

VEGETABLE CROPS HOTLINE

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

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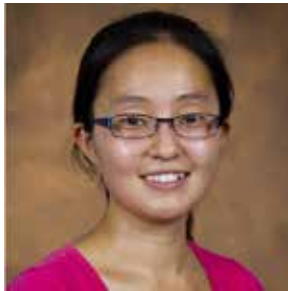
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WELCOME DR. WENJING GUAN - Wenjing Guan comes to Purdue from North Carolina Agricultural and Technical State University, where she was a Horticultural Specialist working on season extension for vegetable production. She was involved in research projects to establish planting calendars for organically produced warm season (tomato, cucumber and pepper) and cool season (lettuce, spinach and pak choi) vegetables in high tunnels, and participated in strawberry variety evaluation under organically managed high tunnel systems.



Wenjing received her Ph.D. at the University of Florida, with the dissertation project focusing on specialty melon production and vegetable grafting. She conducted specialty melon variety evaluations under conventional and organic production systems in Florida, and investigated yield, disease resistance and fruit quality of melons grafted onto hybrid squash and African horned cucumber rootstocks. Her research showed grafting is a promising practice to control soil-borne diseases and could potentially increase yield.

Taking the position as a horticulturist at the Southwest Purdue Agricultural Center, Wenjing will establish a research and extension program on vegetable and melon production with an emphasis on sustainable production systems. Her specific interests include season extension techniques, alternative production systems, fruit quality, plant nutrient management, and innovative cultural and pest management practices. Her long-time research goal is to increase on-farm profitability while maintaining environmental sustainability.

Wenjing's research and extension program will

be established based on the needs of stakeholders in Indiana. She welcomes comments and suggestions from vegetable growers and industry representatives all over the state. Please do not hesitate to contact her if you have any questions: guan40@purdue.edu, 812-886-0198, or (cell) 352-870-4696.



CORN EARWORM – (Rick Foster, fosterre@purdue.edu, 765-494-9572) – Catches of corn earworm moths in pheromone traps are gradually increasing. I had 18 in my trap this morning (August 18). The gradual increase is indicative of the local population emerging. We can expect them to continue to gradually increase for most of the remainder of the season. What we have not had is the massive influx of moths from the south, likely due to the lack of tropical storms in the Gulf of Mexico and few storm fronts coming northward from the Gulf States. With populations as they are currently, most sweet corn growers should have little problem managing this pest. A regular spray program should provide nearly perfect control.

There are three main factors that you have control of that determine the level of control you will receive. You need to have the right chemical in the right place at the right time. I recommend using Coragen® and Radiant® for earworm control. They have consistently been the best performers in my trials now that pyrethroid resistance is fairly well set. The pesticide spray must land on the silks. The eggs are laid on the silks and the young larvae crawl down the silks into the ear tip. Your only chance of killing the larva is to have insecticide residue present on the silks when the larvae emerge. Use water sensitive cards clipped to the ear tips to determine the level of control you are getting. Finally, timing is critical. Begin spraying when 50-70% of the plants have silks. That will usually be 2-4 days after you see the first silks in your field. Then, depending on how hot it is and how many moths are flying, you should repeat sprays every 2-5 days until the silks turn brown. Remember that the silks continue to grow, so even if your insecticide has good residual activity, there is always new silk being exposed to egg laying.



TO SPRAY OR NOT TO SPRAY - (Dan Egel, egel@purdue.edu, 812-886-0198) - Protecting vegetable crops from foliar disease involves many factors. Crop rotation and fall tillage will help to lessen disease severity. Choosing a resistant or partially resistant variety can lower the amount of disease. Purchasing seed that has been tested for seed borne disease is also an important factor. Most growers, however, find it is also necessary to apply fungicides to manage foliar diseases. This article will discuss when such applications are productive-and one case where they may not be.

Foliar fungicides are most effective when applied before infection of a plant disease takes place or early in the disease epidemic. That is, it is best to apply fungicides before one observes disease and at regular intervals. Fungicides are designed to protect healthy foliage from disease. Applications of fungicides will not change plant tissue that has been turned brown (necrotic) from disease into green healthy tissue.

Figure 1 shows a watermelon field with severe symptoms of anthracnose. Large areas of the field appear brown due to anthracnose infection. This situation may have resulted from missed fungicide applications, lack of crop rotation or weather conditions very conducive to disease. In any case, the common reaction of a grower upon viewing such a field is to apply a fungicide. Many times the reaction is to reach for an expensive cure. Again, no fungicide will turn brown plants into green plants.

When the decision to apply fungicides to a vegetable field with severe foliar symptoms is made, the grower should make such an application with the aim of protecting healthy plants. Is there a large enough area of healthy plants to justify a fungicide application?

It may be argued that some systemic fungicides have what may be referred to as 'kickback action'. That is, the fungicide is designed to move in the plant and stop fungi inside diseased tissue. Won't such a fungicide bring plants back from a diseased situation?

The successful application of many systemic fungicides with 'kickback action' will stop or slow fungi inside plant tissue. One should think about such action as inhibiting fungi at the edge of a plant lesion before it can expand into healthy tissue. Even if fungi are stopped inside necrotic tissue, the tissue will remain brown. Thus, fungicides should be applied to protect green tissue from disease.

When applications of fungicides are made to fields such as in Figure 1, one should also remember that the disease has almost certainly spread beyond the dead plants. Since it takes 7 to 10 days for diseased plants to show symptoms, more of the plants are diseased than what are observed in Figure 1.

An argument can be made that some crops may be able to regrow healthy leaves, branches and fruit

from diseased plants if kept healthy with fungicides. The decision to apply fungicides to allow regrowth of healthy plant tissue will depend of the cost and efficacy of the fungicide(s), the weather (dry weather will be more likely to favor healthy growth), market value of the produce and stage of crop.

Applications of a fungicide to non-productive plants may be made as a way to reduce disease inoculum that may otherwise spread to healthy plants. If one is realistic about why such a fungicide is applied, then this type of application can be justified if the cost is right. Another management tool is to remove or rogue diseased plants to stop disease spread. But this is a topic for another time.

My intent is not to be pessimistic about vegetable production or fungicide use. Instead, I would like to point out the importance of timely use of fungicides, especially early in the season. In contrast, fungicides applied late in the season to a crop already very much affected by foliar disease may not be useful. Vegetable growers should be realistic about applications of fungicides to late season crops with significant amounts of disease.



Figure 1. There are large areas of this watermelon field that appear brown from the disease anthracnose. No amount of fungicide will cause these areas to turn green. Growers should assess the likelihood that fungicides will be effective before spending large amounts of money on an application. (Photo by Dan Egel)

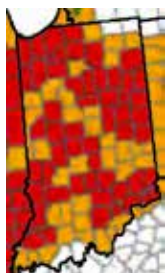


DOWNY MILDEW UPDATE - (Dan Egel, egel@purdue.edu, 812-886-0198) - On July 22, I announced that downy mildew had been observed on watermelon in Knox County in southwestern Indiana. This article in the Vegetable Crops Hotline issue 603, <https://ag.purdue.edu/hla/Extension/VegCropsHotline/Pages/Latest-Articles.aspx?article=118>, describes the outbreak and management options. Downy mildew has now been reported on cucumber and cantaloupe in Knox and cucumber in La Porte County Indiana and pumpkin in Jasper County. Downy mildew has been observed on pumpkins in Mason County in central Illinois. In addition, several counties in Kentucky and Michigan have reported downy mildew, primarily on cucumbers. You may follow the development of downy mildew of cucurbits on this website <http://cdm.ipmpipe.org/>.

USDA DESIGNATES DISASTER AREAS IN INDIANA

- (Liz Maynard, emaynard@purdue.edu, 219-531-4200)

- On August 12, 2015, USDA designated 88 counties in Indiana as natural disaster areas due to heavy rainfall since May. The four counties **not** designated disaster areas are LaGrange, Perry, Spencer and Steuben. Farm operators in the 'disaster' counties are eligible for low interest emergency loans from the Farm Service Agency, provided they meet certain qualifications and eligibility requirements. Farmers have eight months, or until April 12, 2016, to apply for the loans. Contact your local USDA Service Center for more information about loans and to learn about additional programs available to help recover from disaster, or visit <http://disaster.fsa.usda.gov>.



Source: USDA Office of Communications <http://content.govdelivery.com/accounts/USDAO/bulletins/11421cf>



UPCOMING EVENTS

Code Red Webinar. Thursday, August 27, 2015. 12:00 P.M. - 1:00 P.M. EDT. The Code Red tool developed by the Purdue Women in Agriculture Team is a must have for every family, business, and farm operation. The tool includes important information such as passwords, bank account information, rental agreements, insurance papers, power of attorney documents, and much more, in one easy location. After completing the Code Red plan, it will become the "go to" tool if something happens to a key member of the management team. We hope this tool will help farm families turn a code red situation into a code green so the business can continue to operate on a daily basis.

To participate, register at <https://goo.gl/f3gLFM>. You will then receive a confirmation email with the link to participate in the webinar August 27. You will also receive a reminder 24 hours before the webinar begins.

Illinois Pumpkin Day. Wednesday, September 2, 2015.

10:00 A.M. – 2:00 P.M. CDT. Vegetable Crops Research Farm at Champaign, IL. Topics include varieties, production systems, herbicides and weed control, insect management, pumpkin disease management, spray equipment, post-harvest issues, and marketing. Registration and lunch are free, but pre-registration is requested to allow preparation of lunches. See <https://web.extension.illinois.edu/units/event.cfm?UnitID=629&EventID=68197>, email Mohammad Babadoost (babadoos@illinois.edu), or call Devin Quarles at 217-333-5299.

Beginning Farmer Tours. Free farm tours and networking events sponsored by Purdue Extension and Local Growers Guild. For more information and to register contact the Purdue Extension Education Store at www.edustore.purdue.edu or 888-EXT-INFO.

- September 8: Growing Places Indy, Indianapolis, IN. Lunch, networking session, tour. Urban produce farm with raised beds, u-pick, and greenhouses.
- September 14: Morning Harvest, Palmyra and Hardinsburg, IN. Breakfast, networking session, lunch and tour. Developing local markets for produce, including marketing to institutions such as hospitals and schools, hydroponic lettuce, herbs, strawberries, and more.
- October 11: Wayne-Egenolf Farm, Spencer, IN. Lunch, networking session, tour. Grassfed beef, pastured pork, and eggs.
- November 7: Perkins Good Earth Farm, DeMotte, IN. Breakfast, networking session, lunch, tour. Soil health, cover crops, vegetable and high tunnel production.



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