# What's Growing On?

Volume 28 Issue 2 Fall 2025 Edition

Content:



## Season Extenders and Growing Fall Vegetables

Revised March 2021- Karen Panter, Extension Horticulture Specialist, Department of Plant Sciences, University of Wyoming

As the name implies season extenders allow you to continue the growing season up to or surpass your frost/ freeze date (see the graphs on page three for dates in our area). Season extenders include low tunnels, cold frames, and hot beds. Low tunnels offer a low effort, fast, and effective way to create a season extender. The hoops create a structure that will protect the plants from insects, physical damage, and low temperatures. The hoops should be placed over the center of the crop row about 3 to 4 feet apart. Fabric or poly may be secured by sandbags.

In the fall and spring, the tunnels may be covered with a fabric row covering. As the temperature drops, the fabric covering may be replaced with a 4mm to 6mm poly. When the low tunnels are not in use, remove them from the garden, along with the coverings.

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Online -Resources for Homeowners https:// cumberland.njaes.rutgers.edu/ garden/

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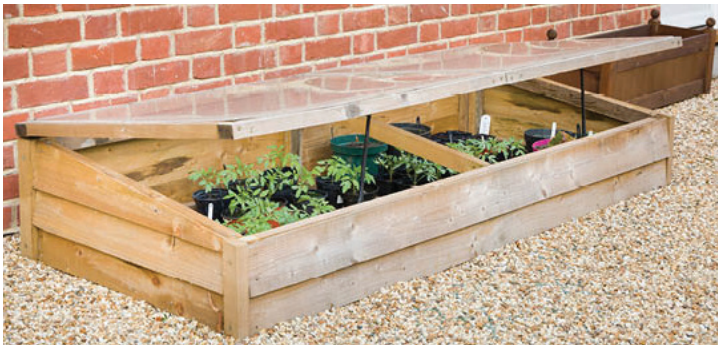
# Season Extenders and Growing Fall Vegetables (Cont.)

**Hotbeds & Cold Frames**

Cold frames and hot beds can be used to effectively grow cool season crops in the fall. In the fall, crops may be directly seeded into either beds or grown in containers or flats in the beds. The primary difference between a cold frame and a hot bed is that a cold frame uses only sunlight to moderate the interior temperature, while the hot bed uses either an electric heat mat or another outside heat source. In some cases, manure may be used as a heat source.



**HOTBEDS:**

A hotbed for growing plants is a low, covered frame resembling a short greenhouse built partially below ground level. The structure is covered with light transmitting material, and provisions are made for heating and ventilation. Hotbeds are efficiently heated by electric heating cables or mats underneath the plants.

**Cold Frames:**

A cold frame is a portable, easy, and effective way to lengthen the growing season. In extremely cold weather there is no heat source other than the sun, and a cold frame is not suitable for use. However, during late fall and early spring it works as a solar heat trap to warm the soil and the plants growing in the frame.

# Frost Dates

**What Is a First Frost Date?**
Your first frost date is the average day when temperatures in your area drop to 32°F (0°C), cold enough to damage or kill tender plants. These dates are based on historical weather data and represent a 30% chance of frost occurring.

Keep in mind:

- Frost may arrive earlier or later than average
- Microclimates (urban areas, valleys, etc.) can affect timing
- Use frost dates as planning tools—not guarantees

**Frost Dates in our area:**

**Millville FAA Ap, NJ (Cumberland County):**

| | Chance of frost | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Temperature** | **10%** | **20%** | **30%** | **40%** | **50%** | **60%** | **70%** | **80%** | **90%** |
| Spring 32° | May 4 | Apr 30 | Apr 27 | Apr 24 | Apr 21 | Apr 19 | Apr 16 | Apr 13 | Apr 9 |
| Spring 28° | Apr 18 | Apr 13 | Apr 10 | Apr 7 | Apr 4 | Apr 2 | Mar 30 | Mar 27 | Mar 22 |
| Spring 24° | Apr 5 | Mar 31 | Mar 27 | Mar 24 | Mar 21 | Mar 18 | Mar 15 | Mar 11 | Mar 6 |
| Fall 32° | Oct 10 | Oct 15 | Oct 19 | Oct 22 | Oct 25 | Oct 28 | Oct 31 | Nov 3 | Nov 8 |
| Fall 28° | Oct 21 | Oct 26 | Oct 29 | Nov 1 | Nov 4 | Nov 6 | Nov 10 | Nov 13 | Nov 18 |
| Fall 24° | Nov 4 | Nov 9 | Nov 13 | Nov 16 | Nov 19 | Nov 23 | Nov 26 | Dec 1 | Dec 6 |

# Frost Dates (Cont.)

**Seabrook, NJ (Cumberland County):**

| | Chance of frost | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Temperature** | **10%** | **20%** | **30%** | **40%** | **50%** | **60%** | **70%** | **80%** | **90%** |
| Spring 32° | Apr 23 | Apr 19 | Apr 16 | Apr 14 | Apr 11 | Apr 9 | Apr 7 | Apr 4 | Mar 31 |
| Spring 28° | Apr 12 | Apr 8 | Apr 4 | Apr 1 | Mar 30 | Mar 27 | Mar 24 | Mar 20 | Mar 16 |
| Spring 24° | Apr 1 | Mar 27 | Mar 24 | Mar 21 | Mar 19 | Mar 16 | Mar 14 | Mar 10 | Mar 6 |
| Fall 32° | Oct 14 | Oct 19 | Oct 22 | Oct 25 | Oct 28 | Oct 31 | Nov 2 | Nov 6 | Nov 11 |
| Fall 28° | Oct 27 | Oct 31 | Nov 4 | Nov 7 | Nov 10 | Nov 13 | Nov 16 | Nov 20 | Nov 25 |
| Fall 24° | Nov 8 | Nov 14 | Nov 19 | Nov 22 | Nov 26 | Dec 1 | Dec 4 | Dec 9 | Dec 15 |

Lookup your first and last freeze/frost dates by zip code
*https://davesgarden.com/guides/freeze-frost-dates#b*

# Ground Hogs

*https://njaes.rutgers.edu/e361/*

The groundhog is a large ground-dwelling rodent. Its ability to thrive in human-dominated landscapes has made it perceived as a nuisance species. Indeed, groundhogs can damage home gardens, agricultural fields, and golf courses by consuming plants and burrowing under structures. While damage can be severe locally, in most cases groundhogs can peacefully co-exist with humans. There are multiple controls for the groundhog including relocation and deterrents. Non-lethal measures are important to consider, since groundhogs contribute an ecological impact.

In most cases, a groundhog burrow is not a problem and should be left alone. However, due to the groundhog's vegetarian diet and their extensive burrow systems, they can sometimes become a nuisance on a local scale. Due to their voracious appetite (consuming up to 1.5 lbs of vegetation per day), groundhogs can quickly decimate a home garden or landscape planting. On agricultural lands, groundhogs can cause costly and extensive damage to crops such as alfalfa, soybeans, squash, tomatoes, and peas. In orchards, groundhogs damage fruit trees by gnawing on main stems, which reduces tree growth rates and increases the chance of pathogenic infection and death.

Groundhog burrows can also damage foundations of buildings and monuments when the tunnels are too close to the structures or paved surfaces. On farms, burrow entrances and tunnels can damage expensive farm equipment and endanger livestock who accidentally step into them. When groundhogs burrow too close to fruit trees in orchards, they injure the trees by causing excessive aeration of the root systems.

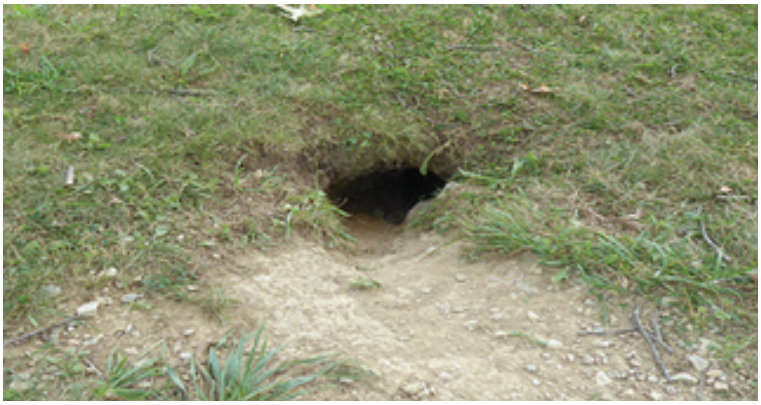
**Control Methods:**

- Exclusion: Fences above and below ground, stainless steel hardware cloth, and electric fences.

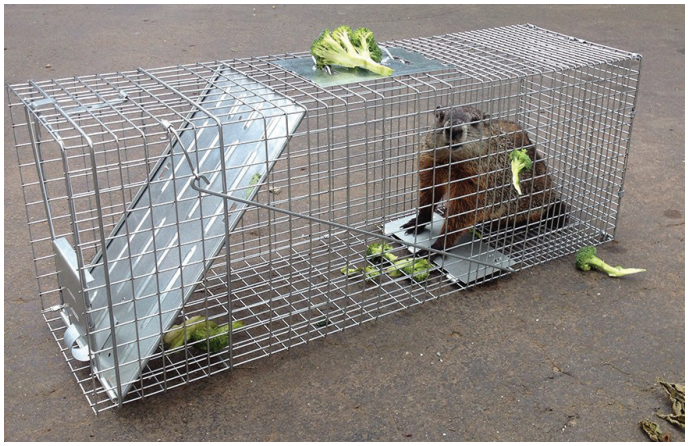
# Ground Hogs (Cont.)

**Eviction:**
If needed, groundhogs can be evicted using one-way devices that allow the groundhog to exit the burrow but not re-enter. First, the entire perimeter of the structure must be secured using fencing material described above. Then, one-way devices are installed over the burrow entrance holes for at least 2 weeks, to allow all animals to exit the burrow. After this period, the holes are sealed shut. Proper eviction requires attention to groundhog ecology: groundhogs should NOT be evicted during their hibernation or breeding seasons, as there may be individuals that get trapped inside the burrow.

**Deterrents:**
Deterrents for groundhogs work by either preventing the groundhog from crossing a specific perimeter, or by making food sources distasteful or cause momentary pain. Deterrents applied around perimeters are usually made from animal products such as predator urine or dried blood, which aim to induce fear into the groundhog.



# Ground Hogs (Cont.)



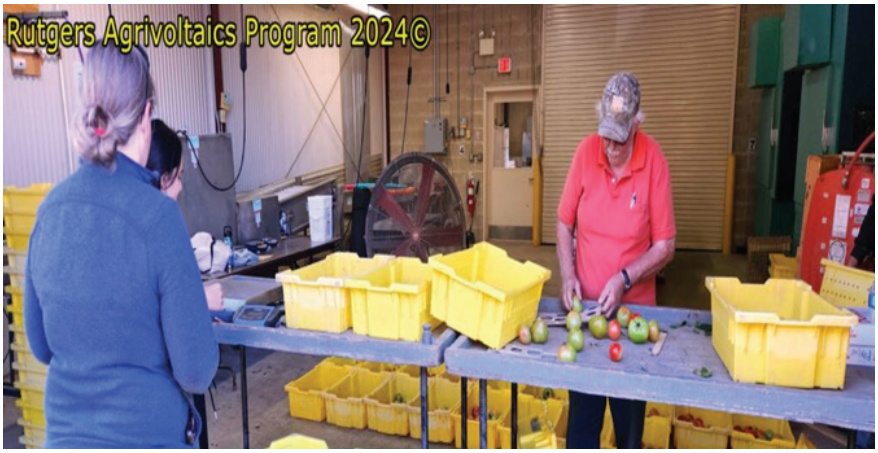
**Live Trap and Relocation:**
Capturing and releasing a nuisance groundhog in a new location is not a viable option in New Jersey. Because groundhogs are classified as a rabies vector species, relocations outside of the capture site are strongly discouraged. Where on-site release is infeasible, relocations must occur within a 5-mile radius of the capture site within the original township, and with the landowner's permission. Releases cannot occur on federal, state, county or municipal land without prior permission. See the New Jersey Division of Fish and Wildlife's Policy on the Relocation of Wildlife (PDF) for more information.

# Agrivoltaics


The Rutgers Agrivoltaics Program (RAP) was initiated over 3 years ago with the signing and passage of the Dual Use Solar Act by the New Jersey legislature. In 2023, Agrivoltaics research installations were established at three Rutgers-New Jersey Agricultural Experiment Stations (NJAES). One at the Clifford E. and Melda C. Snyder Research and Extension Farm in Pittstown, NJ; one at the Animal Farm on the Rutgers New Brunswick (SEBS) Campus, and one at the Rutgers Agricultural Research and Extension Center (RAREC) near Bridgeton, NJ. Members of the Rutgers RAP Team in collaboration the New Jersey Board of Public Utilities, NJ Department of Agriculture, and NJ-DEP are now in the process of implementing the Dual-Use Solar Energy Pilot Program.

# Agrivoltaics (Cont.)


The agrivoltaics research at the Rutgers Agricultural Research and Extension Center (RAREC) near Bridgeton, New Jersey has been designed to study the effects of agrivoltaic (AV) systems on the production of specialty crops and soybeans. This year eggplant, pepper, fresh-market tomatoes, and soybeans are being grown under three different treatments: single-axis tracking array with one row of panels, single-axis tracking array with two rows of panels, and no panels (conventional production as a control) to determine the effects caused by the presence of the panels on specialty crop and soybean plant growth and yield.




Grading and weighing of the harvested specialty crops at RAREC.

Much of the harvested fruit was donated to local food banks, churches, and senior living care facilities in the area by members of the Cumberland County Master Gardeners. In total for the season, ~ 1,300 lbs. of eggplant, 2,500 lbs. of tomato, and 2,100 lbs. of bell peppers were donated to local charities.

# Home Orchard Questions

**Excessive Tree Vigor**
Undoubtedly, in home orchards, the number one reason for failure of trees to bear fruit is improper tree vigor. Over vigorous trees expend all their energy in growing wood and do not produce flower buds. Typically, this occurs for two reasons: over fertilization and over pruning.

**The Solution**
If you are over fertilizing, refrain from applying any extra fertilizer to the lawn within 5 feet of the spread of the tree's branches. Be careful because under fertilization can also occur. The need for fertilizer in a home orchard should be based on soil test results and annual shoot growth. Bearing fruit trees should average 12 to 18 inches of shoot growth per year, whereas non bearing young trees should average 18 to 30 inches. If your trees have less growth than this, increase the nitrogen rate by 25% the next spring. If your trees have a greater amount of annual shoot growth, this indicates that you may be over fertilizing.

If you have too much growth and you are not fertilizing too heavily, you may be over pruning. Fruit trees should be pruned each winter; however, heavy winter pruning will stimulate excessive growth. Trim around 30% of the branch at a time. Before pruning your trees, make sure you know where the tree produces flowers and how to prune to encourage flower production. In general, thinning cuts (those that remove an entire branch back to its point of origin) are less stimulating and encourage more flower production. Heading cuts (the removal of a portion of the branch) will stimulate more vegetative growth and delay flowering. Indiscriminate heading cuts will delay flowering and fruiting.

**Frost Damage**
The second leading cause of lack of fruit production is frost damage. The flowers of fruit trees are very sensitive to late spring frosts. Temperatures below 29°F will prevent fruit formation. Frost does not have to occur during full bloom for damage to take place. Once the flower buds begin to swell and develop, there is a risk of frost damage.

**The Solution**
Plant fruit trees on the most frost-free section of your land. Look for areas that are either close to the house or slightly elevated. Do not plant trees in low areas of the yard. Plant fruits and varieties that are adapted to your area.

**Poor Pollination**
The third most common reason for failure to bear fruit is lack of, or poor, pollination. All flowers must be pollinated to form fruit consistently. For pollination to be successful, flowers on fruit trees must receive healthy pollen at the proper time. Bees are the main method for the transfer of pollen between flowers. Anything that interferes with bee activity, such as insecticides, cold weather, rain, or wind, will reduce pollination.

**The Solution**
Check with your local county extension office for a list of compatible fruit varieties for pollination purposes.

## Rutgers Master Gardeners

# Helpline On The Road & The Children's Table

**Come See Us:**
September 6th 10am-4pm: Hopewell Day, 2 Cassidy Court, Bridgeton NJ.
September 27th 10am-4pm: Greenwich Craft Fair 960 Ye Greate Street, Greenwich, NJ.
October 4th 10am-2pm: 4H Fall Fling, 3301 Carmel Rd Millville, NJ.

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**Resources:**

Season Extenders and Growing Fall Vegetables

https://wyoextension.org/publications/html/B1151R/

Lookup your first and last freeze/frost dates by zip code

https://njaes.rutgers.edu/e361/

https://extension.psu.edu/home-orchards-why-is-there-no-fruit-on-my-tree

https://plant-pest-advisory.rutgers.edu/the-rutgers-agrivoltaics-program-launches-a-new-website/

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Scan these QR codes using a smartphone camera to view online.



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