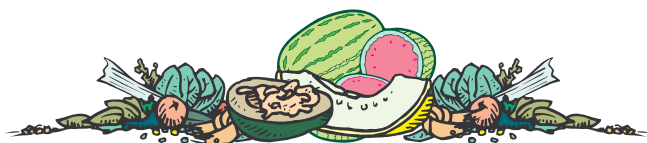


VEGETABLE CROPS HOTLINE

A newsletter for commercial vegetable growers prepared by the
Purdue University Cooperative Extension Service

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SQUASH BUG ON SQUASH AND PUMPKINS - (Frankie Lam) - Squash bug is a serious pest of cucurbits particularly during late season in the Midwest. Nymphs and adults that feed on the fruit can cause it to collapse and become unmarketable. In early July, squash bug adults, eggs, and nymphs are commonly found on squash and pumpkins near Vincennes. Because adults and large nymphs of squash bug are difficult to control by insecticides, the main tactic for management is early detection and control of the young nymphs.

The squash bug adults overwinter in all kinds of protective shelters, including dead leaves, vines, stones, buildings, and dwellings. The overwintered adults appear in late spring and fly into the fields and gardens when the vines begin to "run." The brownish black, flat-backed adults are 5/8 inch in length. After mating, egg clusters are usually laid on the underside of leaves in the angle formed by the veins. The egg cluster contains 10-20 eggs, and each egg is about 1/16 inch long. The yellowish white eggs turn metallic bronze and hatch within 1-2 weeks. The newly hatched nymphs are wingless, whitish green with black legs about 1/8 inch long. The nymphs undergo five nymphal stages and transform to adults after 35-40 days.

The pest prefers squash and pumpkin over watermelon, melon, and cucumber. The adults are very active and move easily from plant to plant or field to field. Both nymphs and adults feed by sucking plant sap. Their feedings cause the leaves to turn brown or black and plants to wilt. Although toxin has not been identified from their saliva and the

bug is not known to be a vector of plant diseases, heavy feeding by the insect may result in plant death.

The squash bug is one of the most difficult insects to control satisfactorily. Scouting from early season to the flowering of plants is important for management. The most effective tactic to manage squash bugs in small fields and gardens is to collect the bugs by hand and crush the egg clusters as soon as they appear on

the plants. For large fields, insecticide application should target the control of young nymphs. Check five plants in ten locations for squash bug eggs. If the average number of egg clusters per plant is greater than or equal to one, insecticide application is justified. Ambush, Asana, Phaser, Pounce, Sevin, and Thiodan are labeled for the control of squash bugs; however, pyrethroids (Ambush, Asana, and Pounce) generally show a better control than other insecticides. Be certain to read the label carefully before using any pesticides.

BACTERIAL CANKER OF TOMATOES - (Dan Egel) - Many of the control measures for bacterial canker of tomatoes are preventative. Such measures are, therefore, early season tasks. Although there is little that can be done now for disease management, it may be useful to review the disease and some control measures.

Bacterial canker has been confirmed from at least two processing tomato fields in the last week. This disease is also affects fresh market tomatoes. The leaves of the plants that hadn't already wilted had a dark brown border surrounded by yellow on the outside. In some instances, the fruit had a "bird's eye spot": a white spot with a dark center.

Bacterial canker moves into a field primarily through contaminated seed or diseased transplants. Therefore, this disease is one to be prevented more than controlled.

The most important control measure is to monitor the source of seed and transplants carefully. If the transplants are "home-grown" from seed, the seedlings should be inspected frequently. Discard or at least remove any suspicious seedlings. Sanitation is critical. Greenhouses should be cleaned up after transplant production. If transplants are shipped to the grower, the transplants should be inspected upon arrival. Treating seedlings or field plants with bactericides such as copper has not proven effective. If disease has been confirmed in the field, crop rotation will help to control future outbreaks. Tomato stakes should be cleaned and soaked in a one percent bleach solution after use.

If these symptoms sound familiar, confirm the presence of the disease and take the above preventative measures to avoid the disease next year.

EVERYONE BENEFITS - (Stanley J. Parka) - Gleaners Food Bank of Indiana, Inc. is requesting your help. Gleaners is a nonprofit agency whose purpose is to alleviate hunger in Central Indiana by soliciting, storing, and distributing surplus food to charitable agencies serving the needy. Gleaners operates under the umbrella of "America's Second Harvest", the largest charitable food source in the U.S. Did you know that right here in Indiana, 738,000 people regularly don't get enough to eat and 275,000 Hoosier kids may not develop properly for a lack of nutritious food? Since 1980, Gleaners has distributed over 110,000,000 pounds of food. We all know that the vegetables we produce are full of vitamins and other valuable substances that are essential to good health.

Why are we asking for your help? Fresh fruit and vegetables are the most difficult food items to gather since they are perishable and do not stay nutritious even when stored under proper conditions. Gleaners never have a large enough quantity of quality produce to fill their requests. Your donation of excess vegetables and fruit will be greatly appreciated. If you think you will have extra vegetables/fruit that you would be willing to donate please call Darren Boyd of Gleaners at 317-925-0191 ext. 108 for more



information. E-mail: <boyddarren@hotmail.com>. If you would like to talk to a fellow Indiana Vegetable Growers Association member who has been growing vegetables for Gleaners, give Stanley Parka a call at 317-861-9693. E-mail: <almostparadise@worldnet.att.net>.

And how do you as the donor benefit? You'll have the satisfaction of knowing that your produce is feeding hungry Hoosiers and not going to waste in the field. Gleaners is a 501 (c) (3) Corporation. That means that you get a tax deduction for your donation. This is a win, win situation, everyone benefits.



IVGA DIRECTORY OF WHOLESALE VEGETABLE PRODUCERS ON-LINE - (*Liz Maynard*) - The 2001 IVGA Directory of Wholesale Vegetable Producers is now on-line at <<http://www.in.gov/oca/other/vegetable.html>>. The site also has a link to the IVGA membership application. Thanks to Indiana's Office of the Commissioner of Agriculture for providing web access to this information! To receive a copy of the Directory or a membership application in the mail contact the Association at 219-785-5673.



POSTHARVEST HANDLING OF WATERMELON AND MUSKMELON - (*Chris Gunter*) - Watermelon are typically harvested at full maturity, since they do not continue to develop color and sugars after being cut from the vine. There are a few key methods to determine when a watermelon is mature. First check the ground spot, or the side of the melon that rests on the ground. This spot should turn from white to creamy yellow. Also, look at the tendril that is growing on the vine nearest to the developing fruit. This tendril should be wilted or drying out. If one of the melons is cut open to check maturity, the seeds should be hard and the gelatinous covering (called the aril) will be absent.

High quality fruit will be uniform in size and symmetrical with no scars, sunburn, surface abrasions, or bruising. Though many watermelons are shipped without precooling, these melons must be utilized promptly because quality declines rapidly without cooling. If precooling is an option, melons stored at 50-59°F should last about 14 days and if stored at 45-50°F they should last up to 21 days. Watermelon, however, is sensitive to chilling injury at these lower temperatures and extended holding at these temperatures is not advised.

Muskmelons should be harvested ideally at the firm ripe stage (3/4 to full slip) when vine separation occurs with light pressure. Typically they will have a deep uniform green at maturity and turn a light yellow at full ripeness. Also, raised netting is another indicator of maturity. As with watermelon, the fruit surface should be free of scars, sunburn, and surface defects. Melons may be cooled using either forced-air cooling or hydro-cooling methods. Muskmelons held at 36-41°F will last up to 21 days, though eating quality suffers if melons are held for long periods at the lower temperatures.



WHEN TO STOP - (*Dan Egel*) - When should one stop spraying fungicides? The answer to this question depends on how long one plans to harvest. Most vegetables with only two more weeks of harvest left need not be sprayed. Late season fungicide applications should be directed at protecting the fruit. Foliage is important only for "making fruit". If growers have done a good job of protecting the foliage during early and mid-season, the last few weeks of harvest are less critical. Part of the answer depends on what disease is most common in the field. Diseases, such as Alternaria leaf blight of muskmelon, do not cause fruit lesions and so do not pose much of a late season threat. Likewise, gummy stem blight of watermelon does not infect fruit in Indiana. Diseases that can affect fruit and therefore may cause more of a late season threat include anthracnose of watermelons and bacterial spot of tomato and pepper. Loads of fruit can be rejected due to these diseases. Find out just what disease you are fighting, if any.

When applying late season fungicides be careful of the re-entry interval and pre-harvest interval for the pesticide you are using. Re-Entry Interval (REI) - Workers not involved in the pesticide application are not permitted in the area being treated unless they take the precautions listed on the label. Pre-Harvest Interval (PHI) - Many pesticides require a period of time ranging from a few hours to several days in which it is unlawful to harvest fruit.

Growers should consult the label for information regarding REI's and PHI's. A secondary source of information is the Midwest Vegetable Production Guide for Commercial Growers 2001 (ID-56) <<http://www.entm.purdue.edu/entomology/ext/targets/ID/index.htm>>. Re-entry Intervals and Pre-harvest Intervals are listed for insecticides, herbicides and fungicides on pages 20, 30 and 38 respectively.



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