Cornell Cooperative Extension | Cornell Vegetable Program

VEGEdge

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Winter Squash and Pumpkin Harvesting and Storage

Robert Hadad, Cornell Cooperative Extension, Cornell Vegetable Program

To have good quality fruit going into the storage season, you need to be sure you are controlling powdery mildew. PM affects more than just the leaves. Fruit size can be reduced if leaf canopy is inefficient at producing the nutrition that would go into larger fruit. Poor canopy can also cause sun-scald on the skin of squash. Maybe worse yet, PM can also affect stems, making stems weaker and breakage is easier. If the stems break off the fruit, then this can open the squash up to disease. For pumpkins, a broken stem is the kiss of death from a customer sales standpoint. So, it is important to keep up with fungal disease management while crops are ripening in the field.

As the month of September moves on, there always seems to be a change in the weather bringing on a rush to get pumpkins and winter squash out of the field. Then later in the fall or early winter, there are calls about winter squash breaking down before their time. To get ahead of the game, you need to think about harvest and be ready to deal with an onslaught of vine crops coming out of the field.

When are squash mature? Picking too early will lead to short storage life and poor flavor. Changing color alone isn't enough to judge ripeness. In a recent article by UMass Extension in *Vegetable Notes* Aug 28, referencing the Late UNH researcher Dr. Brent Loy, color isn't the factor but instead refer to the days after pollination or fruit set (DAP). Some seed catalogs list dates that are as much as 20-30 days too soon to pick. For example, some catalogs list acorn squash with a maturity range of 70-76 days when full maturity may not occur until 90-100 days.

Winter squash (lower center and upper left) for sale August 22, 2025 seemingly harvested too early for full maturity. *Photo: R. Hadad, CCE*

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About VegEdge

VegEdge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension partnership between Cornell University and CCE Associations in 14 counties.

The newsletter is a service to our enrollees and is intended for educational purposes, strengthening the relationship between our enrollees, the Cornell Vegetable Program team, and Cornell University.

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Help us serve you better by telling us what you think. Email us at *cce-cvp@cornell.edu* or write to us at Cornell Vegetable Program, 480 N Main St, Canandaigua, NY 14424.

Contents

Starting with the next issue of VegEdge, produced on October 1, we will be returning to our monthly newsletter production schedule.

Tips for Maintaining Tuber Quality in Storage

Sandy Menasha, Vegetable/Potato Specialist, CCE Suffolk County

Below are some of the common factors each year that led to serious storage problems for potatoes. The following points are made to help growers store and maintain high quality tubers:

1. **Ensure High-quality Skin Set**
   Vine-kill potatoes 2-3 weeks before harvest to ensure good skin set, making the tubers more resistant to skinning and bruising.
2. **Harvest Cool, Stay Cool**
   Don't begin to store potatoes until the latter part of September when tuber and air temperatures have cooled down. If possible, avoid harvesting when pulp temperature is above 60°F. Greater storage "problems" usually occur in potatoes dug during the warmer parts of September.
3. **Wet Spots Are Trouble**
   Don't store potatoes from wet areas. Many potatoes from low areas are diseased or more prone to disease. It's best not to even harvest these areas.
4. **Soft and Gentle Harvesting**
   Pad all deflectors and sharp points. Agitation chains should be minimized, and excessive bouncing should be avoided.
5. **Keep Them Moving**
   During harvest maintain proper ground speed and chain speed ratio to keep the conveyors as full of potatoes as possible. This allows for the potatoes to "flow" from one chain to another reducing rollback and the potential for blackspot bruise.
6. **Don't Drop Me!**
   Reduce the height of drops to 6 inches or less during harvest and handling of potatoes.
7. **Less Soil, More Air**
   Remove all soil and debris during the harvest operation and while conveying tubers into storage. Excessive soil in the storage will prevent proper air movement and increase the chance of storage rot.
8. **Thorough Sorting**
   Provide enough staff and light to sort/cull tubers properly as they go into storage.

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One thing to be aware of is pumpkins and winter squash are susceptible to chilling injury starting when temperatures drop below 50°F. Each time the temperature drops below that, chilling injury can increase because injury becomes cumulative with more nights of cold exposure. It may not show up all at once but can affect coloration, ripening, or shelf life later. Of course, frost and freezing will show injury almost immediately.

Now is the time to be ready for harvest and curing. Where will you put the squash if you have to harvest in a hurry? How will you manage the curing process? Is your storage facility ready to clean and ready to take in bins of squash?

Below is a great article laying out the harvesting of pumpkins and squash in advance. – RH

Storing Winter Squash and Pumpkins

by Jonathan R. Schultheis, Extension Horticultural Specialist; Charles W. Averre, Extension Plant Pathologist Department of Horticultural Science North Carolina Cooperative Extension Service, North Carolina State University

When to Harvest

Immature squash and pumpkins do not store well; therefore, be sure that fruit is mature before harvesting. Mature butternut, acorn and hubbard type squash have very hard skins that cannot be punctured with your thumb nail. Additionally, as squash mature, the fresh, bright, juvenile surface sheen changes to a dull, dry-appearing surface. Most true pumpkins have softer skin than those mentioned above but will exhibit the same surface appearance alterations.

Dead vines do not necessarily indicate the squash and pumpkins on the vines are mature. When vines die prematurely from disease, stress or early frost, fruits are usually immature, of low quality, and will not store as successfully as those grown on healthy vines which die naturally.

Whether in a home, garden or commercial planting, special care should be exercised to protect harvested fruit from excessively high (>95°F) and cold (<50°F) temperatures and mechanical injuries such as scratches, cuts or bruises. Not only are mechanical injuries unsightly, they also provide an easy entrance for various rot-producing organisms. Packing lines and all conveyances should be padded with replaceable foam or rubber or similar shock-absorbing material. Ideally, large fruit, such as pumpkins, should not be stacked on top of each other. Padding material, such as grain straw, should be used liberally if fruits have to be stacked during harvest. If they must be stacked for shipping, they should never be more than three fruit deep.

Curing and Storage

Storage facilities should be equipped with accurate temperature and humidity controls, and a system to provide at least one air exchange per day. A fan to provide air circulation is also recommended to maintain uniform temperature and humidity throughout the storage room. There is limited information on the value of a curing period. Except for acorn types, which lose their quality during curing, experience tends to support a 10-day curing period with 80 to 85°F and a relative humidity of 80 to 85%. After the curing period, maintain temperatures as indicated in Table 1.

Table 1. Recommended optimum storage conditions for pumpkins and winter squashes

Type	Relative Humidity	Temperature Conditions	Approx. Length of Storage	Remarks
Pumpkins	50 to 75%	50 to 55°F	2 to 3 months	Fruit should be mature. Don't store with apples.
Hubbards	70 to 75%	50 to 55°F	5 to 6 months	Stores well.
Acorn	50 to 75%	50°F	5 to 8 weeks	At temperatures >55°F, surface becomes yellow and flesh becomes stringy.
Butternut or Buttercups	50 to 75%	50°F	2 to 3 months	Keep from getting too cold.

When winter squash are removed from storage, they should be marketed or consumed immediately, as rot can develop quickly. Black rot, dry rot, and bacterial soft rot are the principal causes of spoilage in stored winter squash.

CROP Insights

Observations from the Field and Research-Based Recommendations

BEETS

Management of Cercospora leaf spot and Alternaria leaf spot are the priorities for late harvested table beets. – JK

COLE CROPS

Cabbage aphids are becoming an issue. Be sure to check your Brussels sprouts and be aggressive with aphids in that crop. These blue-gray cabbage aphids could be on any cole crops at the moment, check undersides and other protected areas of leaves. Continuing to see flea beetle pressure. Slugs are an increasing issue.

Disease risk is higher with the cooler temps and dewy conditions. Alternaria can be a monster in broccoli and cauliflower. Not receiving widespread reports of downy mildew yet, though it has been present in some areas for a number of weeks. White mold remains a risk in fields with histories. – EB

DRY BEANS

Dry beans are now being harvested in some areas. Overall, there seems to be little insect or disease pressure in beans at this time. Cooler and wet weather could bring white mold to fields that are not yet ready to harvest. – ML

LEEKS & FALL SCALLIONS

These crops are at **greatest risk for Allium leaf minor (ALM)**, which was devastating in Fall 2023 in Western New York. The most important time to protect against leek moth is during egg-laying, which is now (mid-September). The most effective control strategy is row cover, followed by conventional insecticides (Exirel and Radiant) and then organic insecticide Entrust. See our website for a comprehensive article about ALM (https://rvpadmin.cce.cornell.edu/uploads/doc_1167.pdf) – CH

ONIONS

Most of the muck-onion crop have been pulled (Fig. 1) and most farms have started harvesting.

Figure 1. Last week's 80-degree temperatures and breezy conditions helped dry down onion foliage in windrowed onions. Topping onions with dry necks that do not have any green tissue can reduce bulb rot caused by both bacteria and Botrytis (a fungus). *Photo: C. Hoepting*

As part of the CVP onion scouting program, we have conducted **pre-harvest bacterial rot assessments** in 15 fields (of 17 total):

10 sets of 10 plants = 100 samples/ field	**Average**	**Range**
Foliar symptoms of bacterial disease	27.3%	0 – 60%
Bacterial infection in neck	8.5%	0 – 34%
Bacterial bulb rot	2.8%	0 – 10%

So far, **it appears that onion quality will be excellent and incidence of bulb rot low**. Bulb size and yield is down slightly due to the drought in July/early August. Generally, growers have been impressed with their bulb size despite the lack of rainfall during bulbing and attribute it to the cool and wet spring, which gave the crop a "strong base". Had the hot and dry summer followed a dry spring, the crop surely would not have performed as well.

There are several fields with **sections of thin stands where these plants are continuing to put on new leaves instead of putting their energy into bulbing and "don't know its over"**. In some cases, these plants are mostly leaves with small bulbs, which will be culled. But mostly, these plants have 2-3 inch bulbs but will never lodge naturally resulting in "stiff necks". To address this issue, **a few growers rolled such fields**, which caused the stiff-necked plants to pop out of the ground so that they could begin drying down, while the properly lodged plants remained in-tact with roots in the ground so that they could continue to put on size.

Harvesting onions when the neck tissue is dry when there is no green tissue can reduce bulb rots caused by both bacterial and fungal pathogens (e.g. *Botrytis allii* that causes Botrytis neck rot) (Fig. 2). Onions are ready to harvest when the neck tissue does not slide when you roll it between your fingers, and when the scales of the bulbs rustle when you tousle them. Research studies for the Stop the Rot project showed that leaving a 2-3 inch length when topping resulted in 36 – 66% less bacterial bulb rot than 0-1 inch neck length. This is because longer necks are more likely to dry fully and halt the spread of bacterial infection before the bacteria enter the bulb.

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Planting **cereal cover crops** soon after harvest is a good idea to soak up leftover nutrients (that can be used in next year's crop) and to prevent soil erosion during the fall and winter. Spring barley and oats are typically planted until September 15-20, which are expected to winter-kill. Rye is cold-hardy and planted after September 20 but will not winter-kill and have to be burned down in the spring prior to planting.

In a year unlike all others (as each year is), it has been my pleasure to grow onions with you. Best wishes for a smooth onion harvest! – CH

Figure 2. When onions are topped when their necks are green (left), bacteria-contaminated muck can stick to the green neck tissue and cause new bacterial infections. Green neck tissue contains enough moisture that is conducive to spread of bacterial disease. When the neck tissue is dry (right), it is impassable to bacterial infections and spread into the bulb. *Photos: C. Hoepting, CCE*

PEPPERS

Blossom end rot is a common and frustrating problem this year. Like in tomatoes, the damage you're seeing now was caused by insufficient or inconsistent water availability when the affected fruit were quite small. Blossom end rot is a water-mediated, temporary calcium deficiency. It does not mean that you had insufficient calcium in your soils.

Without enough water, the plant can't deliver enough calcium to the young fruit and as a result the cells won't develop properly when the fruit is large and approaching maturity. Calcium only moves through the plant in the water stream. When plants are water or heat stressed, the foliage demands a tremendous amount of water. The young, tiny fruit cannot compete with the strong foliar water demand or with better equipped older fruit for water. If there isn't enough water, then there can't be enough calcium delivered to meet the high calcium demand of those tiny fruit.

Be suspicious of fruit that are ripening ahead of their peers. In peppers, blossom end rot often presents on the lower third of the sidewall. Blossom end rot will be firm and darker colored than sunscald, which is quite pale. Blossom end rot occurs on any side of the pepper fruit, including the sides facing the center of the canopy. Sun scald only occurs on the side facing outwards.

Both blossom end rot and sunscald fruit should be removed from the plant. Doing so refocuses the plant's energy into finishing marketable fruit. Because these damaged fruit have weak tissue, they often develop opportunistic infections of fungal anthracnose or bacterial soft rot. You don't want to give either of these a foothold inside your canopy. Both can easily spread to healthy fruit once established in your plants. – EB

POTATOES

Early fields are now being harvested, and most other fields are dying down. Keep monitoring later planted fields for disease. We could continue to see late blight spread with the cool and wetter weather. – ML

SNAP BEANS

2025 was a tough year on snap beans with high temperatures and lack of rain in most of our region causing split sets and poor yields. There have been a few high yielding fields at times. Processing bean harvest will continue for several more weeks. White mold is more likely in September beans if there has been enough moisture. Make a note of fields with infections and avoid planting susceptible crops in future years. – JK

SQUASH & PUMPKINS

Starting to see phytophthora blight (P.cap) in squash and pumpkin plantings. P.cap populations explode when feeding on cucurbit fruit. A single pumpkin can give rise to millions of spores. Use of a targeted phytophthora fungicide is recommended for those with a field history. Pick fruit as soon as they are mature. Hold them for 3-5 days before shipping to allow time for any infected fruit to become apparent. Ideally, you want to have them spaced out or only shallowly stacked as the infection will rapidly spread from one bad fruit to the healthy ones surrounding it. Do not harvest fruit with round water-soaked on the rind, and don't harvest fruit within at least 5 feet of an infected fruit.

Also beginning to see more fusarium fruit infections in a variety of winter squashes. Nothing to be done once infection begins. This is an appropriate time of year for a final fungicide application to protect fruit from anthracnose, fusarium, and black rot infections as they mature and cure. – EB

SWEET CORN

September weather with cooler temperatures and dew increase leaf wetness and the risk for leaf diseases. Tar spot has now been reported in 4 counties in WNY (Cattaraugus, Chautauqua, Livingston, Genesee) with most reports in field corn. While

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most sweet corn is beyond the need for fungicides (except for corn being harvested into October) it is valuable to document any diseases seen at this time. Northern corn leaf blight and tar spot both overwinter in corn debris. Disk down for better degradation of debris. Plan next year's plantings as far away as possible from this year's infested fields. – JK

From the NY Sweet Corn Insect Trap Network 9.9.25 (https://sweetcorn.nysipm.cornell.edu): Reports received: 26 of 34 monitoring sites submitted data this week. Trap catches this week: European corn borer (ECB-E): reported at 1 sites European corn borer (ECB-Z): reported at 3 sites Corn earworm (CEW): reported at 19 sites, 18 high enough to be on a 3, 4,5, or 6 day spray schedule Fall armyworm (FAW): reported at 10 sites Western bean cutworm (WBC): reported at 6 sites Both CEW and FAW increased this week. CEW eggs are usually very difficult to scout for but at sites with high pressure you can probably find eggs on the silks. While CEW is most attracted to green silk stage fields for egg-laying, as the number of attractive fields decreases, fields with drying silk may become more attractive, prolonging the period when sprays are needed. CEW will also infest peppers and tomatoes when populations are high. – Marion Zuefle, Cornell IPM.

TOMATOES

Still seeing a lot of green fruit hanging, which jives with the late start and the stress of the hot, dry summer. Ripening will be slow with these cool nights. Because of that, you may benefit from extending your foliar fungicide program. Early blight is gaining strength and becoming more aggressive in the canopy with the shift in weather. These late fruit will also be at greater risk from anthracnose. Anthracnose directly attacks fruit, causing water-soaked and sunken spots on the shoulders that later turn black and mold. – EB

NEW Educational Resources on Using UV Light to Combat Plant Pathogens

Daniel Fering, Mount Sinai

The negative impacts of fungal and bacterial diseases for vegetables growers in New York State are increasing every year. This is due to several factors including changing weather conditions. The use of chemical pesticides is the most common technique for dealing with these diseases, but concerns with pesticide application include the development of increased resistance, management of various chemistries, reentry and pre-harvest intervals, and preventing drift or runoff of pesticides have generated interest in alternative approaches.

Researchers at several universities around the world have been studying the use of germicidal ultraviolet (UV-C) light to fight plant pathogens in the laboratory, greenhouses, and in field-grown crops since the early 1990s. Beginning with powdery mildew in grapes, this research has grown over the past 10 years to include a number of different fungal and bacterial diseases in fruits, vegetables, and other crops. Recent field studies have shown UV-C light to be as effective as chemical pesticides against several diseases including the fungal pathogen powdery mildew and the bacterial disease angular leaf spot in cucurbits; Cercospora leaf spot in table beets; and fire blight in apples, to name only a few.

With funding from the New York Farm Viability Institute (NYFVI), the Light and Health Research Center (LHRC) at the Icahn School of Medicine at Mount Sinai has developed several new resources focused on the use of UV-C light to combat plant pathogens. These include:

Short Instructional Videos

Using Ultraviolet Light (UV-C) to Combat Agricultural Pathogens

Part Two: Field Use Examples, Using Ultraviolet Light (UV-C) to Combat Agricultural Pathogens

Fact Sheets

Using Ultraviolet Light (UV-C) to Fight Plant Pathogens

Field Trials of Ultraviolet Light (UV-C) to Fight Plant Pathogens

Research Bibliographies

Annotated Bibliography: Use of UV-C to Combat Crop Disease in Real-World Field Studies

Annotated Bibliography: Use of UV-C to Combat Crop Disease in Greenhouse/Tunnel Studies


Field Trials of Ultraviolet Light (UV-C) to Fight Plant Pathogens

Upcoming Events

Rochester Soil Health Field Day

September 16, 2025 (Tuesday) | 2:30 pm - 6:00 pm
Foodlink Community Farm, 585 Lexington Ave, Rochester, NY 14613

Join us for a hands-on soil health field day! This event is for small-scale and urban growers, gardeners and farmers is a part of the 2025 Soil Health and Climate Resilience Field Days. Topics include cover cropping in small spaces—species selection, seeding and termination strategies; cover crop demonstration plots; building soil health in raised beds; best practices for dealing with heavy metals soil contamination in the urban environment; soil health demonstrations on impacts of cover crop and other management practices from NY Soil Health.

COST: FREE, light refreshments provided. Space is limited! Pre-registration required. Register at: https://cvp.cce.cornell.edu/event.php?id=2082 Hosted by CCE Harvest New York and Cornell Vegetable Program, NY Soil Health, Monroe County SWCD, Taproot Collective, Rochester Urban Ag Working Group, Foodlink and more.

Grounds for Growth: Connections for Wayne County Small Farms

September 29, 2025 (Monday) | 4:00 pm - 6:00 pm
PI Squared Farm, 3325 Shilling Rd, Marion, NY 14505

Announcement for Wayne County growers! Please join us Monday, September 29th for our Grounds for Growth: Connections for Small Farms event. The event will focus on building connections for smaller growers in Wayne County and celebrating an end to a difficult season! Robert Hadad, Cornell Vegetable Program Specialist, will be our expert in the field to discuss any questions folks have.

The event is free of charge, and food and refreshments will be provided. Space is limited, so please register here: https://reg.cce.cornell.edu/GroundsforGrowth_254 and let us know if you will be coming! Questions? Please reach out to Josh Bowman, cjb394@cornell.edu, 859-489-2603.

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