Vermont Vegetable and Berry News – September 15, 2014

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HARVEST TIPS FOR WINTER SQUASH AND PUMPKINS

Harvest fruits when they are mature and the rind is hard, but before night temperatures are below 40F, and well before a frost. Remember that chilling injury is cumulative, so with each exposure below 50F there is some loss of storage life.

Do not harvest or handle wet fruit if possible. Do not let harvested fruit get wet.

Harvest fruit by cutting the stem with pruning shears to leave a about a 1-inch stump on the squash (3 inch for pumpkins.)

Harvest, pack, handle, and store fruit carefully to avoid injuries. Never dump/drop squash.

Separate all fruit that are immature, injured, or have rot or blemishes. These fruit should not be stored.

Do not pick up freshly harvested fruit by the stem as it may separate from the fruit and provide easy access for rot organisms.

Do not stack the fruit higher than 3 ft. to avoid compression injury.

Do not permit harvested or stored fruit to get wet - avoid passing warm air over cold fruit as condensation will occur.

Washing is usually not desirable, but if washing is necessary (muddy fruit) be sure the water is chlorinated (at least 50 ppm, approximately one part 5.25% liquid bleach to 999 parts water). Organic treatment is StorOx or Sanidate 5.0 at labeled rate (60 oz per 100 gal for the latter.) Though I cannot find any data that post-harvest treatment prevents disease. Dry thoroughly before storing.

To harden rind you can cure for 10 to 20 days at 80 to 85F with good ventilation (e.g. four air exchanges per day). UMass suggests a warm dry greenhouse (70-80°F) with good air circulation, such as a greenhouse, for up to two weeks. There is mixed info on the benefit of curing winter squash but from what I've read by hardening the skin it will reduce weight loss in storage and this may also prevent subsequent handling injuries, which can lead to disease. If you are removing stems at harvest then I think curing is important to heal any would that is created.

Harvested fruit should be stored with good ventilation (at least one air exchange per day) at 50 to 55F and 50 to 75% relative humidity. UCDavis says 55-59F with 60% RH optimal. Higher humidity promotes rots. Stack bins to allow air to move in between.

Check stored fruits often for signs of decay and remove affected fruit.

References:
https://extension.umass.edu/vegetable/articles/pumpkin-and-winter-squash-harvest-and-storage
http://www.ces.ncsu.edu/hil/hil-24-c.html
http://www.ba.ars.usda.gov/hb66/pumpkin.pdf

For lots of good info on crops storage see Chris Callahan's Ag Engineering blog:
http://blog.uvm.edu/cwcallah/crop-storage-resources/

TEST GARLIC SEED FOR BLOAT NEMATODE

If you buy in garlic seed, or if some of your plants were diseased this year, or if you have some funky looking bulbs, or if you sell seed then you should want to be sure that your seed is free of garlic bloat nematode. Testing is offered by the University of Maine ($20 per sample) see:
http://umaine.edu/agriculture/files/2014/03/Garlic-Bloat-Nematode-Testing.pdf
and by Cornell University ($20 for NY farms, $40 others) see:
http://rvpadmin.cce.cornell.edu/pdf/submission/pdf59_pdf.pdf

In addition to clean stock, you can prevent this pest by clean and disinfecting all equipment that is used in garlic fields. The bloat nematode can be transported on clothing, shoes and anything else that moves soil. Changing shoes, power washing equipment and sanitizing it offers some defense against the introduction of the bloat nematode into previously clean areas. Crop sanitation is also important; infected bulbs and plants should be bagged and discarded in a landfill, not onto fields or in compost piles. Use long rotations (4+ years) between susceptible crops which include garlic, onions, leeks, chives, celery, parsley or salsify. Keep weeds such as Canada thistle and hairy nightshade to a minimum.

TIPS FOR BEST ONION BULB QUALITY
Adapted from Christy Hoepting, Cornell Vegetable Program

Do not pull onions and leave them in the hot sun when temperatures are high because they can get sunscald, especially if the relative humidity is high and they are pulled on the green side. A common technique for field drying is to orient the pulled onions so that the leaves lay over top of the bulbs. Some growers move the pulled onions with the tops on into a greenhouse or high tunnel to dry. Temperatures should be held below 85 °F, which will probably require leaving everything wide open. Black shade curtain/cloth over the house can also help to moderate temperature. Ensure good air movement.

Harvest dry onions during the cooler part of the day if it is hot out, and as long as they are not wet from dew or rain. Storage-bound onions should only be topped when the neck is dry and has no green tissue (i.e. the tissue does not slide when you roll the neck between your fingers). Bacterial diseases and black mold can enter into and move through green tissue into the bulbs. These diseases do not infect or move in dry tissue. Leave 2-3 inches of neck on the bulb when topping. This increases the distance from the cut surface to the bulb for fungal and bacterial pathogens to travel. Theoretically, if the neck dries down before the disease gets to the bulb, the bulb should be sound in storage.

If onions are dying standing up due to excessive leaf dieback caused by disease or other stress, and they are not lodging, they should be pulled and note that it may take a bit longer for the necks to dry on these onions. Conduct harvest practices when the weather is dry. Ideally, onions should not be handled when wet. When wet harvested onions are placed into boxes, it takes longer for them to cure properly, and the added moisture can stimulate disease development and rooting, which in turn will stimulate sprouting. Avoid bruising during harvest procedures. Reduce drops to 6” and pad sharp surfaces.

For optimum storage quality onions must be cured soon after harvest. Curing decreases the incidence of neck rot and bacterial diseases, reduces water loss during storage and is desirable for development of good scale color. Optimum conditions are 68-86°F and 70% relative humidity for at least 12 to 24 h. Best skin color develops at 75-90°F. Artificial curing can be done with outside air, which is heated to approximately 77°F or 3-5 °F above the ambient air temperature. Avoid temperatures greater than 82°F, because bacterial diseases and black mold are more likely to develop. A lower temperature, down to 68°F should be used if onions are poorly skinned, have been touched by frost or have bacterial diseases. Relative humidity should not fall below 65% or exceed 80%. RH going into the boxes should ideally be 50% and less than 100% coming out.

Airflow should be no less than 3 cubic feet per minute per cubic foot of product. The optimum temperature for long term storage of onions is 32°F with 65-70% relative humidity, but it is important to bring them down to this temperature slowly. Avoid condensation by not circulating air onto onions that is a warmer temperature than the onions.

UPDATE FROM THE UVM PLANT DIAGNOSTIC CLINIC
Ann Hazelrigg, UVM Extension

Tomatoes: late blight continues to show up in high tunnels around the state. We diagnosed a leaf spot disease called target spot of tomato in a high tunnel. It looks like early blight with bulls' eye rings like early blight. It is a warmer weather pathogen (82F) and was first found in Florida. If we had not looked under the scope, I would have said it was Alternaria, but the spores of this fungus are very different. On tomato leaves, the disease first appears as small, necrotic lesions with light brown centers and dark margins. Some varieties show a pronounced yellow halo around these leaf spots. Later, somewhat circular lesions about 1 cm in diameter develop with sunken tan to light brown centers. Individual lesions often coalesce and cause a general blighting of leaves. Symptoms also occur on flower and fruit stalks and stems. http://edis.ifas.ufl.edu/vh052. Protectant fungicides have some effect. If you see early blight seeming to run through your tunnel, send us a sample and we will check for this other pathogen.

Watch for white mold in tomato houses. It causes wilting of plants with a long brown canker. Don't let the sclerotia (these are compressed fungal mycelia that you can easily see if you split open the stem) drop into the soil. Cut off at the base of the plant and remove asap.

Cucurbits: Keep crops protected from downy mildew. It was diagnosed in Orange Co. around end of August. Watch for Plectosprium, powdery mildew (PM), cucurbit downy mildew, Fusarium, Black Rot (aka gummy stem blight), and Anthracnose. If using conventional fungicides, be sure to rotate your FRAC codes to avoid resistance buildup.

Brassicas: Black Rot, Rhizoctonia head blight and Alternaria Leaf Spot have been found on kale, cabbage and other brassicas. Mainly seeing the Alternaria on the older, lower leaves.

Check UMASS veg notes for in-depth information on fall weed management, cleaning greenhouses and more:
https://extension.umass.edu/vegetable/sites/vegetable/files/newsletters/September%2011%202014%20Vegetable%20Notes.pdf

Spotted wing drosophila is being found in fall raspberries across the region and at many but not all locations around the state. Populations can build up very fast so monitor your crop carefully; pick berries frequently, refrigerate fruit promptly if possible and/or protect with netting or insecticides. See: http://www.uvm.edu/vtvegandberry/SWDInfo.html

RAW MANURE SURVEY

If you grow fruits or vegetables for sale and apply raw manure OR graze livestock or poultry in fruit or vegetable production areas, please take a few minutes to answer this brief survey. Under FSMA, the interval between applying raw manure to certain fruits and vegetables and harvest time may be extended. Your responses to the survey will be used to help UVM Extension providers understand current practices in Vermont, and how growers could be impacted if the interval is extended. This will help us make comments to policy makers on the proposed rules. Questions? Ginger Nickerson, virginia.nickerson@uvm.edu or (802) 505-8189.
https://www.surveymonkey.com/s/rawmanure

VERMONT FARM SAFETY PROGRAM IS OPEN TO ALL FARMS

The Vermont Farm Safety Program provides ways to strengthen and improve your on-farm safety program. If your safety program isn't written down then it doesn't exist from an OSHA or insurance perspective. Farms that participate in farm safety programs may receive discounts on their workers' compensation and property insurance premiums. According to Vermont's Occupational Safety and Health Administration, farms with 10 or fewer employees and without a temporary labor camp are exempt from inspection. However, if any food manufacturing takes place on a farm, regardless of size, it is subject to OSHA inspection. It is important to note that even though a farm with 10 or fewer employees is exempt from OSHA inspection it is NOT exempt from OSHA regulations. Every farm needs to have a safety program than includes a written plan.

Applications are being accepted for participation in the Vermont Farm Safety Program. There is limited space. The fee is $90 and you must attend the orientation meeting on Nov. 14, 2014 at the UVM Extension office in Berlin VT, and at least one additional meeting via conference call or webinar. You must also agree to a farm safety check/audit on your farm during November or December, follow through on recommendations for 'hazard reduction' from the audit, identify a farm 'Safety Manager,' develop and implement an individualized Farm Safety Plan, and conduct monthly on-farm employee safety trainings. The program was developed by the VT Agency of Agriculture, UVM Extension, the VT Dept. of Labor, and Co-operative Insurance. The program is voluntary and all information is confidential. Contact Louise Waterman at (802) 828-6900 or Louise.Waterman@state.vt.us for an application or more info.