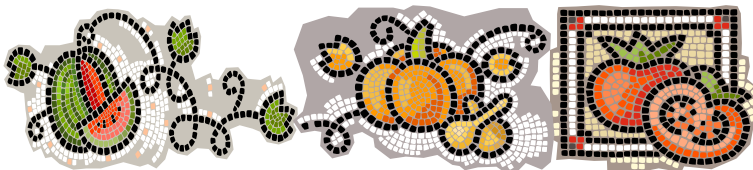


VEGETABLE CROPS HOTLINE

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

Dan Egel, Editor
4369 N. Purdue Road
Vincennes, IN 47591
(812) 886-0198
egel@purdue.edu



<http://www.btny.purdue.edu/pubs/vegcrop>

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PLECTOSPORIUM BLIGHT ON PUMPKIN - (Dan Egel) - Lesions of this disease were observed recently on pumpkin. Typically the lesions are more obvious on the handles (stem) of the pumpkin fruit. Lesions are often elongated, spindle shaped, slightly raised and may occur on the leaves, stems and fruit (see Figure 1). Only the lesions that occur on the fruit are of economic importance. Usually the lesions of Plectosporium blight (Microdochium blight is an old name) do not penetrate into the flesh of the fruit and therefore do not become infected by secondary organisms. For this reason, Plectosporium blight does not often result in the collapse and rot of pumpkin fruit. This is in contrast with bacterial spot of pumpkin (see Figure 2).



Figure 1: Plectosporium blight often causes elongated lesions on the handles (stems) of pumpkins. Similar lesions occasionally are observed on the fruit. (Photo by Dan Egel)

Outbreaks of this disease are not common. However, when Plectosporium blight does occur, the lesions on fruit can cause a loss of marketability. The fungus that causes Plectosporium blight thrives in the soil and is not known to be a strong pathogen. Crop rotations of 2-3 years may help lessen the incidence of this disease. Several fungicides should have good activity against Plectosporium blight, so additional fungicide applications should not be necessary. Plectosporium blight is not known to be seed borne.



Figure 2: This pumpkin fruit has numerous scab-like lesions caused by bacterial spot. A secondary organism may have contaminated the larger lesions shown here. Such lesions sometimes lead to the open wounds on the fruit. (Photo by Dan Egel)



APHIDS IN LATE SEASON PUMPKINS - (Gina Angelella and Rick Foster) - Aphid attacks can intensify in late season pumpkins, and have recently been observed increasing in many Indiana fields. Following a similar pattern, melon aphids monitored in 2010 peaked from mid-August through September in fields located throughout the state. Aphids can cause a number of problems, including transmission of several viruses. Viruses can be spread by many species of aphids, not just melon aphids. Many aphids are attracted to the color green and fly from one plant to another searching for a host, giving each plant a "taste test" during which virus can be transmitted by contaminated mouthparts. Viruses are most harmful

when infections occur early enough in the growing season to induce bud abortion, and can also cause mottling and distortion of fruits. A pumpkin field infected with what is suspected to be either Watermelon mosaic virus or Papaya ringspot virus was recently identified in Central Indiana. Additionally, aphid feeding can cause a somewhat dimpled, cupped appearance in leaves, and can decrease plant vigor and fruit production with large enough infestations. Sooty mold growth on the honeydew byproduct left by aphid feeding causes cosmetic damage on pumpkins as well. While it is unclear why some fields appear more susceptible to aphid outbreaks than others, it is possible that natural enemies such as ladybird beetles (ladybugs), lacewings, minute pirate bugs, and parasitoids are reduced by early spraying, allowing aphid populations to increase. Another alternative is that melon aphids, which attack a large variety of species, could be leaving the dying or harvested plants for the more attractive, healthy pumpkin plants later in the season. Virus infection cannot be prevented with insecticides, but there are a number of effective foliar insecticides for aphid management. See ID-56 for details about available insecticides <http://www.btny.purdue.edu/Pubs/ID/ID-56/>.



Figure 3: Fruit from a virus-infected plant below that of a healthy one (Photo by Gina Angelella)



Figure 4: Pumpkin covered with aphids and honeydew (Photo by Gina Angelella)



CORN EARWORMS - (Rick Foster) - As happens every year, corn earworm counts have gone up dramatically in the past two weeks. We are seeing highly variable counts, ranging from near zero to slightly more than 100 moths per night. While moth counts in the 100 range can cause significant damage, we can usually deal with populations of this sort with the pesticides we have available. The level of the counts and the variation in trap catches between locations indicates to me that we are most likely seeing the second generation of our native earworms. The extremely high counts (4-500 moths per night) that we sometimes see are usually the result of tropical storm activity in the Gulf of Mexico. Events like Hurricane Irene on the east coast have no effect on our earworm populations. If you have late planted sweet corn that is silking now, I recommend that you use the high rate of one of the recommended insecticides and use a 2-3 days spray interval. Begin application when about 70% of the plants are silking and continue until most of the silks have turned brown. At this point, I would not recommend adding PennCap M® to the spray tank for control of adult moths. If we see a sudden spike in moth catches due to a tropical disturbance, then adding PennCap M® would be a good idea. For the latest information on corn earworm trap catches in Indiana, see this website: <http://extension.entm.purdue.edu/cornearworm/index.php>.

BROWN MARMORATED STINK BUG UPDATE - (Rick Foster) - Our trapping program for brown marmorated stink bugs (BMSB) has included traps at 8 locations around the state. In addition, we are looking for the BMSB in blacklight trap samples from the 8 Purdue Ag Centers around the state. So far, we have not caught any BMSB in either type of trap. In addition, we have only received a few reports of suspected BMSB by growers and every time we have been able to check a specimen from those reports, it has turned out to be something other than BMSB. So, it looks as if our fruit and vegetable growers have escaped BMSB damage for this year. We will continue to investigate any possible BMSB sightings, so if you think you have collected one, please let me know (rfoster@purdue.edu).

It is my expectation that this fall and winter we will receive an increased number of reports of BMSB in homes and other structures. My colleagues from the East Coast have told me that the BMSB was a pest of homes for about 3 years before it became a serious pest in fruits and vegetables. If that pattern holds true here in Indiana, we may not see significant damage to our crops from BMSB until 2013 or 2014. However, we should all remain vigilant in looking for this potentially devastating pest over the next couple of years.

Dr. Tracy Leskey from the USDA laboratory at Kearneysville, WV, one of the foremost experts on BMSB, will be giving a seminar on her research results to the Department of Entomology here at Purdue on September 29 at 3:30 PM in Whistler 116. Any growers or others who want to learn more about this pest are invited to attend.



FALL PLANTED COVER CROPS - (Liz Maynard) - Many reading this will already have planned for cover crops on vegetable fields this winter. For those who haven't, it is not too late to consider the benefits and plant a cover crop where appropriate. Protecting soil from erosion, adding fresh organic matter to build the soil, and taking up nitrogen to reduce leaching during winter and early spring are some of the ways winter cover crops can benefit vegetable producers. Rye is probably the most widely used cover crop in the region, but wheat and oats are also used. Rye can germinate at 34°F and grow if it is above 38°F, so it is the best choice if cover crop planting is delayed until late fall. Oats should winter kill, while wheat and rye will need to be killed in the spring. Table 1 provides suggested seeding rates.

The nitrogen-fixing hairy vetch may be a good fit for fields that will be planted in late spring or early summer. This is a different species than the perennial crown vetch; hairy vetch is a winter annual and will naturally die after it sets seed in the spring. It will not grow much in the fall and so does not provide the benefits of winter soil protection or nitrogen scavenging. It will grow rapidly in the spring and by mid to late May and can fix large amounts of nitrogen that will be available to a following vegetable crop. It is often combined with winter rye to provide better cover and nutrient scavenging over the winter. Hairy vetch should be seeded 4 to 6 weeks before a killing frost. Include an inoculant of rhizobia bacteria suitable for vetch at planting.

Forage and oilseed radishes as well as other members of the cabbage family are also used as cover crops. Trademark names like 'Tillage Radish' or 'Groundhog Radish' emphasize the large taproots of radishes used as cover crops. Radishes planted in the fall will develop roots over an inch in diameter that can reach a foot or more into the soil. The rosette of broad green leaves may reach 2 to 3 feet in height. Temperatures in the low 20s will kill the plants. As roots decompose after plants die, the holes they leaves in the soil increase soil aeration and improve drainage,

providing better soil conditions for future crops. Early fall is the best time to plant radishes so they will have at least 60 days to grow. Radishes are excellent scavengers of nitrogen, cover the ground quickly to reduce weed growth in the fall, and suppress early weed growth in the spring. Be aware that as radishes decay, they emit an unpleasant sulfur odor that can be a problem during warm spells in the winter.

Cover crops do present some risk for vegetable growers. If spring weather prevents timely management of the cover crop, vegetable crop planting may be delayed. This risk is greatest in fields planned for early spring plantings. Choosing a cover crop that dies off in the winter, like oats or radishes, can reduce that risk. Fields to be planted in late spring and summer are good candidates for cover crops because the longer period before cash crop planting permits greater leeway in management.

Here are some common sense suggestions for developing a successful cover crop system on your farm.

1. Gather information from people in your area who are knowledgeable about the crops. Natural Resource and Conservation Service staff, representatives of local cover crop seed companies, or Extension staff may have the practical local knowledge that is needed. Cost-share programs may be available from NRCS.
2. Start small.
3. Choose cover crops and varieties that match the situation on your farm.
4. Obtain seed from a reliable, preferably local or regional source.
5. Check rotation restrictions for herbicides used during the growing season and discuss with experienced people to determine the potential for injury to a fall-planted cover crop.
6. Plan in advance for how the crop will be managed in the spring.
7. Keep notes and records, and review them to guide improvements in future years.

More information about cover crops is available from The Midwest Cover Crop Council (MCCC) web site at <http://www.mccc.msu.edu/index.htm>. Included on the site is a Cover Crops Selector Tool. This tool will make recommendations on cover crops for Indiana based on the type of cash crop to be planted, the soil drainage class, and the cover crop attributes (e.g. nitrogen scavenger, nitrogen source, soil builder, etc.) desired.

Table 1. Suggested Cover Crop Seeding Rates

Crop	Depth	Drilled		Broadcast		
		lb. / A	bu. / A	lb. / A	bu. / A	oz. / 100 ft ²
Rye	¾ - 2	60-120	1 - 2	90 - 160	1.5-3.0	4 - 6
Wheat	½ - 1.5	60-120	1 - 2	60 - 150	1 - 2.5	3 - 6
Oats	½ - 1.5	80-110	2.5-3.5	110-140	3.5 - 4.5	4 - 6
Hairy Vetch	½ - 1.5	15 - 20	—	25 - 40	—	2
Oilseed Radish	¼ - ½	8-13	—	10-15	—	1

Source: Clark, A. (ed.) 2007. Managing Cover Crops Profitably, 3rd Ed. Sustainable Agriculture Network, Beltsville, MD. p. 70. Available online at <http://www.sare.org/publications/covercrops.htm>.

LEAF SYMPTOMS ON PUMPKINS - (Dan Egel) - Many growers have inquired about the symptoms of downy mildew on pumpkin. This article and accompanying figures is an attempt to show the difference between downy mildew and old senescing leaves. See Figures 5 and 6.



Figure 5: The leaf in the center of this photograph is bright yellow and has necrotic margins. This is typical of older leaves of a pumpkin plant. Many of the nutrients that support the growth of leaves are mobile in the plant and will migrate to younger leaves. Therefore older leaves appear as above. The health of the plant is better judged by the appearance of the younger leaves than the older leaves. (Photo by Dan Egel)



Figure 6: Like the leaves in figure 5, the leaves in this photograph have a necrotic margin. However, the leaves here are curled upwards. These leaves are affected by downy mildew of pumpkin. The leaves in this photograph are affected regardless of age. (Photo by Dan Egel)



Southwest Indiana Melon and Vegetable Growers Association meeting - On December 1, SWIMVGA will have its annual winter technical meeting at the Southwest Purdue Agricultural Center, 4369 N. Purdue Rd., Vincennes, IN 47591 at 6 p.m. The meeting will start with dinner, which is free with your paid SWIMVGA

membership. Nonmembers can join at the door. The technical presentation will be given by Dr. Shubin Saha about the 2011 muskmelon and watermelon variety trials. Members will receive a post card in the mail in November reminding them to RSVP. For more information contact Dan Egel at 812-886-0198 or egel@purdue.edu.



INDIANA GOING LOCAL WEEK is Sept. 4-10, 2011. Organizers encourage us to eat one local Indiana food at each meal. Learn more and see suggestions for activities at http://www.goinglocal-info.com/my_weblog/going-local-week-2010.html or check out the Indiana State Dept. of Agriculture on its facebook page for the Going Local Week Contest <http://on.fb.me/qv9fJI>.



ILLIANA VEGETABLE GROWERS' SCHOOL will be held on Thursday, January 5, 2012 from 8:00 a.m. - 4:00 p.m. CST at Teibel's Restaurant located at the intersection of US 30 and US 41 in Schererville. Full program will be available in early December and posted at <http://www.hort.purdue.edu/fruitveg/events/events.shtml>. Contact: Liz Maynard at 219-531-4200 ext. 4206 or emaynard@purdue.edu.



FUNDING FOR FARMERS WEBINAR from Purdue Extension is available as a recording online at <https://gomeet.itap.purdue.edu/p61053777/>. The webinar provides participants the opportunity to learn about a number of grants currently available, as well as some basic insight into eligibility and how to apply for funding.

Featured funding sources include SARE Farmer and Rancher grants, SARE Youth grants, SARE Youth Educator grants, USDA Rural Development Value Added Producer Grants (VAPG), the USDA Rural Development Rural Energy for America Program (REAP) and USDA Rural Development Community Facilities Loans and Grants. Presenters also give general tips on increasing grant application success.

Presenters include Roy Ballard, Purdue Extension educator, who also serves as Indiana SARE coordinator; Curtis Johnson, USDA Rural Development area specialist; and Rochelle Owen, USDA Rural Development's director of community programs.

More information is available by contacting Ballard at 317-462-1113 or rballard@purdue.edu. Additional program sponsors are Indiana Sustainable Agriculture Research and Education (SARE) and USDA Rural Development.