

The Vegetable & Small Fruit Gazette

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Quote for Thought from Pete Ferretti

Never go to bed mad. Stay up and fight.

~Phyllis Diller

Got Sweet Corn Worms???

Scott Guiser, Penn State Cooperative Extension, Bucks County

Penn State's pest monitoring program is a valuable tool for all sweet corn growers. A simple call to 1-800-PENN-IPM or a visit to the website www.pestwatch.psu.edu is all that's needed to keep track of damaging pest such as corn ear worm, European corn borer and fall army worm.

Although these insects are somewhat predicable, closer attention to their activity means you know when you need to tighten (and loosen) spray intervals. For instance, this year high populations of corn ear worm were caught in late June and those with early silking corn needed to be aware of this unexpected infestation. In late July, when the majority of corn ear worm is expected, growers can time sprays for maximum effect and leave the sprayer in the shed when it is not needed by following trap capture data. This means better worm control without making wasteful, unnecessary pesticide sprays. Those with internet access will find the web-site fast and easy to use. If you're not web-savvy, have someone visit the site and print it out the data for you.

More than 20 farms in Pennsylvania report data weekly to the website. You can click on specific farms and see what's happening in your area. If you'd like to monitor sweet corn insect activity on your farm and become part of the system, contact your County Agent.

If you're interested in sweet corn pest activity to our south... to anticipate insect immigration such as corn ear worm, check out information from other states or go to the "interactive maps" section and see maps with data from insect trapping systems throughout the Mid-Atlantic region. The web site is easy to use and contains information from the current year as well as previous years.

In addition to pest monitoring information, the Pestwatch web site contains fact sheets and information about insect and disease management for almost all vegetable crops. Links to other Universities gives you access to quality information about all aspects of pest management for vegetable crops in the Northeast. Check out www.pestwatch.psu.edu. It's a site worth visiting.

Dr. Beth Gugino Hired as Vegetable Crop Pathologist

Happy middle of the growing season!

I would like to take a few minutes to introduce myself; I am the new vegetable extension pathologist at Penn State. I officially have extension and research responsibilities for all field and greenhouse grown vegetables (except potatoes) in Pennsylvania. After going to graduate school at Penn State (working with wine grapes), I spent the last four years at Cornell at the New York State Agricultural Experiment Station in Geneva, NY working with Dr. George Abawi before I started here on June 1st. In New York, I was involved in numerous grower association funded research and outreach projects dealing with soil-borne fungal and nematode pathogens and diseases of vegetables including onion, beet, snap bean and carrot. I also worked with the Cornell Soil Team in their efforts develop a cost-effective soil health assessment test that evaluates not only the chemical properties of the soil but also the physical and biological properties. The results of the test are then synthesized into report which growers can then use to help make soil management decisions.

Starting this week, I have begun distributing weekly disease updates. This information will be made available through the Penn State Plant Pathology website at http://www.ppath.cas.psu.edu/EXTENSION/VEGDIS/Vegetable_Pathology_Home.htm and will be distributed via an email listserv (please let me know if you are interested in being added to the list). Much of this information will further be incorporated and distributed into county and regional newsletters by your local county extension educators and specialists. Specific information regarding regional outbreaks as well as results of running the disease forecasting models for early (FAST) and late blight (BLIGHTCAST) of tomato and potato will also be updated weekly on the IPM hotline at 1-800-PENN-IPM.

Please remember to report disease outbreaks to your local county educators. This information helps us gaining a better understanding about pathogen movement across the state as well as can serve as an early warning system for other growers. I am especially interested in knowing about any downy mildew outbreaks on cucurbits. A forecasting system has been developed to predict the movement of downy mildew up the east coast based on the wind patterns, environmental conditions and where active sources of the disease are located. Pennsylvania is actively involved in this project and updates regarding the movement of downy mildew will be included in the weekly disease updates. For additional information check out the North Carolina State cucurbit downy mildew forecast homepage at <http://www.ces.ncsu.edu/depts/pp/cucurbit>.

I am planning to attend numerous field days this summer so I hope to meet you soon and look forward to the opportunity to work with you in the future.

Sincerely,
Beth Gugino

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Urban Agriculture - The New Frontier

Bill Lamont, Penn State Horticulture

Probably a good 30 years ago, while I was shoveling manure, I had a vision of placing a 30-acre farm right in the middle of Philadelphia under William Penn's statue. I thought that it was a great way to reconnect urban/city kids to agriculture and demonstrate how food is produced. Since then I have always had an interest in urban agriculture, which to me is different from urban gardening. Urban agriculture to me means an economically viable agriculture enterprise located in an urban environment. It is probably not going to be an agronomic crop or animal type operation but most likely will be a horticultural type of operation since you can produce a lot from a limited land resource. Going further it will probably be a vegetable, small fruit, or flower operation and is a prime candidate for adopting high tunnel technology. Recently Dr. Ted Alter sent me an article from the New York Times titled "Urban Farmers' Crops Go from Vacant Lot to Market".

They call it the urban agriculture movement and it has grown in metropolitan areas such as Detroit, Milwaukee, Oakland, New York, and Kansas City and even in our own urban cities of Pittsburgh and Philadelphia. It makes sense, especially now with the cost of transportation on a rocket type of trajectory and food prices on the same path. The other force is that many of the large urban areas have many vacant lots that are not generating any type of revenue for the city and can be a potential eyesore. So moving urban agriculture into these vacant lots makes sense from an economic perspective - putting the land back on the tax rolls. Also the "Eat Fresh By Local" thinking and organic type of production is also driving this movement. There are so many positive and exciting things that come out of urban agriculture for the growers and citizens of the urban areas that it will continue to grow and expand.

I believe that Penn State needs to be fully engaged in this urban agriculture movement. I have believed and have expressed to any one who would listen that this is the type of project that really brings the many talents and resources of the university to the table. I have said that the production of the crops is really easy compared to the other components of such a project. You have to work with communities to get them behind urban agriculture which goes a long way in providing security for the operation, working with governmental agencies to assist in identifying and securing the land, economic development groups, developers in urban settings to catch the vision of incorporating urban agriculture in their redevelopment of the urban environments, marketing opportunities, and educational and training opportunities to name a few of the different components of the project. How many kids from an urban environment have seriously thought about a career in urban agriculture? Probably not many, because there may not be any urban agriculture enterprises that they can visit. Kids may think that agriculture is something that I need to move out in the country to practice. What if they could practice it and never leave home!! We are making progress and I look forward to Penn State and especially the Horticulture Department becoming more involved in the future.

I believe that the vision I had 30 years ago is really happening in many urban settings around the country.

Bramble Borers

Kathy Demchak, Penn State Horticulture

This is an updated version of an article from 2005 (in case parts sound familiar to some of you). I'm continuing to get calls from growers with bramble borers of one type or another so hopefully this information will help with management. This is the time of year to be watching for indications that you have borers in your planting – hopefully before damage becomes extensive.

At this time of the year, especially on hot afternoons, wilting cane tips – often the first sign that you have borers in your planting - are fairly easily seen. When a borer is the problem, at first only a tip here or there is wilted while the rest of the tips appear normal. Once a wilted cane tip is noticed, look for other symptoms to help identify whether a borer is the problem. Symptoms may be two rings of punctures about 1/2-inch apart within the top 8 inches of the cane (raspberry cane borer), a cane swelling up to 3 inches long that is slight at first, but will be more obvious in late stages (red-necked cane borer, or less commonly raspberry cane maggot), or a large hole in the side of the cane (stalk borer, which isn't a common problem). There may be more than one type of insect present. Once the area of damage is found, if caught early, the eggs or larvae will still be located within several inches of the injury, so pruning out these canes 4-6 inches below the area of damage is the first step in preventing further damage. Plantings near woods and wild bramble populations are usually affected to the greatest extent.

With the insects mentioned above, wilted cane tips will continue to appear throughout the summer. Sprays that are applied need to be targeted towards the adults, because the larvae are protected inside of the canes. Sprays usually are applied late pre-bloom if damage is widespread, but the culprit should be identified first to ensure that the timing is correct. Red-necked cane borer adults are a slender ¼-inch long black beetle with a reddish “neck” area (prothorax). They may be present from May through early August, and seen feeding on new canes and leaves especially when it's sunny. Raspberry cane borer adults are ½-inch long, have long antennae, and are mostly black with an orange section behind the head with black spots. By this time of the year, many of their eggs will likely already have been laid, unfortunately, hence the need to watch for cane symptoms.

Keep in mind that some pruning during the summer, with additional pruning of damaged canes during dormant pruning, may be all that is needed.

Crown borers, which have a considerably different life cycle, will cause tunneling in the crown area, but because of the timing and type of damage, tips may not wilt until damage is advanced. The adults are clear-winged moths that are about 1-inch long, and could be confused with yellow jacket wasps. They appear later in the summer (August).

Canes that died as berries were forming should be checked for signs of tunneling in the cane and crown area. Death of fruiting canes may have a variety of other causes including winter injury or a root rot.

New Handbook on Using Buckwheat as a Cover Crop Available

Thomas Björkman, Cornell University

Buckwheat has been used to suppress weeds on Northeastern farms for 400 years. The practice had been used here for a century and a half by the time George Washington and Thomas Jefferson corresponded with each other about how well it worked on their farms. It still works.

On modern farms we have different tools, a different market, and different economic constraints; so buckwheat will be useful in different situations. In this brochure we describe situations where buckwheat has high value on 21st century farms because it controls weeds economically and in a way that adds significantly to the other weed control practices that are available.

A new handbook for using buckwheat as a cover crop in the Northeast has been developed by a team at Cornell as the result of a SARE-funded project. This handbook is based on extensive grower surveys, gathering knowledge held by successful growers, material printed in obscure old extension and farm publications, as well as original research to answer new questions. The instructions have been tested by cooperating farmers to make sure they work.

To keep the brochure short, we have included only what growers need to do and why. The substantial research and testing that went into determining the right procedures are not included, but there is a lot of experience behind every recommendation.

The brochure is designed to fit in a pocket, with a cover that can handle life in the barn or the truck, because that is where users will want the information that's in it. The specific instructions for the four main scenarios are also provided on water-resistant cards that can be kept in a place that's convenient for checking the next step during the season.

Pennsylvania extension educators can receive a free copy of the Buckwheat Cover Crop Handbook by contacting Dr. Thomas Björkman (tnb1@cornell.edu).

Hard copies are available from our online bookstore for \$2.50 to cover postage and handling.

https://www.nysaes.cornell.edu/store/catalog/product_info.php?products_id=41

Electronic versions (PDF and HTML) of the Handbook are available as part of a new website on using cover crops in vegetable production.

<http://www.nysaes.cornell.edu/hort/faculty/bjorkman/covercrops/buckwheatbrochure.html>.

Penn State and Partners Bring New Disease Management Tool to Nepal

UNIVERSITY PARK, Pa. - Penn State's College of Agricultural Sciences, as part of a consortium that includes Virginia Tech and Ohio State University, is collaborating with researchers from Nepal Agricultural Research Council (NARC) and Winrock International (WI) to develop a new grafting technology to combat diseases and pests in tomatoes and eggplant.

Tomatoes and eggplants are some of the most popular vegetables in the world. Because of their high demand, they are also popular among growers wanting to increase their income. New technologies such as plastic tunnels are helping to promote the off-season cultivation of tomatoes in countries across the globe. But various pests such as bacterial wilt, root knot nematodes, tomato fruit worm, and shoot and fruit borer of eggplant impair the production of these crops. These pests decrease yields and have been known to destroy entire crops.

Dr. Ed Rajotte, professor of entomology at Penn State, is part of a team collaborating with researchers in other countries to find solutions through the Integrated Pest Management Collaborative Research Support Program (IPM CRSP). The 15-year-old program, managed by Virginia Tech, is part of the United States Agency for International Development that supports research, education/training, and information exchange collaborative partnerships among US and developing country institutions. "It focuses on participatory and collaborative IPM research and education programs for horticultural crops and other food production systems," Rajotte explains. "Integrated pest management (IPM) provides economical methods for managing pests such as insects, diseases, weeds and rodent using tactics that are economical, safe for people and non-threatening to the environment."

In Nepal, bacterial wilt in tomato and eggplant is prevalent in the foothills and the valleys where the environment is warm and humid. In the absence of proper pest management methods, yield losses could approach up to 100 percent. Root knot nematode is another severe pest of tomatoes and eggplants. Many farmers in Nepal report losses of about 40 percent.

According to Rajotte, management of these diseases is very difficult and due to wide host range, location and variability amongst the pathogens. In addition, there are no commercial pesticides available for sustainable control and disease-resistant plants are not readily available.

"Grafting eggplant and tomato varieties onto resistant wild Solanum rootstocks has proven to be effective for controlling bacterial wilt and rootknot nematode in Bangladesh, one the IPM CRSP collaborating countries," Rajotte says. "One rootstock species, *S. sisymbriifolium*, was chosen because it adapts to local growing conditions, is resistant to the soil-borne diseases and grows quickly to provide rootstock seedlings faster. In addition, these grafting techniques can be done cheaply, so that grafted plants can be produced locally at the village level. In Bangladesh, grafted plants yielded significantly higher than non-grafted plants in farmers' fields."

The grafting technique developed in Bangladesh has been transferred and is being evaluated in Nepal. Local testing of any new technology is important because different ecological factors may necessitate adjustments in the technique. Grafting is especially important to Nepal because its higher altitudes allow tomato production when it is too hot in India. A thriving tomato export industry has developed

in Nepal, but it has been plagued by the soil born diseases. So far, the grafting technique is working well and the farmers are getting better yields. B.K. Gyawali, Nepal's IPM CRSP site coordinator, reports, "Fifteen farmers from six different districts of Nepal have been trained and are acting as nursery growers to supply local farmers with grafted plants. The availability of grafted plants will reduce pest control costs, improve yields and strengthen the supply chain for vegetables."

For more information about the project and IPM CRSP, visit <http://www.oird.vt.edu>.

Established in 1963, Penn State's Department of Entomology provides undergraduate education, graduate student training and extension outreach education focusing on both domestic and international issues in insect science and pest management. Twenty faculty and more than thirty graduate students work on a variety of research topics providing insights into insect ecology, behavior and molecular biology as well as integrated pest management. The department is part of Penn State's College of Agricultural Sciences. For more information about solving insect problems, descriptions of research and education programs or admission to the graduate program, visit Web site at <http://www.ento.psu.edu> or contact the department at (814) 865-1895.

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Managing Downy Mildew of Cucurbits

Margaret Tuttle McGrath, Cornell Plant Pathology

Downy mildew is expected to occur in cucurbit crops in PA in 2008. As of 3 July, downy mildew had been found in Ontario, Canada, and in the southern US with the closest sources being in SC. Thus the pathogen could move to PA from the south or northwest. Planting infected transplants produced in an infested area is another way the pathogen could be moved into PA this season. The pathogen is not known to be able to survive winter in cold climates. This is a potentially very devastating disease that can develop any time during crop production, in contrast with powdery mildew. Young seedlings, even those just at the cotyledon stage, are especially susceptible.

An important tool for managing cucurbit downy mildew is the forecasting system being run at North Carolina State University. Forecasts are posted at www.ces.ncsu.edu/depts/pp/cucurbit/ thrice weekly. Use the forecasts to determine when to begin applying fungicides for downy mildew. Reports of disease occurrences are posted as well. This information is valuable for determining the crops most at risk. The forecasting system has been developed to predict where downy mildew will occur in the eastern USA and Canada based on forecasted wind trajectories and weather from spore production through infection. Checking the forecast at least twice a week is a critical component of downy mildew management.

Scouting routinely for symptoms of downy mildew is another important component of an effective management program. Scout 5 to 7 days after rain. Forecasting is dependent on knowledge of downy mildew outbreaks. It is possible that there are undetected occurrences that could be more important sources of the pathogen for PA than those that have been reported.

There are several fungicides recommended for downy mildew. A contact protectant fungicide could be used before downy mildew is forecast when it is desirable to have a preventive treatment, such as with a high value crop. A contact protectant fungicide alone is also recommended when the forecasted risk of downy mildew is moderate and before downy mildew has been found in the area. An EBDC fungicide (e.g. maneb or mancozeb) is a good choice when powdery mildew is not also a concern; otherwise, a chlorothalonil fungicide is a better choice. A fungicide specific for downy mildew could also be applied when there is a moderate risk or when the forecast risk is high.

Fungicides with specific activity for downy mildew that are mobile in the plant (systemic, translaminar) include Curzate, Tanos, Ranman, Previcur Flex, Forum, Gavel, Presidio, and Revus. The last 2 were just registered this year. Gavel can be used on cucumber, melon, summer squash, and watermelon but not currently on pumpkin and winter squash because it contains mancozeb. Reason and phosphorus acid fungicides are also labeled, but they have not performed as well against the cucurbit downy mildew fungus as the other fungicides. QoI and Ridomil fungicides are no longer recommended because the pathogen has developed resistance to these types of fungicides. In university fungicide efficacy experiments, Ranman and Presidio have performed slightly better than Previcur Flex, followed by Tanos and Curzate, which are considered slightly better than Forum, Revus, Gavel, and phosphorus acid fungicides.

If symptoms are found during routine scouting before a fungicide specific for downy mildew has been applied, then the best option is Curzate or Tanos. These fungicides have an active ingredient (cymoxanil) that has kickback activity. Tanos also has an active ingredient in the QoI chemical group that is not

expected to contribute to control because of resistance. Cymoxanil has short residual activity, thus another fungicide for downy mildew should be applied about 4 days later.

It is critical to initiate treatment promptly because delaying fungicide application until after disease onset increases selection pressure for resistance development and greatly decreases the degree of control achieved. Apply fungicides every 5-7 days depending on weather.

It is important to use a fungicide program designed to delay development of resistance to prolong efficacy of all the fungicides specific for downy mildew. The downy mildew pathogen is prone to developing fungicide resistance and also all mobile fungicides are at risk for resistance due to their specific mode of action. These fungicides should be used in alternation (with the exception of Curzate and Tanos which have the same active ingredient) and also tank-mixed with a protectant, except for Gavel which is formulated with a protectant.

Cucumber is most at risk for downy mildew because it is susceptible to all pathotypes of the pathogen. With another cucurbit crop, it is valuable to know whether this crop is infected at sites that could serve as the source of the pathogen. The downy mildew pathogen exists as pathotypes that vary in their ability to infect the different cucurbit crops. Certain pathotypes can infect all cucurbits while others are able to infect only cucumber and cantaloupe but not watermelon, squash or pumpkin. Races and strains have been described within pathotypes based on variation in virulence and fungicide sensitivity. Races and strains often develop in response to selection pressure from management practices. This is what happened with cucumber. Before 2004, when a new pathogen race became widespread, most cucumber varieties were bred to have genetic resistance that resulted in them being highly suppressive to the pathogen strains present in the USA then.

Downy mildew is very challenging to manage in organically-produced crops due to current lack of adequately effective resistant varieties, cultural practices and approved products. Serenade and Sonata have not been effective when tested in fungicide efficacy experiments with conventionally managed crops. Copper fungicides provided limited to no control.

Additional information on downy mildew and its management plus photographs of symptoms can be found at <http://vegetablemdonline.ppath.cornell.edu> and also at www.ces.ncsu.edu/depts/pp/cucurbit/.

Please Note: The specific directions on fungicide labels must be adhered to -- they supersede these recommendations, if there is a conflict. Any reference to commercial products, trade or brand names is for information only; no endorsement is intended.

Disease & Insect Management for Small Fruits & Brambles Field Day

Date: Thursday, July 10

Time: 10:00am - 3:00pm (includes lunch)

Location: Penn State Landisville Research & Extension Center,
Manheim, Lancaster County

Cost: \$15 PASA Members \$25 all others

This field day hosted by the Pennsylvania Association for Sustainable Agriculture, Pennsylvania State University and Pennsylvania Certified Organic will cover:

- Disease and Insect Management in Bramble Crops
- Characteristics of Blackberry Cultivars
- Identification of Common Bramble Diseases & Problems
- Growing Bramble Crops in High Tunnels
- Organic Transition Requirements
- Weed Management in Vegetable Crops
- Softer Chemistries for Tomato Disease Management

Presenters include Elsa Sanchez, Assoc. Prof., and Kathy Demchak, Sr. Extension Assoc., both in the PSU Dept. of Horticulture, Timothy Elkner, Sr. Extension Educator, Steve Bogash, Assoc. Extension Educator, Dave Johnson, PSU Sr. Research Assoc. and Assoc. Prof., and Mike Byers, bramble farmer and Administrative Director, Pennsylvania Certified Organic.

For more information and to register for this event, visit www.pasafarming.org, or call Rachel at (814) 349- 9856.

Pestwatch Tracking High Earworm Counts Early in 2008

Shelby Fleischer, Penn State Entomology

Pestwatch - at www.pestwatch.psu.edu/sweetcorn/tool/tool.html - is once again being used to track migration of corn earworm and fall armyworm – and we are seeing a surprisingly strong early season flights. Corn earworm (CEW), which primarily migrates from the south, is – surprisingly - already showing up in densities above a spray threshold in both eastern and southwestern Pennsylvania. Parts of Delaware and Maryland had surprising high counts in June, as are areas farther south. We have also seen some extremely and surprising high captures in Indiana, Illinois, even up into Wisconsin.

In 2007, we retooled the databasing system and completed a geographic expansion, and we are running in 2008 with information technology support from IRAC (Insecticide Resistance Action Committee) the Center for Environmental Informatics, and with support of about 20 Extension Educators in Pennsylvania.

The maps are not always continuous. This is because we need to work with the Midwesterners who are take data on a daily basis. Data are reported at whatever day, divided by the number of nights trapping, and posted for that day and backwards. So if you report data today, for 3 nights, you get a value for today, yesterday, and the day prior. This creates gaps - the trapping nights are not always continuous. If you report every Monday, with 7-nights trapping, then you are continuous, but if you report on consecutive Mondays and claim 3 nights trapping, then you are not. You'd have data for the previous Sat., Sun., and Monday... but not for the days prior to Saturday. Therefore - after accessing the Pestwatch page, move the timebar to relevant periods. Use the time-step ability to click through a day at a time to relevant timeframes.

Gaps will show up as gray circles (showing no data for that date and time). You can toggle the gray circles on/off, to make it easier to see sites reporting. In fact, to facilitate variation in thresholds, the class breaks in the legend is adjustable by the user, resulting colors tied to the time-series histograms that open when you click on any site, and you can toggle any class breaks on/off.

A written summary of current conditions are posted at the “Timely Tips” part of the webpage: (lower left corner of the homepage, or www.pestwatch.psu.edu/cgi-bin/displaycommentary.cgi). A very brief review is put on the 1-800-PENN-IPM phone line, and the complete data are compiled by PVGA with disease forecast information and send it out to an email distribution list.

Last year, corn earworm caused havoc in sweet corn. If these early captures this year result in an egg and larval population that mature into another generation with high rates of survivorship, we could be in for another problem year. It's too early to predict survivorship rates, and temperature will play a role: last year we had a hot August, which enabled the population to complete this 2nd (and, I think, in some areas a 3rd) generation. We should be prepared for the potential of a 2nd generation this year. If this occurs, and you are using pyrethroids under high pressure, then use the highest label rates.

Know Your Enemy: Pigweeds

Dave Johnson, PSU Southeast Research and Extension Center

There are two main pigweed species common in Pennsylvania: redroot (*Amaranthus retroflexus*) and smooth (*A. hybridus*) pigweed. These species are members of the Amaranthaceae family, and include the pigweeds, waterhemp, grain amaranths, and ornamentals such as *Celosia* (cockscomb). A less common species, spiny amaranth (*A. spinosus*), is also present in PA, has sharp spines in the leaf axils. These species often hybridize, giving plants with characteristics of both parent plants or intermediary forms. All are weeds of agronomic, vegetable, and ornamental crops, and in landscapes. They are summer annuals that like open, sunny areas and fertile soil, but will grow on poorer soils. Most of the species are native to the new world.

Redroot and smooth pigweed are difficult to tell apart, especially in the seedling stage. Fortunately, management of both species is similar. Reproduction is entirely by seed, which are very tiny and brown to black, and one plant can produce over 100,000 seeds. The emerging seedling produces two thin cotyledons, and the first true leaves are usually spatulate with relatively long petioles. The young leaves are usually dark green, with red or purple coloring on the underside, but leaves of older plants may be a pale green color. Stems and leaves of both species are covered with many small hairs. Roots are fibrous in growth habit, and reddish or pink in color. When growing in open conditions with little competition, the plants can get very large (up to 6 feet tall), with thick stems that will interfere with harvesting equipment.

The main way to tell the species apart is by their reproductive structures. Inflorescences are borne in terminal panicles but also in leaf axils. For redroot pigweed, which has separate male and female flowers, the panicles are more tightly held and stiffer than smooth pigweed. Individual panicles of smooth pigweed can be seen more easily than those of redroot pigweed. Both species will continue to produce seed through frost, and dead plants will persist well into the winter.

Pigweeds are easy to control when small, as they germinate in the upper 0.25 inch of soil or so (the seeds require light to germinate) and have shallow roots and desiccate easily. The main problem is that there are so many of them (think of all of those seeds produced), and they will emerge over an extended period. In organic systems, frequent cultivation at the “white thread” stage will effectively uproot and desiccate the plants. This is when the plants are less than an inch tall, and the roots of the uprooted plants look like small, thin, white sewing thread. However, cultivation can also bring deeper-buried seed up to the surface where they can then germinate. Once the plants get bigger, they send their main tap root fairly deep, making them difficult to pull, and in doing so can disturb the soil, leading to further seed germination and damage to crop roots.

Chemical control with soil-applied herbicides is fairly easy. Products like Dual, Outlook, Lasso, Prowl/Pendimax, and Treflan are effective in the crops for which they are labeled. These products must be activated by rainfall or shallow incorporation, and form an emergence barrier to the weeds on the soil surface. Atrazine (for sweet corn) will also provide good control, but there are some populations of triazine-resistant pigweeds present in PA.

Sweet corn growers also have several other products that will control pigweeds. Callisto, Impact, and Laudis will give excellent burndown control plus some residual, and Lumax and Lexar will control

these weeds soil applied. Basagran and Aim will control small emerged pigweeds (good coverage and proper adjuvant use is essential), as will Sandea.

In cucurbits, Sandea gives both preemergence and postemergence control, but Command is weak. Curbit or Strategy will give short-term residual control. Tomato growers have Sandea, Dual Magnum, Treflan, Sencor (except triazine-resistant populations), and Matrix to control this weed, while bean growers can use Treflan, Prowl/Pendimax, Dual Magnum, Pursuit (limas only), Reflex (snaps only), and Raptor.

Aim, Gramoxone, and Racer (pelargonic acid) will give contact control in crops for which they are labeled. All three of these must be applied with a shielded sprayer (with the exception of Aim in sweet corn), and weeds must be small for effective control. Complete spray coverage is essential with these products, and proper surfactants must be used.

The pigweeds are a diverse, interesting group of weeds that infest most cropping systems in PA. I'll bet that every grower in the state has to deal with pigweeds. They are relatively easy to manage, but growers must stay on top of them to ensure they don't get out of hand. Missing one plant can allow several thousand seeds to return to the soil.

Vegetable and Small Fruit Growers' Field Day at the Penn State Southeast Research and Extension Center

Tim Elkner and Steve Bogash, Penn State Horticulture Educators, Capital Region

The first annual Vegetable and Small Fruit Growers' Field Day at the Penn State Southeast Research and Extension Center will be held on August 14, 2008. Registration starts at 8:00 AM and the program will start at 9:00 AM and conclude at 3:00 PM. The program will feature field trials, classroom-based seminars and vendor exhibits.

Field exhibits will include the following:

- Blackberry variety trial
- Cucurbit powdery mildew resistance study
- Cucurbit downy mildew sentinel plot
- Muskmelon variety trial
- Pumpkin no-till fertility trial
- Pumpkin variety trial
- Cut flower trial
- Sweet corn weed control, including low atrazine trial
- Sweet corn insect management trial
- Snap bean weed control
- Bell pepper variety trial (part of state-wide trials)
- Tomato variety trial
- Tomato disease management trial
- Sweet onion variety trial and mulch color/thrips population study

Registration is \$20.00 for adults and \$10.00 for children before August 7, after this date the costs are \$35.00 and \$18.00. Pesticide applicators license credits will be offered. The registration form can be obtained on the web by going to <http://capitalhort.cas.psu.edu/Default.html> and selecting "Vegetable & Small Fruit Growers Field Day" in the Special Information box. Those without internet access can contact the Franklin Extension office at: 717-263-9226 or the Lancaster Extension office at 717-394-6851 for a copy of the registration form. We look forward to seeing you on August 14th.

1-800 Number Kicks Off Fifteenth Season in Support of IPM

UNIVERSITY PARK, Pa. -- Christmas tree growers, agricultural crop producers, turfgrass managers, fruit growers and homeowners from across the state can find the latest pest and pest management information by dialing the Pennsylvania IPM Program's 1-800 PENN IPM toll-free hotline.

Callers to the hotline can receive information such as recent pheromone trap capture counts for their region, up-to-date disease development information, as well as tips on pest management tactics from the Pennsylvania IPM Program.

IPM, or integrated pest management, aims to manage pests -- such as insects, diseases, weeds and animals -- by combining physical, biological and chemical tactics that are safe, profitable and environmentally compatible.

Information on such crops as Christmas trees, sweet corn, potatoes, apples, tomatoes, as well as fly control and animal IPM are included on the hotline. Also available is information on soybean rust, a new fungal disease that threatens economic losses to soybeans because it decreases yield and increases fungicide application costs. While Pennsylvania farmers will probably find their risk of soybean rust low to minimal, the disease still has the potential to cause significant losses in individual fields.

Messages on the automated hotline are updated frequently during the growing season -- sometimes as often as daily during critical management periods -- and are available 24 hours a day, seven days a week. Pest management specialists from the Pennsylvania Department of Agriculture, Penn State's Departments of Entomology and Plant Pathology and Penn State Cooperative Extension contribute their time and expertise to keep the information current and useful.

The Pennsylvania IPM program is a collaboration between the Pennsylvania State University and the Pennsylvania Department of Agriculture aimed at promoting integrated pest management in both agricultural and urban situations. For more information, contact the program at (814) 865-2839, or Web site <http://paipm.cas.psu.edu>.

Editors Contact: Kristie Auman-Bauer, PA IPM Program, (814) 865-2839, kma147@psu.edu.

2008 Vegetable and Small Fruit Field Day at Rock Springs, PA is July 23

The 2008 Pennsylvania Vegetable and Small Fruit Field Day is scheduled for July 23, 2008. It will be held at Horticulture Research Farm located at Penn State's Russell E. Larson Agricultural Research Center at Rock Springs, PA located 11 miles west of State College on PA Route 45. The Horticulture Farm is just east of the Ag Progress Days site. This event is being sponsored jointly by Penn State University's College of Agricultural Sciences, the Department of Horticulture and the Pennsylvania Vegetable Growers Association. Growers will have the opportunity to see first-hand the research projects being conducted by Penn State researchers at the Research Center. The general itinerary is as follows:

- 8:00 a.m. Registration and Refreshments
- 9:00 a.m. Field Demonstrations of Equipment
- Ro-Trac Raised Bed Plastic Mulch Layer with Fertilizer Hopper from Rain-Flo Irrigation.
 - Power Dibbler developed by Dr. Dennis Buckmaster – Perdue Univ.
 - Compost/Mulch Applicator from J. S. Woodhouse
 - Spraying Equipment from Paul B. Zimmerman
- 12:30 p.m. Lunch - A hearty sandwich accompanied by various side dishes, beverage and dessert will be provided.
- 1:30 p.m. Tour of Vegetable and Small Fruit Horticulture and Entomology Research Plots
- Researchers and support staff will be in the field to answer questions and comment about the following current research projects:
- Sweet Spanish Onion Variety Trial
 - Bell Pepper Cultivar Trial
 - Pumpkin Cultivar Trial
 - Biodegradable Mulch
 - Grafted Cucurbits and Solanaceous Transplants
 - Nutrient Management Studies
 - Use of Mushroom Substrate for Pumpkin Production
 - Specialty Crops
 - High Tunnel Research
 - Ever-bearing Strawberry Varieties
 - Blackberries in High Tunnel
 - Flower Power Application to Blueberries
 - Fumigated Potatoes on Plastic Mulch
- And Much More
- 4:30 p.m. Adjourn

The registration fee is \$15 if pre-registered by calling 717-694-3596 or emailing pvga@pvga.org by July 18th, 2008. Late registration or walk-in registration will be \$20. Children under 16 can register for \$10.

Potato Researchers from US/World to Meet in Buffalo

Carol R. MacNeil, CCE, Cornell Vegetable Program

Potato Association of America's 92nd Annual Meeting Adam's Mark Buffalo-Niagara Hotel, Buffalo August 10-14, 2008

New York State potato growers and associated agribusinesses have a unique opportunity this summer to be part of the Potato Association of America (PAA) 92nd Annual Meeting in Buffalo. University and industry potato researchers from across the US and around the world will be gathering to share and discuss their latest research. Topics range from production practices and pest management to tuber quality, marketing and economics, and genetics and breeding. In addition to presentations on research, the conference includes an agricultural – potato tour, and time to network.

The meeting opens Sunday, August 10th with an evening reception. Monday, August 11th begins with a symposium on “Potato Market Challenges and Opportunities,” with presenters from all over the world. Marketing trends, consumer preferences, trade, and balancing supply and demand will be covered. Monday afternoon there will be research reports on the causes of stem end defects, potato response to phosphorus, yield increases with new stress control technologies, etc. as well as on more basic topics.

Tuesday, August 12th is Grower/Industry Day, focused on production and pest management. Topics include: fine-tuning rates of high priced fertilizers; crediting N from previous crops; using controlled release N fertilizer, effects of potato hill geometry; fungicide trials for seed-borne and foliar diseases; phosphorus acid fungicides for silver scurf control in storage; late blight-pink rot interactions; effects of global warming on potato volunteers and late blight survival over-winter; late blight resistance breeding update; effects of tank-mixing herbicides; performance of new varieties and breeding lines; calcium and tuber internal quality; and meeting the USDA GAP standards.

The tour on Wednesday will stop at McCormick Farms, the largest potato producers in New York, at intensive vegetable operations in the Eden Valley, and at Wegman's supermarket. McCormick Farms in Bliss, NY is a state-of-the-art business that produces, stores, washes, grades and markets potatoes for long-term utilization as chips all along the Eastern seaboard. Jim and Tom McCormick are excellent cooperators and a Cornell trial of chipping varieties and breeding lines will be viewed at their farm. (*Growers interested in touring McCormick's are welcome to join the group at the farm after lunch. Indicate your interest on the registration form and more details will be sent to you.*)

On Thursday morning reports will conclude with presentations on constraints to potato system sustainability: soils, diseases and economics; more reports on nitrogen research reports; as well as topics on basic research.

The Potato Association of America (PAA) membership includes university research and extension staff, industry personnel and growers from the US, Canada, Mexico, South America, and 50 other countries. Its objective is the collection and dissemination of the best available technical and practical information relating to all aspects of potato production, biology and utilization. For more information, visit www.umaine.edu/PAA.

**Grower/Industry Registration Form
Potato Association of America Annual Meeting
August 10-14, 2008, Buffalo, NY**

Note: Those attending the Tuesday, August 12th session only, have a special discounted fee. If you wish to attend other days or events, please go to <http://www.hort.cornell.edu/paa2008/> or call Sue Thompson at 607-255-7889.

Mail-in Registration:

First Name	Last Name	
Business/Town		
Mailing Address		
City	State	Zip Code
Phone	Fax	Email
	# Attending	
Join the PAA now (\$100) by going to the PAA website at http://www.umaine.edu/paa/		
Grower/Industry Program – Tuesday, August 12 – Includes breakfast, break and lunch		<input type="checkbox"/> \$30
I wish to join the Ag-Potato Tour – August 13 at McCormick Farms (please check)		No fee

Lodging: Adam’s Mark Buffalo-Niagara Hotel (www.Adamsmark.com), 120 Church Street, Buffalo, NY 14202, 716-845-5100, toll-free at 1-800-444-2326 – identify yourself with the Potato Association of America. Conference rate - \$109 plus tax until 7/18.

Send this form with your check made out to “**Cornell University**” to:

Sue Thompson
Dept. of Horticulture
15A Plant Science Bldg.
Cornell University
Ithaca, NY 14853

If you have not received registration confirmation in 10 business days contact Sue Thompson at 607-255-7889 or sdt1@cornell.edu. **Cancellations must be received by Monday, August 4th.**

2008 – The “International Year of the Potato”

Periodical Cicada Damage on Blueberries

Elsa Sánchez, Penn State Horticulture and Mary Barbercheck, Penn State Entomology

I visited today with a grower with a field of newly planted (last year) blueberries. Unfortunately the plants had been severely damaged by periodical cicadas.

The Insect: Periodical cicadas (*Magicicada septendecim*) in the insect Order Hemiptera are native to North America. They are sometimes called “17-year locusts,” although they are not true locusts (Order Orthoptera: grasshoppers and locusts). Most cicada species have 2 to 8 year life cycles. These are called “annual” cicadas because the population is not synchronized and adults can be found every year. In contrast, the periodical cicada species are synchronized, so that almost all of them mature into adults in the same year. Seven periodical species exist: three with 17 year life cycles (more common in the northeastern U.S.) and four with 13 year life cycles (more common in the southern U.S.). This year Brood 14, one of the two largest *Magicicada* broods, is emerging. This is our last chance to see this amazing phenomenon for a while - no large emergences are expected in 2009 or 2010.

Life cycle: Immature cicadas, called "nymphs," live in underground burrows and feed on roots with their sucking mouthparts. Their burrows are several inches to a few feet deep. In the spring of their 17th year, the nymphs build tunnels to the surface, which show up as approximately ½-inch diameter holes on the soil surface. Most emerge in May and June. On the night of emergence, nymphs leave their burrows at sunset, crawl up onto nearby vegetation, and complete their final molt to adulthood. Adults are about 1.5 inches long, have black bodies, wide-set red eyes and orange wing veins, with a black "W" near the tips of the forewings (see picture below). Adults feed by sucking plant fluids. Males produce the characteristic cicada song and form aggregations (choruses) that are attractive to females. Males in these choruses alternate bouts of singing with short flights until they find females to mate with. After mating the female slits small branches with her ovipositor and lays about 24-28 eggs in each slit (you can see a picture of this taking place below). A female may lay as many as 600 eggs! About 6 to 10 weeks later the eggs hatch and nymphs burrow into the ground and feed on roots until the adults emerge 17 years later. Most adults have completed their life cycles by the beginning of July.

Damage: Periodical cicadas can damage several species of trees and woody shrubs, including blueberry, if too many adults feed from the plant or lay eggs in the twigs. This damage can cause "flagging," or breaking of peripheral twigs. Generally branches with small diameters (about the size of your pinky finger) are selected for oviposition. You might notice several oviposition slits on any individual branch, typically in a straight row. Wilting and subsequent dying of leaves may also be evident.

Management options: Orchard and nursery owners should consider delaying putting in a new planting in the year of periodic cicada emergence because young trees may be harmed by severe flagging. Mature trees and shrubs can usually survive even dense emergences of cicadas. As serious as flagging may appear, such damage to mature plants is usually minor.

The simplest way to protect small plantings of small trees and shrubs from damage is to physically prevent cicadas from feeding and (especially) ovipositing by covering the plants with screening

material, e.g., row cover, applied soon after the cicadas emerge and left in place until most cicadas have died off (about four weeks). A table describing when emergence is anticipated in individual counties in Pennsylvania can be found at http://www.ento.psu.edu/extension/factsheets/periodical_cicada.htm.

Periodical cicadas are often too numerous to make application of pesticides practical. No insecticides are labeled for managing periodical cicadas on blueberries. However, they are controlled when Sevin (activity group 1A), Asana (activity group 3) or Lannate (activity group 1A) are used to manage other insects. Time the first insecticidal spray at 7 to 10 days after you hear the adult males “singing” as this is when females will start laying eggs.

Other than owners of fruit orchards and nurseries, periodical cicadas are not regarded as pests, except perhaps by those who get tired of their noisy songs!

References and for more information:

Hoover, Greg. 2003. The Pennsylvania State University Entomological Notes, Department of Entomology: Periodical Cicada *Magicalcica septendecim* (Linnaeus). http://www.ento.psu.edu/extension/factsheets/periodical_cicada.htm.

The University of Michigan Museum of Zoology Insect Division Periodical Cicada Page http://insects.ummz.lsa.umich.edu/fauna/michigan_cicadas/Periodical/

Welty, Celeste. 2004. Note on Control of Periodical Cicada, In: The Ohio State University Fruit ICM News Volume 8, number 11. <http://ipm.osu.edu/fruit/04icm11.htm#linkh>.

Periodic Cicada

(Note the ovipositor inserted in the blueberry stem.)



Photo credit: Elsa Sanchez

Successful Control of Powdery Mildew in Cucurbit Crops Challenged by Evolving Pathogen

Margaret Tuttle McGrath, Cornell Plant Pathology

Fungicide resistance development has been a major concern with cucurbit powdery mildew for the past few years, and with good reason. This pathogen has clearly shown ability to develop resistance. Control failure with Benlate, Bayleton, and QoI fungicides was detected in university fungicide evaluations just 1, 2, and 3 years after these were registered in the US for this use. Several fungicides are labeled for powdery mildew control, but due to resistance, Procure (FRAC code 3) and Pristine (FRAC codes 11 + 7) were the main fungicides recommended in 2007, with Quintec (FRAC code 13) also recommended for melons, the only labeled crop.

In 2007, there was great concern that the powdery mildew fungus might evolve further and render FRAC code 3 and 7 fungicides ineffective. Procure and Pristine were effective in some university fungicide evaluations in 2007, but, they were not always as effective as Quintec; also control was variable in some other experiments and commercial fields where these fungicides were used. Fungicide efficacy experiments conducted at LIHREC (Cornell University research facility on Long Island, NY) have included sole use of fungicides at risk for resistance to assess their contribution to fungicide programs (this is not a labeled use pattern). Control of powdery mildew on lower surfaces of pumpkin leaves with weekly spray intervals was 46%, 88%, and 52-58% with Pristine (14.5-18.5 oz/A) in 2005, 2006, and 2007, respectively. Control was 93%, 34%, and 75-78% with Procure (6-8 fl oz/A) in these years and 88% and 81% with Quintec in 2006 and 2007, respectively. Fungicide sensitivity monitoring work in 2007 revealed the pathogen population was less sensitive to the active ingredients in Procure and Pristine than in Quintec. Strains were detected with an in-field seedling assay able to tolerate 150 ppm triflumizole (a.i. in Procure), 200 ppm boscalid (Pristine), and 10 ppm quinoxifen (Quintec).

While attention has been focused on fungicide resistance, powdery mildew may also evolve to overcome host plant resistance, which has not occurred recently. In 2007, there were indications the pathogen had evolved to overcome host plant resistance in melons and squashes. Cantaloupe varieties with resistance to race 1 and 2 of the pathogen have been providing excellent suppression of powdery mildew, plus with good horticultural characteristics, some are in widespread production. However, there were reports of powdery mildew becoming severe on these varieties in some states in 2007. Additionally, squash (*Cucurbita pepo*) varieties with one gene for resistance were more severely affected by powdery mildew than varieties with two resistance genes, in contrast with previous years. This difference in performance had been previously detected in pumpkin (also *C. pepo*). All squash and pumpkin varieties marketed to date have one common main gene for resistance obtained from a wild cucurbit relative, plus there are additional modifying genes. Hollar Seeds recently announced a new gene.

In 2008, fungicide resistance continues to be a concern. The recommended program for managing powdery mildew and fungicide resistance is:

1. Grow resistant varieties. Select squash and pumpkin varieties with resistance from both parents when possible. Cantaloupe varieties should have resistance to races 1 and 2. See the 'Resistant Variety' section at <http://vegetablemdonline.ppath.cornell.edu/>.

2. Scout regularly and initiate fungicide applications at disease onset or before. Powdery mildew typically starts to develop early in fruit production, therefore when first fruit appear is a good time to start applications. The action threshold is 1 leaf with symptoms out of 50 older leaves examined.
3. Alternate among at-risk fungicides in different FRAC Groups. Procure and Pristine are recommended at highest label rates (8 and 18.5 oz/A). Quintec remains only labeled for use on melons. Additional crops are anticipated to be labeled in 2009. Quintec and Procure have narrow spectrum activity. Therefore it is important to monitor crops for other diseases.
4. Tank mix fungicides at-risk for resistance with protectant (contact) fungicides (e.g. sulfur, chlorothalonil, and oils). Melons are sensitive to sulfur; there are tolerant varieties.
5. Maintain a regular (7-day) application schedule. When maintaining this schedule through the season for at-risk fungicides is not economical, use protectant fungicides alone late in the season rather than compromising application timing early in the season to save money. The powdery mildew pathogen does not require leaf wetness for infection as other fungal foliar pathogens do therefore fungicides are needed under dry conditions.
6. Rate control achieved based on powdery mildew severity on lower surfaces of leaves. Report poor control despite following these guidelines to a local extension specialist.

Resistance to QoI fungicides (FRAC Group 11) and resistance to MBC fungicides (FRAC Group 1) were common again in 2007, therefore Amistar, Flint, Cabrio, Quadris, Topsin M and other fungicides in these groups are no longer recommended.

Please Note: The specific directions on fungicide labels must be adhered to -- they supersede these recommendations, if there is a conflict. Any reference to commercial products, trade or brand names is for information only; no endorsement is intended.

Consumers Step up to Help Honey Bees

UNIVERSITY PARK, Pa. - With the nation's production of fresh fruits and vegetables being threatened by the mysterious disappearance of honey bees, several companies and consumers have stepped up to support honey bee research and education about the malady, known as Colony Collapse Disorder (CCD).

Penn State's College of Agricultural Sciences' Entomology Department has taken a major role in finding a solution to the decline of the nation's honey bees and other pollinators, which are critical to the production of \$15 billion worth of crops in the United States. Whole Foods Market, the world's largest retailer of natural and organic foods, announced recently that honey bee research at Penn State will be a recipient of the company's register donation coupon program located at various stores in the northeast. According to Bonnie Frechette, marketing team leader at Whole Foods, customers will be able choose a denomination to donate to honey bee research at Penn State's College of Agricultural Sciences as an add-on to their grocery bill, which will appear on their receipt for tax purposes.

"Recently, I came across Haagen-Dazs' four-page magazine spread promoting its 'Help Save the Honey Bees' campaign. It depicted a map of U.S. and all the crops affected by CCD," says Frechette. "Then I went online to learn more and decided I had to do something. This is an issue that affects each and every one of us and using the register donation coupon program is a great way to raise both awareness and much needed funds for research."

Each month at Whole Foods participating stores feature a non-profit organization at check out which customers can donate to. Several stores in the Northeast will be featuring the honey bee donation coupons at various times this spring and summer. "So far, we've had really positive responses from customers, so we would like to expand the campaign to even more stores," Frechette explains.

In addition, Haagen-Dazs has announced a gift of \$150,000 toward honey bee-related programs in Penn State's College of Agricultural Sciences as part of their campaign. Haagen-Dazs also will contribute \$100,000 to the Harry H. Laidlaw Jr. Honey Bee Research Facility at the University of California, Davis. The donations are part of the company's "Haagen-Dazs Loves Honey Bees" consumer education campaign aimed at generating awareness among ice cream lovers about the dire situation facing managed and wild pollinators and what can be done to help.

Diana Cox-Foster, Penn State professor of entomology and co-chair of a national working group of CCD researchers, said Haagen-Dazs' contribution as well as individual donations that they've received will allow Penn State to purchase equipment that will enable faster processing of samples and aid in the molecular detection and identification of viruses, pesticides and other substances potentially harmful to honeybees and other pollinators. "The gift will also support training of graduate and undergraduate students by providing small grants for student research on bee-related topics," says Cox-Foster. "With these grants, students will be able to expand the scope of their projects beyond what otherwise would have been possible."

Haagen-Dazs also announced the launch of a new flavor of ice cream this spring, Vanilla Honey Bee, which is being featured at Whole Foods. A portion of proceeds from sales of the new flavor, as well as from all honey bee-affected flavors in the brand's product line -- indicated by special labeling on the package -- will go towards helping honey bees.

CCD was first discovered in November 2006 after a Pennsylvania beekeeper reported that more than 50 percent of his bee colonies he was overwintering in Florida had collapsed, meaning that the tens of thousands of bees that are supposed to be in each hive had simply disappeared. "Since then, beekeepers from all over the country have been reporting unprecedented losses," said Maryann Frazier, apiculture extension associate in entomology at Penn State's College of Agricultural Sciences. According to Frazier, symptoms of CCD include the sudden reduction or disappearance of the adult bee population without evidence of dead bees. "The hive will contain brood pollen and honey, with little evidence of robbing, wax moth or small hive beetle attack."

Researchers from Penn State, other universities, government agencies and other institutions formed the CCD working group to determine what factors are responsible for these unprecedented colony losses. The cause of CCD is still largely a mystery, but researchers recently discovered a strong correlation between CCD and the presence of Israeli acute paralysis virus in the bees. Other factors such as a compromised immune system, poor nutrition, parasites, chemical contamination, and other viruses and diseases continue to be investigated. Researchers have collected samples in several states and are conducting bee autopsies, chemical, and genetic analysis, but a definitive answer for CCD could still be months away.

For more information on honey bee research at Penn State, visit <http://www.ento.psu.edu/HoneyBeeResearch.html>.

Established in 1963, Penn State's Department of Entomology has grown into a well-balanced department providing undergraduate education, graduate student training and extension outreach education focusing on both domestic and international issues. Twenty faculty and more than thirty graduate students work on a variety of research topics providing insights into insect ecology, behavior and molecular biology as well as integrated pest management. The department is part of Penn State's College of Agricultural Sciences. For more information about solving insect problems, descriptions of research and education programs or admission to the graduate program, visit Web site at <http://www.ento.psu.edu/> or contact the department at (814) 865-1895.

Editors Contact: Kristie Auman-Bauer, PA IPM Program, (814) 865-2839, kma147@psu.edu.

Strawberry Growers Announce Summer Tour in Ohio

(Columbus, OHIO-May 16, 2008)-Travelers from throughout North America will soon be visiting the fertile valleys of Ohio's farm country, when the North American Strawberry Growers Association holds its annual summer tour on August 20 and 21. Strawberry growers from throughout the United States and Canada will visit approximately 10 Ohio farms that specialize in strawberries, blueberries, raspberries, and vegetables. As growers, the visitors hope to learn by sharing while observing and discussing the farming techniques found here in Ohio.

"Farm visits are an exceptional way for growers to expand their knowledge and abilities," said Kevin Schooley, executive director for the association. "As the group travels and tours, they share ideas and methods for better growing, safe effective means of pest control, reducing fuel and labor expenses, managing the soil and the environment, and overall learning to produce better, sweeter berries as efficiently as possible."

Among the farms to be visited are the Champaign Berry Farm, in Mutual, which has more than 27 acres of raspberries; The Blueberry Patch & Café, in Lexington, said to be the largest blueberry grower in the state; Polter's Berry Farm, in Fremont, with 13 acres of strawberries among other crops on the 2,000 acre farm; Holthouse Farms, in Willard, a grower of salad vegetables; Jacquemin Farms, in Dublin, which sells much of their produce in their own farm market; Robert Rothschild Farm, in Urbana, which features pick your own crops, as well as their own café; and Fulton Farms, in Troy, which grows strawberries and vegetables for retail and wholesale markets.

The headquarters hotel for the North American Strawberry Growers Association tour will be the Drury Inn at the Convention Center in Columbus. Tours will then proceed by bus to the respective Ohio farms. For further information, visit the website at <http://www.nasga.org>, or call executive director Kevin Schooley, at (613) 258-4587.

You Are Part of the Solution – Fill Out Your Crop Reporting Surveys

Submitted by [Bill Troxell](#), Pennsylvania Vegetable Growers Association (PVGA)

The PVGA Board of Directors is concerned about the low state established yield for fresh market sweet corn in Pennsylvania. The established yield is only 54.7 hundredweight per acre or 564 dozen per acre. This yield is determined by the statistics compiled by the National Agricultural Statistics Service (NASS) – which in turn uses information submitted by **you** and other growers across the state on their crop surveys each year.

Several members of the Board of Directors indicated they routinely average 800 to 1,000 or more dozen per acre and could not profitably grow corn with a yield of only 500 to 600 dozen per acre. They also acknowledged that they don't always pay real close attention to accurately filling out and returning the crop reporting surveys they receive from NASS.

The result of the unrealistically low established yield for sweet corn in Pennsylvania is that few if any growers qualify for any substantial benefits from the federal disaster programs for 2005, 2006 or 2007. Growers are only eligible for disaster payments if they are carrying crop insurance on their sweet corn crop and if their yields are less than 65% of the established yield. Most commercial growers can get at least the 65% level or 367 dozen even in a disastrous year.

PVGA has asked the Farm Service Agency (FSA) to consider using other data to determine a more realistic established yield. FSA's current position is that because there is NASS data available for sweet corn they need to use the NASS. PVGA's view is that NASS data currently does not represent a true average fresh market sweet corn yield. Pennsylvania does have a lot of small growers who may not put in the effort and other inputs needed for maximum yields, but one would hope that the true state average is higher than what NASS currently lists it.

The bottom line is this, it is so important that every grower takes the time to accurately complete and return the crop reporting surveys from NASS – not just for sweet corn but for all crops. Some growers are concerned about reporting all their returns for crops that are sold on a cash basis for fear the Internal Revenue Service (IRS) will be comparing their reported sales to their income tax returns. This is a totally baseless fear. By federal law, NASS is prohibited from revealing data about individual farms to anybody, including the IRS. They can only combine the data with other growers in your county and state to produce statistics for a given geographic area. If you are the only farm in your county to produce a crop, they cannot even report the production for that crop for your county. They will add it into the state total, but it will not be listed for your county to protect the confidentiality of the data you have supplied.

Growers who retail their produce may not keep accurate records of their yields. Admittedly it is not an easy task to keep track of what was harvested each day but in reality you need that information for your own management purposes. If your seed, fertilizer, pesticide, irrigation fuel and harvest costs for an acre of sweet corn are \$1,500 this year not counting your overhead costs for land rent or taxes, debt interest, machinery depreciation and maintenance, management, etc., and you have no idea whether you are harvesting 500 dozen or 1,200 dozen ears per acre, how can you set a retail price that

will leave you with a profit? Managing for a profit always requires good records. You owe it to yourself and your family to keep them.

Accurate NASS statistics are important for all vegetable crops, not just sweet corn (actually for all agricultural crops). These statistics are used to guide so many decisions in government and other areas. Please do your part to make NASS statistics accurate. Fill out those surveys.

(Editor's Note: PVGA in no way encourages growers to underreport cash income to the IRS either, but that is a whole other subject !!!)

Upcoming Meetings

If you have a meeting you would like to announce, please send the meeting title, date, location and contact information to esanchez@psu.edu.

Local

- ✓ July 30, 2008. **Summer Vegetable Growers Meeting**, Kutztown, PA. For more information contact Mena Hautau at (610) 378-1327 or mmh10@psu.edu. This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.
- ✓ July 31, 2008. **“Are You Crazy?” Farm Market Tour**. This annual bus tour of farm markets sponsored by the Pennsylvania Retail Farm Market Association will feature farm markets in the Pittsburgh area. For more information Bev Gruber at 610-767-5026 or visit www.PaFarm.com.
- ✓ Aug. 7, 2008. **Building a High Tunnel Hands-On Workshop**, Josie Porter Farm, Stroudsburg, PA. Pennsylvania Women’s Agricultural Network (PA-WAgN) sponsored event. Registration \$15, which includes lunch. For more information visit <http://wagn.cas.psu.edu/Register0810.html>.
- ✓ Aug. 14, 2008. **No-Till Cut Flower Field Day**, Frankenfield Farm Market in Souderton, Montgomery County. The field day will feature a comparison of no-till to conventional plastic mulch production of sunflowers, zinnias, snap dragons and lisianthus. For more information contact Andrew Frankenfield at 610-489-4315 or adf13@psu.edu. This is a Pennsylvania Vegetable Growers and Penn State Cooperative Extension sponsored event.
- ✓ Late August – early September. **Regional Potato Field Day**, James Hite Farm, in Patton, Cambria County. Sessions will focus on the Snack Food Variety Trials planted at the farm as well as Insect & Disease Management in Potatoes and Pesticide Safety. For more information contact Thomas Ford at 814-940-5989 or tgf2@psu.edu. This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.
- ✓ Sept. 3, 2008. **Southwest Pepper Variety Twilight Meeting**, Janoski’s Farm in Clinton, Beaver County. A twilight meeting will be held at the farm to discuss variety selection, pest management, and probably also nutrient management. Depending on how a cucurbit trial at the farm goes, the twilight meeting may also over downy mildew in cucurbits. Contact Lee Young for more information at 724-837-1402 or ljs32@psu.edu. This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.
- ✓ Sept. 3, 2008. **Organic Vegetable Production Pest Walk**, Liberty Gardens in Coopersburg, PA. The pest walk will be held from 5:00-8:00 p.m. The featured speaker will be Brian Caldwell, Research Technician with Cornell University’s Organic Cropping Systems Project. The tour host will be Jeff Frank, Liberty Gardens <http://www.libertyorganic.com> in Coopersburg, PA. The goal for the evening will be to review current pest problems and discuss solutions in an organically managed system. Contact Emelie Swackhamer at 610-391-9840 for information. This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.

- ✓ Sept. 11, 2008. **Taste of Harvest Winery Tour**, J. Maki Winery at French Creek Vineyards, Chester Co. Pennsylvania Women's Agricultural Network (PA-WAgN) sponsored event. Registration \$15, which includes wine tasting. For more information visit <http://wagn.cas.psu.edu/Register0813.html>.
- ✓ Sept. 11, 2008. **Cucurbit Disease Twilight Meeting**, Buza's Greenhouses in Easton, PA from 5-8 pm. The featured speaker will be Dr. Meg McGrath, Associate Professor of Plant Pathology, from Cornell University's Long Island Horticultural Research & Extension Center. The tours hosts are Bev and Bob Hoyer, proprietors of Buza's Greenhouses. The goal for the evening will be to discuss diagnosis of cucurbit diseases, disease cycles and current management options, with an emphasis on a small powdery mildew research study and recent changes to fungicide recommendations. Contact Emelie Swackhamer at 610-391-9840 for more information. This is a Pennsylvania Vegetables Growers and Penn State Cooperative Extension sponsored event.
- ✓ Nov. 13, 2008. **Vegetable and Small Fruit Agricultural Educators Roundtable**, Sam Hays Livestock Evaluation Facility, Rock Springs, PA. For more information contact Bill Lamont at (814) 865-7118 or wlamont@psu.edu.
- ✓ Nov. 18, 2008 (tentative date). **Western Pennsylvania Vegetable & Berry Seminar**, Butler, PA. For more information contact Eric Oesterling at (724) 837-1402 or reol@psu.edu or Lee Young at (724) 228-6881 or ljs32@psu.edu.

Regional

- ✓ July 23, 2008. **2008 Vegetable and Small Fruit Field Day**; Horticulture Research Farm, Russell E. Larson Research Center, Rock Springs, PA. For more information contact Mike Orzolek at (814) 863-2251 or mdol@psu.edu.
- ✓ Jan. 13 – 15, 2009. **Atlantic Coast Agricultural Convention and Trade Show** (NJ Vegetable Meeting); Trump Taj Mahal. For more information contact Mel Henninger at (732) 932-9711 x 120 or henninger@aesop.rutgers.edu.
- ✓ Feb. 3-5, 2009. **2009 Mid-Atlantic Fruit and Vegetable Convention**, Hershey Lodge and Convention Center, Hershey, PA. For more information contact William Troxell at 717-694-3596 or visit www.mafvc.org.
- ✓ Nov. 6-8, 2008. **Southeast Strawberry Expo**, Charlotte, NC. Workshops ("Strawberry Plasticulture for New Growers" and "Are You Making a Profit"), tour, educational sessions and trade show. For more information call 919-542-4037, email info@ncstrawberry.com or visit www.ncstrawberry.com.

National

- ✓ August 10-14, 2008. **92nd Annual Meeting of The Potato Association of America**; Buffalo, NY. For more information contact Don Halseth at (607) 255-5460 or deh@cornell.edu or the website at <http://www.hort.cornell.edu/PAA2008/>.

International

- ✓ Sept. 7-10, 2008. **19th International Pepper Conference**; Sheraton Hotel and Conference Center, Atlantic City, New Jersey, USA; contact Dr. Wesley Kline by phone (856) 451-2800 or email wkline@aesop.rutgers.edu or Dr. Andy Wyenandt by phone (856-455-3100 X4144) or email wyenandt@aesop.rutgers.edu.

- ✓ Dec. 8-9, 2008. **North American Raspberry & Blackberry Conference**; Grand Rapids, MI, in association with the Great Lakes Fruit & Vegetable Expo (Dec. 9-11). For more information email info@raspberryblackberry.com, call 919-542-4037 or visit www.raspberryblackberry.com.

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The newsletter is also posted within three days on the Department of Horticulture Vegetable program website at: <http://hortweb.cas.psu.edu/extension/veg crops/newsletterlist.html>.

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