

Kentucky Vegetable Growers' Newsletter

Winter 2008

Welcome to our first issue

I would like to take this opportunity to welcome everyone to our first issue of the KY Vegetable Growers' Newsletter. First I would like to introduce myself to some of you that I have not yet met and give a brief overview of what topics the KY Vegetable Growers' Newsletter will be covering in future issues.



In July, 2007 I started as the Extension Specialist in Vegetable Production, based in Lexington, KY. I am replacing Dr. Brent Rowell who did a fine job in this position for more than ten years. Brent recently took a position with a non-profit international development agency, working with farmers in Myanmar in S.E. Asia.

I completed my PhD degree in Horticulture in May of 2007 at the University of Georgia. For both M.S. and PhD degrees I worked with production, flavor and storage issues facing the Vidalia Onion industry in Georgia. Although I lived in Athens, GA for much of the previous 12 years, I grew up in the Adirondack region of New York.

In my first seven months in Kentucky I have had the opportunity to meet many different people associated with the vegetable industry. I have tried to get input via surveys and one-on-one talks from farmers and Extension personnel regarding the needs of vegetable growers in Kentucky. Our needs are numerous, and include generating more research/information on: variety performance in Kentucky, sustainable and organic farming systems, Integrated Pest Management, high tunnel and controlled environ-



ments, fertility/irrigation management, and marketing and economic information for market and wholesale vegetable growers.

All of these issues are best tackled using a multidisciplinary approach. Therefore I am working with faculty with interests in entomology, plant pathology, weed science, agriculture engineering and agriculture economics to work together to develop integrated research and educational projects to meet the needs of our clientele. In fact I have been pleasantly surprised at the collaborative spirit within the University of Kentucky College of Agriculture and with our neighbors at Kentucky State University. If there is an issue that you feel is important to the Kentucky vegetable industry that we can address please bring it to our attention.

One of the primary roles of Extension Specialists is to conduct applied research and act as a conduit to connect our clientele (Extension personnel and growers) with the information they need. Kentucky has an excellent Extension Service with great support from policy makers and administration at the University, County and State levels. I am happy to help carry on the tradition.

Upcoming vegetable research projects include: pumpkin, tomato, onion, romaine lettuce, phytophthora resistant pepper and specialty melon variety trials, investigating plastic mulch alternatives, high tunnel production of organic colored bell peppers, organic greens production, and irrigation management strategies. I have conducted brief surveys of Horticulture Agents and growers during recent meetings and have found that 100% feel that we need more up to date variety information for some

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vegetable crops, 86% said we need more information for organic and sustainable farming and nearly 50% have indicated a need for more information for season extension for market growers. Other important topics are irrigation management strategies, especially after last summer, and ways to improve fertility regimes in vegetables. This feedback has allowed me to plan upcoming research projects. I hope the results from the work done at the University of Kentucky will prove valuable for our farmers. Also if you have any questions feel free to email me at timcoolong@uky.edu or call at 859-257-3374.

Upcoming Events

If you have an upcoming event related to vegetable production, please email me with details and I will be sure to include it in upcoming issues.

Feb. 21 Kentucky Agritourism Summit, Center for Rural Development, Somerset, KY. Summit will provide valuable tips for business planning, insurance, signage, using MarketMaker, Kentucky Proud as marketing tools and using media to promote your farm. The owners of four successful Kentucky agritourism businesses will lead a panel discussion. Registration \$20 until Feb. 7 and \$30 after this date. Registration includes lunch. Contact Stephen Yates at 502-564-4983 or email: stephenp.yates@ky.gov

Feb. 21. Third Thursday at Kentucky State University. 10:00-3:00. Located at the KSU research farm 1525 Mills Lane Frankfort, KY 40601. The Third Thursday program is now in its tenth year. The program on the 21st will focus on organic production and will include talks by Michael Fitzgerald on how to obtain organic certification and Dr. Mike Bomford on how to grow organic vegetables using high tunnel technology. This program is free of charge and open to the general public. Please contact Dr. Marion Simon for more information (502)-597-6437.

Feb. 25 Vegetable Production Program 6:00 pm, Henderson County Cooperative Extension Center, 3341 Hwy 351 East, Henderson, KY. This meeting will focus on season extension, transplant production and nutrition and water management for container grown crops. The meeting is free. For more information and to make meal reservations call the Henderson County Cooperative Extension Office at (270) 826-8387.

Feb. 29. Northern Piedmont Specialty Crops School, Person County Cooperative Extension Center, 304 South Morgan Street, Roxboro, NC. This meeting will feature Dr. Charlie O'Dell and his experiences in growing and marketing seedless table grapes, berries and asparagus, asparagus and seedless grape variety trial results, muscadine grape production and an update on pawpaws. 8:00 a.m. - 3:00 p.m. Pre-registration by Feb. 22 is required, \$25 for first person in family/business, \$15/person additional

persons. Contact Carl Cantaluppi 919-603-1350 or email: carl.cantaluppi@ncsu.edu

March 19. Vegetable Production Program.

Casey County Cooperative Extension Service. A vegetable production meeting featuring speakers from the Departments of Horticulture, Entomology and Plant Pathology will be hosted by the Casey County Cooperative Extension Service. Meeting time and program has not yet been finalized. Contact the Casey County Cooperative Extension for more information (606) 787-7384.

March 25-28. SARE's New American Farm Conference 2008. Kansas City, Missouri. This is the 20th anniversary conference of SARE-Sustainable Agriculture Research and Education. This is a great conference featuring speakers for covering everything related to sustainable agriculture. A large number of farm tours can also be attended in conjunction with the conference. Registration is \$250 for individuals. This is a national conference with speakers from all across the U.S. and around the world. More information can be found at: <http://www.sare.org/2008conference/index.htm> or call (573) 882-8320 for registration information.

July 31. Twilight farm tour at the UK Horticulture Research Farm 5:30 pm. There will be a twilight tour of the ornamental, fruit and vegetable research being conducted at the University of Kentucky Horticulture Research Farm on Thursday July 31. Admission is free and the tour will run from 5:30 until dark.

New Publications

We have several new publications related to vegetable production here at the University of Kentucky.

[ID-36 2008-09 Vegetable Production Guide for Commercial Growers.](http://www.uky.edu/Ag/Horticulture/comveggie.html) <http://www.uky.edu/Ag/Horticulture/comveggie.html>. Our vegetable production guide has just been updated for 2008-2009. This includes new cultivar recommendations and pesticide labels.

[2007 Fruit and Vegetable Crops Research Report](http://www.uky.edu/Ag/Horticulture/comfruit.html) <http://www.uky.edu/Ag/Horticulture/comfruit.html> There were more than 40 fruit and vegetable research projects conducted by University of Kentucky and Kentucky State University faculty during the past year. Read about the results in here.

[FOR-89 Shiitake Production: Resources for Shiitake Growers.](http://www.ca.uky.edu/agc/pubs/for89/for98.pdf) <http://www.ca.uky.edu/agc/pubs/for89/for98.pdf> Shiitake mushrooms are a high value crop for some growers, check out this new resource.

[HortFact-7001: Ozone Injury in Watermelon.](http://www.uky.edu/Ag/Horticulture/HortFact7001.pdf) <http://www.uky.edu/Ag/Horticulture/HortFact7001.pdf> Ozone injury often occurs sporadically in Kentucky. Be sure to know what the symptoms are so that you don't mistake ozone injury for a pathogen and make an unnecessary spray.

HortFact-7002: Recommended Storage Conditions for Vegetables. <http://www.uky.edu/Ag/Horticulture/HortFact7002.pdf>. Tomatoes, onions and greens are all grown differently and should be stored differently as well. Be sure to know the correct storage temperatures for your vegetables to avoid chilling injury and losses in storage.

EntFact-319: Silverleaf Whitefly on Squash. <http://www.ca.uky.edu/entomology/entfacts/ef319.asp> Silverleaf Whitefly was a problem in Kentucky this previous summer. The symptoms of Silverleaf Whitefly feeding are unmistakable. Read up on it to be prepared for the upcoming season. Look out for a related publication that will be out shortly on Silverleaf Whitefly injury of tomato.

Herbicide injury on Vegetables. <http://www.uky.edu/Ag/Horticulture/masabni/HerbSympt-vegetables.htm>. Look at this new resource developed by Dr. Joe Masabni from the UKREC at Princeton KY. Details common herbicide injuries seen on vegetable crops.

Kentucky Department of Agriculture. 2008-2009 Kentucky Farmers' Market Manual. This updated manual includes proper sampling techniques for tasting samples at markets as well as a lot of other useful information for market growers.

<http://www.kyagr.com/marketing/farmmarket/documents/INSIDEPAGESASSENT.doc>

Meet another new faculty member

Dr. John Wilhoit, Extension Associate Professor in the Biosystems and Agricultural Engineering Department, started at UK this past September working in the area of Specialty Crops Mechanization. John got his graduate degrees at UK and Virginia Tech, doing research on vegetable harvest mechanization in both cases, and then was on the faculty at Auburn University for 10 years where he concentrated on Forest Engineering. He moved back to Kentucky in 1999 to take over the management of a family



farm in Woodford County. He started growing and selling vegetables in 2000 (with the help of Extension Association Dave Spalding!), and has been actively involved with the Woodford County Farmers Market since that time.

At UK, John's responsibilities include mechanization related to tobacco, vegetable production, and other alternative crops. His vegetable production research and extension efforts will focus on the use of plastic mulch

and trickle irrigation. He is particularly interested in the control and/or management of weeds between the rows of plastic, and on the retrieval and possible utilization or recycling of old plastic mulch and drip tape. He experimented with a large tobacco baler this fall, using it to make several bales of plastic at UK's South Farm as well as on Pat Robey's farm in Nelson County and John Bell's farm in Scott County. John is investigating outlets for recycling the plastic or using it for fuel, and hopes to initiate some sort of pilot project as a trial for centralized collection of plastic mulch and other types of agricultural plastic films. John also hopes to investigate equipment and methods for plastic mulch retrieval this coming season. If you are interested in plastic mulch retrieval and recycling issues, contact John at 859-257-3000 ext. 208 or jwilhoit@bae.uky.edu.

TIPS FOR MANAGING POWDERY MILDEW ON CUCURBITS IN 2008

By Dr. Kenny Seebold, Department of Plant Pathology, University of Kentucky

Powdery mildew, caused by *Podosphaera xanthii* (formerly *Sphaerotheca fuliginea*), is one of the most important diseases of cucurbits grown in Kentucky. Most cucurbit crops are affected, although the disease can be particularly severe on pumpkins, summer squash, winter squash, and zucchini.

Powdery mildew can be recognized easily by the presence of a talc-like growth, comprised of mycelia and spores (conidia) of the pathogen, on leaves and stems; it is possible to find signs of this disease on the upper and lower surfaces of a leaf. Fruit are occasionally affected. On leaves, chlorotic areas may be present on the surface opposite colonies of the powdery mildew fungus. As the disease progresses, blighting and defoliation can occur and can be severe under favorable conditions. Infection of leaves by the powdery mildew fungus results in decreased fruit size/number and fruit quality (color and sugar content); defoliation associated with the disease in later stages can lead to sunscald of exposed fruit and further losses.

Powdery mildew on Cucurbit species.





Powdery mildew often begins in shaded areas of the plant canopy or field, typically after fruit set. Warm and dry weather favors sporulation and spread of the pathogen, and high relative humidity promotes infection. Development of disease is slowed considerably by temperatures approaching 100 °F. Symptoms appear between 3-7 days after infection, and the disease can spread quickly under ideal conditions due to the production and dissemination of large numbers of spores.

Effective management of powdery mildew requires an integrated approach. Resistance to powdery mildew is available in some cucurbit crops, mainly cucumbers and melons; however, powdery mildew-resistant varieties of summer squash and pumpkins can be purchased. Consult your seed supplier or ID-36, the 2007-08 Vegetable Production Guide for Commercial Growers, for more information. Growers should employ practices that promote good airflow in the crop, such as increasing spacing between rows and plants, as this can limit the potential for infection by the pathogen.

Fungicides are an important option for management of powdery mildew on cucurbit crops. Timing of application is critical; sprays should be made on a 7 to 10-day interval, beginning at the first appearance of symptoms of powdery mildew. Below is a list of fungicides labeled in Kentucky for management of powdery mildew:

- Chlorothalonil (Bravo, Equus, etc.) 720SC: 2-3 pt/A [all cucurbits]; Dry flowable formulations are available - see label for rates.
- Fixed copper (Kocide, Cuprofix, etc.) [all cucurbits]: see label for rates.
- Quadris [all cucurbits]: 11-15.4 fl oz/A.
- Cabrio [all cucurbits]: 12-16 oz/A.
- Flint [all cucurbits]: 1.5-2 oz/A.
- Nova 40WP [all cucurbits]: 2.5-5 oz.
- Pristine [all cucurbits]: 12.5-18.5 oz/A.
- Procure 50WS [all cucurbits]: 4-8 oz/A.
- Quintec [muskmelon & watermelon only]: 4-6 fl oz/A
- Sovran [all cucurbits]: 3.2-4.8 oz/A

- Sulfur [all cucurbits]: 2-35 lb/A (varies by product); phytotoxicity can occur if applied when air temperatures exceed 90°F
- Topsin M [all cucurbits]: 0.5 lb/A; other formulations are available – see label for rates.

Chlorothalonil (Bravo, Equus, etc.) and fixed coppers are multipurpose fungicides that, when used as part of a season-long spray program, will provide fair suppression of powdery mildew. Good coverage is critical for control and adequate spray pressure and volume is critical to delivery of fungicides to foliage. Systemic fungicides such as Nova, Procure, and Topsin M are re-distributed in the plant after application and will help provide good control of disease on hard-to-reach plant surfaces such as the undersides of leaves; these materials can be useful in controlling disease after fruit set.

Resistance management practices should be followed with products such as Cabrio, Flint, Novas, Nova, Pristine, Quadris, Sovran, and Topsin M - do not make back-to-back applications of these products; rotate with products containing different modes of action. Resistance to the sterol-biosynthesis inhibitor (SBI) and strobilurin (QoI) classes of fungicides is common in KY. Nova and Procure are examples of SBI fungicides, while common strobilurins include Cabrio, Flint, Quadris, and Sovran. Always rotate products in the spray program to avoid control failures. Each fungicide has a limit on the number of applications that can be applied - consult the label for specific information.

Why Should I Get GAP Certified?

*By Dr. Timothy Woods, Agricultural Economics,
University of Kentucky*

UK Cooperative Extension and KDA have been pushing hard on training and certification for growers for standardized good agricultural practices. These standards include record keeping for farm sanitation, rodent control, worker sanitation, isolating non-compatible farm practices, and other practices that follow common sense. The issue for many, though, is why the record keeping? Why certify that these things are in place and practiced on the farm?

There are at least three good reasons.

1. Marketing quality assurance – Ready or not, the food sector is putting quality assurance controls throughout the supply chain. Although a relatively small number of food safety problems originate from the farm, supply chain leaders recognize that programs like GAP have to be implemented with careful record keeping through the entire supply chain – farms included. Buyers

looking up the supply chain to those who they would select as preferred suppliers will look first to those individuals that have some credible measure of quality assurance. Most large scale farm operations already have third party certifications for HACCP and verified implementation of other quality assurance programs. Having this kind of certification even in a direct marketing setting, is becoming an increasingly important selling point.

2. Fragile industry reputation – It only takes one bad experience to negatively impact a whole supply chain. The recent scares with e-coli and spinach and listeria and bottled milk substantially shape consumer concern about product safety and, subsequently, entire demand for the product. Whole regions and producer groups are tied, typically, to quality assurance breakdowns. Again, many of the producers that focus on direct marketing may think they are exempt from being impacted. All it would take would be for one bad incident traced to a farmers market and it will impact them all. GAP doesn't provide 100% quality assurance. Nothing does. But the record keeping of good management practices being implemented helps reduce the overall frequency and risk of bad things happening.

3. Management awareness – Many farmers have a management plan in their own mind and may, indeed, be very conscientious. The advantage of having a formalized GAP management and recordkeeping system in place, is that farmers are able to better connect their employees to the quality assurance plan. More practically, there is great value in formalizing something like this into a practical management plan. Great worksheets are available to track these practices. Busy farmers can benefit from taking a moment to check off when certain practices have been implemented and strengthen their own management system. Right now it's voluntary and easily implemented.

GAP training is being offered in many locations. County agents are gearing up to offer the training in collaboration with the Kentucky Department of Agriculture. Farmers that are involved in production and marketing where quality assurance is of the essence should not look at this as optional, for the reasons stated above. GAP just makes good marketing and management sense.



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