fire Blight Disease Prediction Model](#). Growers can assess local risk by selecting their county and orchard history. This model incorporates the previous 4 days of weather data plus adds a 7-day forecast for estimating leaf wetness and temperature (thereby estimating risk for bacterial growth and infection). There are 66 Mesonet weather stations throughout Kentucky, thus, weather information for the model is based on data from the closest weather station. A mobile (phone or tablet) friendly version of this site is [here](#). Remember that apple and pear trees must be in bloom for predictions to be accurate. The map overview presented here indicates fire blight risk as of April 6, 2025 (Figure 1). According to the current assessment, risk varies across the state. Growers are encouraged to check the model regularly for the most accurate analyses and county-specific forecasts.

Additional Resources

Information regarding prevention and management of fire blight can be found in:

- Using Prediction Models to Manage Diseases in Fruit ([PPFS-FR-T-07](#))
- Commercial Fruit Pest Management Guide ([ID-232](#))
- Backyard Apple Disease Management Using Cultural Practices ([PPFS-FR-T-21](#))
- Fire blight ([PPFS-FR-T-12](#))
- Fire blight of Apple ([Video](#))

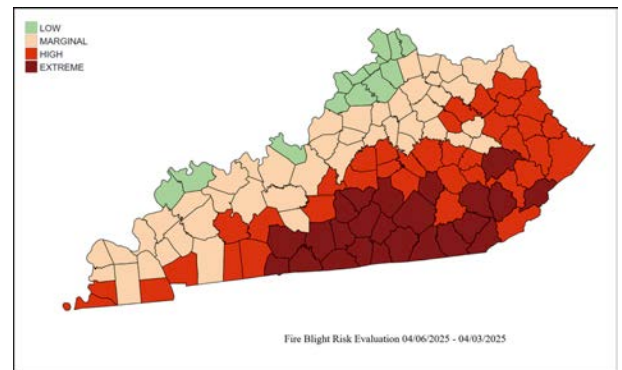


Figure 1: Fire blight risk for Kentucky counties as of April 6, 2025.



Strawberry Green Tea

13 cups water

13 green tea bags, regular size

1 pound fresh strawberries

1 cup honey

1 lemon, optional

1. Wash strawberries and remove the tops.

2. Chop the berries with a hand chopper in a large pot.

3. Add water to the chopped berries and bring to a boil, stirring occasionally.

4. Remove from heat and let mixture cool for 5 minutes.

5. Add tea bags and submerge. Steep tea for 2 to 3 minutes.

6. Strain the tea through a mesh

strainer or cheesecloth lined colander into a 1 gallon pitcher.

7. Add honey and stir until dissolved.

8. Chill and serve.

9. Garnish with a lemon slice or a fresh strawberry if desired.

Yield: 16, 8 ounce servings.

Nutrition Analysis: 70 calories, 0 g fat, 0 mg cholesterol, 5 mg sodium, 19 g carbohydrate, 1 g fiber, 17 g sugar, 0 g protein. 30% Daily Value for vitamin C.

Buying Kentucky Proud is easy. Look for the label at your grocery store, farmers' market, or roadside stand.



Cane Blight of Brambles

Cane blight occasionally impacts homegrown and commercial raspberries and blackberries in Kentucky. The disease causes lesions to develop on both primocanes (current-year canes) and floricanes (second-year or fruiting canes) and can result in reduced yield and cane death. Fungicides are available; however, sanitation is a critical step in prevention and management.

Cane Blight Facts

- Symptoms include brown to purple cankers (Figure 1) that expand to girdle canes throughout the season. Wilting and dieback are observed in areas above the canker. During periods of high moisture, black fruiting bodies (pycnidia) may be visible.
- Hosts include red raspberry, black raspberry, and blackberry.
- Primary infection occurs in spring when spores, moved by wind or water, enter through pruning cuts, insect damage, broken fruit stems, bark cracks, or wounds.
- Caused by the fungus *Leptosphaeria coniothyrium*.
- Overwinters in dead or diseased canes.

Management Options

- Prune to improve air circulation and rapid drying.
- Remove weed hosts.
- Maintain plant health with proper nutrition and irrigation practices.
- Remove wild brambles from the area.
- Prune and burn or bury all old canes and diseased or dead plant tissue.
- Protect plants from winter damage.
- Manage insect pests.
- Homeowners may apply fungicides containing lime sulfur during dormancy; however, availability of these products may be limited. Products containing copper or captan can be used beginning at vegetative growth and continuing through bloom.
- Commercial growers should refer to Midwest Fruit Pest Management Guide ([ID-232](#)) for up-to-date fungicide recommendations.



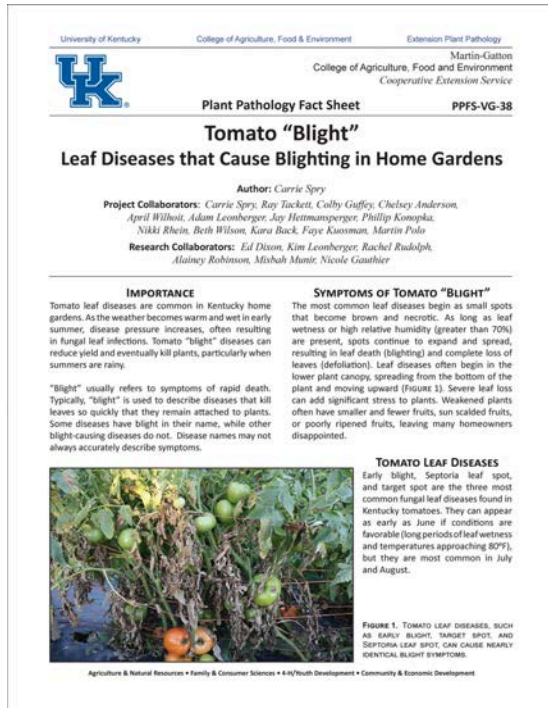
Figure 1: Cane blight symptoms include brown to purple cankers. (Photo: Michael Ellis, The Ohio State University)

Additional Information

- Backyard Berry Disease, Pest, and Cultural Practices Calendar (PPFS-FR-S-25)
- Commercial Midwest Fruit Pest Management Guide (ID-232)
- Fruit, Orchard, and Vineyard Sanitation (PPFS-GEN-05)
- Cane Blight of Raspberries (The Ohio State University Extension, PLPATH-FRU-10)

Tomato “Blight” (PPFS-VG-38)

Tomato “Blight” – Leaf Diseases that Cause Blighting in Home Gardens (PPFS-VG-38) is a new Plant Pathology Extension fact sheet focusing on the three most common leaf spot diseases occurring on the most common vegetable crop grown in residential gardens. These tomato “blight” diseases (early blight, Septoria leaf spot, and target spot) weaken plants, reduce yields, and can ultimately kill entire plants.



Each disease is discussed separately in terms of symptoms and cause; however, disease management options included in the fact sheet are the same for all three diseases. The table of common cultivars and their disease risk is based on field trials in 14 Kentucky counties during the 2022 and 2023 growing seasons.

Tomato “Blight” – Leaf Diseases that Cause Blighting in Home Gardens (PPFS-VG-38) is available online.

For publications on vegetable diseases, visit the UK Plant Pathology Extension Publications webpage.

By Cheryl Kaiser, Plant Pathology Extension Support, and Nicole Gauthier, Plant Pathology Extension Specialist

2025 Insect Trap Counts

Trap counts for major insect pests are provided by the Kentucky IPM Program. Traps are located at the UK Research and Education Center in western Kentucky and the UK Spindletop Farm in Lexington. Below are trap counts for the current period.

A complete listing of insect trap counts for previous seasons is available in table on the IPM website. For historical IPM insect trap data for Kentucky, go to this site ipm.ca.uky.edu/insect-trap-data

	Princeton	Lexington
Armyworm	9	5
Black Cutworm	5	10
Corn Earworm	1	0
European Corn Borer (IA)	0	0
European Corn Borer (NY)	0	0
Fall Armyworm	0	0
Southwestern Corn Borer	0	0

Submitted by Zenaida Vilorio, Entomology Research Analyst

Also contributing: Ric Bessin, Entomology Extension Specialist, and Patricia Leake, Entomology Undergraduate Intern

Brown Rot of Peach

By Kimberly Leonberger, Plant Pathology Extension Associate, and Nicole Gauthier, Plant Pathology Extension Specialist

Brown rot of peach is known for soft, rotted fruit covered with masses of fungal spores. However, management of this disease begins at petal fall. Early season management can reduce initial sources of the fungus as it emerges from dormancy, which ultimately results in less disease later in the season.

Brown Rot Facts

- Symptoms include soft, brown decay with fungal masses on fruit surfaces (Figure 1).
- Twig blight and blossom blight may occur in spring.
- All stone fruits are susceptible.
- Infection can occur throughout the growing season, during harvest, and in storage. Fruit infected in the field can develop symptoms in storage and shorten shelf-life.
- Fruit is more susceptible as it matures or when wounded.
- Periods of warm, wet weather can result in higher disease incidence.
- The fungus overwinters on rotted fruit, mummies (Figure 2), and blighted twigs from the previous season.
- Caused by the fungus *Monilinia fructicola*.



Figure 1: Peach fruit infected with brown rot. (Photo: Nicole Gauthier, UK)



Figure 2: Peach fruit mummy remaining from the previous growing season. (Photo: Molly Giesbrecht, Texas A&M AgrLife Extension Service, Bugwood.org)

Management Options

- Remove and discard decayed fruit and mummies as soon as possible.
- Prune and discard blighted twigs after harvest.
- Avoid fruit injury (e.g., from insects or damage during harvest).
- Increase air movement in the tree canopy by selective pruning.
- Infected fruit may not show symptoms at harvest, but disease may develop in storage. Damaged, wounded, and diseased materials should be discarded.
- Keep fruit cool to limit post-harvest disease spread.
- Commercial growers should consult the [Commercial Fruit Pest Management Guide](#) for fungicide recommendations. For more information about fungicides, homeowners should review the publication [Backyard Peach & Stone Fruit Disease, Pest, and Cultural Practices Calendar](#).

Additional Information

- Brown Rot of Peach ([PPFS-FR-T-27](#))
- Peach Fruit Diseases ([PPFS-FR-T-09](#))
- Fruit, Orchard, and Vineyard Sanitation ([PPFS-GEN-05](#))
- Backyard Peach & Stone Fruit Disease, Pest, and Cultural Practices Calendar ([PPFS-FR-T-22](#))
- Simplified Backyard Peach & Stone Fruit Spray Guide ([PPFS-FR-T-20](#))
- Effectiveness of Fungicides for Management of Stone Fruit Diseases ([PPFS-FR-T-14](#))
- Commercial Fruit Pest Management Guide ([ID-232](#))

Botrytis Gray Mold of Vegetable Crops

Botrytis gray mold can affect numerous vegetable crops resulting in damage to plants and fruit. The disease occurs in field, high tunnel, and greenhouse production; however, conditions in protected agriculture environments (greenhouses and high tunnels) often lead to greater disease development. Cultural practices often provide adequate disease management, but fungicides are available for more severe infections.

Botrytis Gray Mold Facts

- Symptoms include development of tan-brown lesions, with a gray, fuzzy covering on leaves, stems, blossoms, or fruit (Figures 1 & 2).
- Flowers and fruit are most commonly affected. Dead, dying, and damaged tissue is most susceptible.
- Once stems become infected, lesions frequently girdle stems resulting in wilting or plant death. Infected fruit quickly rot and become unmarketable both in the field and during post-harvest storage.
- Wounding increases susceptibility to infection by Botrytis gray mold.
- Disease development is favored by high humidity (greater than 85%).
- The pathogen overwinters in plant debris.
- Disease is spread by movement of spores by wind, air, or water.
- Postharvest rot can occur on stored produce and reduce shelf-life. Fruit infected in the field can develop symptoms in storage. Diseased fruit can also contaminate nearby healthy fruit in storage or during shipping.
- Botrytis gray mold is caused by the fungal pathogen *Botrytis cinerea*.



Figure 1: Botrytis gray mold stem lesions may expand to girdle stems. (Photo: Bruce Watt, University of Maine, Bugwood.org)



Figure 2: Fruit affected by Botrytis gray mold degrade quickly. (Photo: Paul Bachi, UK)

Botrytis Gray Mold of Vegetable Crops

Management

- Cultural practices are often adequate for disease management; however, fungicides may be used preventatively or to protect plants during severe outbreaks.
- Increase plant spacing.
- Prune plants to improve air flow.
- Monitor humidity in greenhouses and high tunnels. Exchange air and/or run fans.
- Remove and destroy heavily infected plants and dead or damaged plant parts.
- Avoid wounding plants.
- Avoid overhead watering to reduce leaf wetness.

Commercial growers can find information on fungicides in the Vegetable Production Guide for Commercial Growers (ID-36) and the Southeast U.S. Vegetable Crop Handbook. Homeowners should consult Home Vegetable Gardening (ID-128) for fungicide information or contact a county extension agent for additional information and recommendations regarding fungicides.

Additional Resources

- Botrytis Blight (PPFS-GEN-19)
- Enfermedades por Botrytis (PPFS-GEN-19-S)
- Greenhouse Sanitation (PPFS-GH-4)
- Bean & Pea IPM Guide for Small Acreage & Backyard Production (PPFS-VG-22)
- Cole Crop IPM Guide for Small Acreage & Backyard Production (PPFS-VG-23)
- Cucurbit Crop IPM Guide for Small Acreage & Backyard Production (PPFS-VG-19)
- Tomato & Pepper IPM Guide for Small Acreage & Backyard Production (PPFS-VG-21)
- Home Vegetable Gardening (ID-128)
- Managing Greenhouse & High Tunnel Environments to Reduce Plant Diseases (PPFS-GH-1)
- Vegetable Production Guide for Commercial Growers (ID-36)
- Southeast U.S. Vegetable Crop Handbook (Link)
- IPM Scouting Guide for Common Problems of High Tunnel and Greenhouse Vegetable Crops in Kentucky (ID-235)

**MCCRACKEN
COUNTY
EXTENSION
OFFICE**



HORTICULTURE WALKING CLUB

When:

11:00-12:00

Every Thursday May - June

(Will not meet June 19th)

Where:

Greenway Trail

(Meet at skate park entrance)



**CALL OUR OFFICE AT
(270) 554-9520
TO SIGN UP!**

**Cooperative
Extension Service**

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English. University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating. Lexington, KY 40506



Disability
accommodated
with prior notification.

Webinar Event

 Cooperative
Extension Service

Living with

Alpha-gal Syndrome

Learn more about AGS (red meat allergy)
and how to reduce your risk with University
of Kentucky Cooperative Extension

Topics Covered

- ✓ AGS basics
- ✓ Tick bite prevention
- ✓ Diet & lifestyle management
- ✓ Q/A session



Thursday, May 29th

6-7:30pm CDT

7-8:30pm EDT

Register Now!

ukfcs.net/AgS



**Cooperative
Extension Service**

Agriculture and Natural Resources
Family and Consumer Sciences
4-H Youth Development
Community and Economic Development

MARTIN-GATTON COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity. Reasonable accommodation of disability may be available with prior notice. Program information may be made available in languages other than English.
University of Kentucky, Kentucky State University, U.S. Department of Agriculture, and Kentucky Counties, Cooperating.
Lexington, KY 40506



Disabilities
accommodated
with prior notification.

The poster features several decorative elements of green foliage. At the top center is a large, detailed illustration of a Monstera leaf. The corners are filled with various green plants: a long, thin leafy plant in the top-left, a broad-leafed plant in the top-right, a potted plant with heart-shaped leaves in the middle-left, a cactus in the middle-right, a large leafy plant in the bottom-left, and a plant with heart-shaped leaves in the bottom-center. The background is a light, textured green.

MASTER GARDENER PLANT SALE

You know you need lots more plants!

May 31st, 2025
9am - 12pm

Great prices! All profits will help support the
McCracken County Extension Master
Gardeners

McCracken County Extension Service
2025 New Holt Rd
Paducah, Ky 42001
(270) 554-9520

2025 Horticulture Programs

5:00 - 6:00 P.M.

McCracken County Extension Service
2025 New Holt Rd Paducah, KY 42001

Please RSVP for each program
by calling (270) 554-9520

JAN 7 **Winter Sowing**

FEB 4 **“Evergreens” Propagation (on-site)**

MAR 4 **Native Plants**

APR 1 **Fairy Gardens**

MAY 6 **Container Gardening**

JUN 3 **Floral Arranging**

SOLD OUT

JUL 1 **Love Shack Farm (on-site)**

AUG 5 **Drying & Pressing Cut Flowers**

SOLD OUT

SEP 2 **Lawn Management**

OCT 7 **Pumpkin Planters**

NOV 5 **Holiday Wreaths**

SOLD OUT

