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Eastern NY Commercial Horticulture Program

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Weekly Vegetable Update

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We would like to thank all of you who have enrolled in the Eastern NY Commercial Horticulture Program and hope that the information contained in the Weekly Vegetable Update has been timely and useful. We are always looking at ways to improve the content and format of our newsletters, so if you have any ideas or thoughts, please let us know.

As we reflect on the season, conditions seemed to be more "normal" as compared to recent years. That said, it certainly did not come without its share of challenges: wet, cold, hail, wind and now some droughty conditions.

We hope that you have a great fall season and look forward to seeing you at the many winter meetings the team has planned.

A gorgeous planting of cauliflower on a crisp autumn day. The grower planted red clover between tomato rows in this field last year and did not need to apply any nitrogen to this years brassica crop.

This is the last issue of the Weekly Vegetable Update newsletter for the season. Beginning in early November, you will receive our monthly newsletter "The Produce Pages." It provides readers with information on upcoming meetings, pesticide updates and pest management strategies, marketing ideas, and research results from Cornell University and Cornell Cooperative Extension. Weekly updates will resume in April.

Late Season Cucurbit Disease Management

This time of year I always get the question, "Should I continue to spray my vine crops for diseases?" This is not an easy question to answer as there are several factors that need to be addressed. So, here is my opinion: If you are still a ways away from harvesting your pumpkins and winter squash and there is still some vine cover, then yes, it might be worth another protectant fungicide application. However, if there is very little foliage left, don't waste your time or money as the fungicides will have very little, if any activity. If you still have a lot of green fruit that need another week or so to mature, and have some good vine cover, they may also require another fungicide application. In general, most of the pumpkins and winter squash I have seen are mature and need to be harvested. If you are losing vine cover and still are a little bit from harvesting some sections of pumpkins, it might be worth going through and at least clipping the fruit off the vines to possibly help save some of the handles. For more information on storing squash and pumpkins, see the September 11, 2014 Issue 22 of the ENYCHP Weekly Veg Update.

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Cucurbit Disease Management, continued from previous page

If you have a late patch of cucumbers or summer squash that you are nursing along, fungicides are still going to be required as Downy mildew and powdery mildew will quickly take these plants out, especially with the amount of spores out there blowing around. The heavy dews in the morning will also favor bacterial infections such as Angular leaf spot and we have seen a lot of this disease this year. The other disease on late squash and cucumbers that can become a problem is scab. Usually this is controlled with applications of chlorothalonil (Bravo) or Quadris Opti (a pre-mix of Quadris plus chlorothalonil). *-CDB*

Phoma

Phoma is a genus of fungi and many of them are plant pathogens. This fungus infects a wide range of cruciferous and other crops such as potatoes. It is known as Gummy Stem Blight on cucurbits, Black Leg on cabbage and Phoma stem canker on other brassicas. This week, I also saw it on sunflowers. It can be devastating to beets as well, causing both foliar lesions and root rots.

Symptoms include:

- Pale, irregular spots can develop on leaves or stems.
- Older lesions become ash grey with visible pycnidia (small black pustules).
- Stem lesions can have purple borders near the soil line and may extend below the soil surface, causing a black rot of the lower stem and roots.
- Plants will wilt, have stunted growth and may be off-color.
- If plants are larger, they may fall over due to loss of stem and root structure.

Symptoms may present themselves in field and in storage.

Since there are several species of Phoma and many are not currently controlled with fungicides, pesticide recommendations are few and specific to the crop.

For cultural controls, the best tactic is to have a vigorous plant. That translates to a good fertility program and adequate but not excessive moisture availability. Good cultural controls (albeit slight changes depending on specific crop) would be:

- Plant disease-free seeds, obtained from reputable sources
- Follow a 2 year rotation with crops in the same family
- Investigate varieties that are resistant or tolerant.
- Minimize insect feeding to limit predisposing plants to disease. *-MRU*

Garlic: Start with Great Seed and Don't Ruin it

Growers are starting to plant now, which means fine-tuning the fertility program, making sure the site is optimized, and keeping seed cool and dry until it's time to crack and plant. This sounds like a pretty easy plan, and one really short article! But, for the sake of fun, let's go through what each of these pieces of the puzzle might look like.

Site Optimization: It is possible to grow garlic very well in a tremendous variety of soils, from heavy clay to coarse sand. One key is to provide enough water for ample growth but not so much that the roots are stressed and diseases are favored. On clay soils this might mean using raised beds, planting shallower and mulching, and using ample cover crops and compost to gradually improve the soil. On sandy soils it might be better to plant a little deeper, forego raised beds and focus on moisture retention (again, through the use of mulch, cover crops, and compost). Pay close attention to your soil types and your field characteristics, and plan accordingly. If you have questions about your site, feel free to call.

Think carefully about the history of a field before choosing your planting site. One pitfall is planting into fresh killed sod, which can harbor significant wireworms. By the time I get a call about wireworms in garlic, it's far too late to do anything. The time to deal with wireworms is before the garlic goes in the ground. Wireworms are the larval form of the click beetle, and persist in the soil for up to 6-7 years. Populations are highest in recently turned under sod and gradually decrease over time. I recommend waiting at least 2 years if possible before planting into ground that has been sod for an extended period of time. If you have to

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Planting Garlic, continued from previous page

go in sooner, using multiple plantings of buckwheat and incorporating the green matter the summer before planting might help break up the wireworms and more quickly reduce populations. It probably won't completely solve the problem, if there is one. This is an issue better avoided than combatted.

A final consideration which can be addressed prior to planting is perennial weed control. Pay particular attention to quack grass, which can actually grow into the forming garlic heads. It will be harder to fully control perennial weeds organically this late in the season, since they already have some reserves built up, but you can at least set them back. Conventional growers can use a well-timed herbicide application (after the first frost is ideal) to take care of many perennial weeds. A complete article on fall weed control can be found in the Weekly Vegetable Update Volume 1 Issue 25, from September 19, 2013.

Fall Fertility Recommendations:

Phosphorus and potassium should be optimized in the fall using a soil test. The guidelines are listed in the table below. The debate on nitrogen application rates and timing has continued. Results of this year's trials have not been fully analyzed yet, but based on what we know so far we can say that the crop doesn't need more nitrogen in the fall than is available in the actual clove. This doesn't mean that you can't apply a very slow-release nitrogen form such as alfalfa or peanut meal in the furrow at planting, with the expectation that nitrogen will be available in the spring. It simply means that synthetic and quick-release nitrogen fertilizers will be wasted in a fall application.

Seed Storage and Preparation

In these last few weeks before planting, make sure garlic is kept as close to 70 percent humidity and 70 degrees (or lower) as possible. Keep garlic heads intact to reduce weight loss and exposure of each clove to aerial fungal spores. Even beautiful, healthy garlic will break down if storage conditions are poor.

When it's time to crack the garlic and plant, consider a few more ideas:

Garlic infested with wireworms. Wrapper leaves have been eaten off.

Cull bulbs or cloves with symptoms or damage when cracking:

Carefully feel and look at each clove during this process, and remove anything that looks suspect. Discard cloves with unhealthy looking basal plates, with dents or lesions on or under the wrapper leaf, and any cloves that feel unusually light. Do not compost these cloves---either bury them away from the field or throw them away.

Treat all seed with a surface sterilizer:

Sterilizing the surface of the cloves will NOT control GBN! However, it will reduce issues with surface molds such as aspergillus and will kill surface penicillium. This is a best practice for all garlic. You can either use a 10% commercial bleach solution (1 part bleach and 9 parts water) or you can use an OxiDate dip (32 oz per 25 gallons water-check labels on different formulations for rates). Remember to test bleach and OxiDate dips for activity if treating large amounts of seed, and replace solution when activity decreases. Otherwise you are simply moving diseases around in water. Plant cloves immediately after dipping, not after they have dried back out. *-CLS*

Garlic	Nitrogen (N) Lbs/A	Phosphorus (P2O5) Lbs/A					Potassium (K2O) Lbs/A				
Soil Test Results		**Very low <3lbs/A**	**Low 3-6**	**Medium 7-13**	**High 14-40**	**Very High >40**	**Very low <50**	**Low 51-100**	**Medium 101-200**	**High 201-300**	**Very High >300**
Incorporate at planting	0	200	150	100	50	0	200	150	100	50	0
Sidedress before emergence	25-50	0	0	0	0	0	0	0	0	0	0
Sidedress 2-3 times, 3-4 weeks apart	25-50 divided among sidedressings	0	0	0	0	0	0	0	0	0	0
TOTAL	50-100	150	100	75	50	0	150	100	75	50	0

Club Root on Brassicas

Clubroot is a disease I don't come upon often, and that is a good thing, as it is a very difficult disease to manage for those who grow brassica crops. This past week a grower took me to his cauliflower planting with a small section showing classic club root symptoms. (Figure 1) It was not immediately apparent how the disease made its way to only this part of the field, but when the grower mentioned that the section had flooded a few years ago, it all began to make sense as I knew of two farms downstream that had fields with clubroot issues. My guess is that a few years back, the flood waters carried some of the clubroot spores to this spot. This was the first time the grower put brassicas in this field since the flood, so he was not aware of the problem until now.

Clubroot is caused by the pathogen *Plasmodiophora brassicae*, and infects brassica crops such as cabbage, cauliflower, Brussel sprouts, broccoli, and Chinese cabbage. This disease is not seed born, rather, it is often introduced to a farm operation by contaminated transplants grown in contaminated soil. Once on the farm, it can spread further via equipment, soles of shoes, truck tires and irrigation water. I know of at least one operation where the disease was brought in on equipment shared with a neighboring farmer. Every effort should be made to keep this disease from entering your farm operation because the pathogen survives in the soil for many years, even in the absence of host crops. Note that weeds such as wild mustard and wild radish are also in the Brassica family and will proliferate the disease.

When diseased plants are pulled from the soil, the roots are usually swollen and distorted.

Photo courtesy of R. Loria, Cornell Univ.

Clubroot can cause drastic yield reduction. Infected plants are stunted, yellow, and wilt. Managing this disease is difficult. Rotating out of Brassicas, and keeping good control of brassica weeds for seven years or longer will reduce inoculum/spores in the soil. In many cases, yearly liming with hydrated lime to a pH of 7.2 has reduced the severity of infection, but a pH that high may not be optimal for rotational crops outside the Brassica family. Labeled for control of this disease are: Ranman 400SC applied as a transplant soil drench or incorporated into the soil and; PCNB (Blocker 4F) as a transplant solution, band or broadcast application. See the labels for rates and application instructions. *-TR*

NY Food and Drink Producers: Sign Up Now for the Taste NY Harvest Fest 2014 at the New York State Fairgrounds

Full press release with all details can be found at: ***http://www.agriculture.ny.gov/AD/release.asp?ReleaseID=2939***

New York State Commissioner of Agriculture Richard A. Ball today encouraged companies that make food, drink, and other agricultural products in New York to consider exhibiting their products at the Taste NY Harvest Fest at the New York State Fairgrounds on Saturday, November 1.

The Taste NY Harvest Fest is an annual event that allows companies to offer free samples of their products and sell those products directly to consumers. Last year, several thousand people came to sample products including wines and beers, cheeses, baked goods, dips, spreads, chutneys, pretzels, meats, and more.

This year's event will be held in two sessions in the Horticulture Building at the Fairgrounds. The first session will run from 11am to 3pm and the second session will run from 4pm to 8pm. Festival attendees pay a single price and receive (with proper identification) a complimentary glass that can be used for sampling wines, beers, liquors, and ciders. All vendors make free samples of their products available and can sell their products directly to consumers.

If you're interested in knowing more about Harvest Fest, call Geneanne Keegan-Smith at 315-487-7711 ext. 1212. Information for exhibitors, including an application form, can be found at http://www.nysfair.org/harvestfest/.

From Recipe to Market: A Seminar for Future Food Entrepreneurs

Saturday, October 18
Madison Barracks
85 Worth Road, Sackets Harbor, NY
Jefferson County
8:00am to 4:00pm

To register for this location contact Steve Ledoux at 315-788-8450 or email swl73@cornell.edu.

Sunday, October 19
Whallonsburgh Grange,
1610 State Route 22, Whallonsburgh, NY
Essex County
8:30am to 4:30pm

To register for this location contact Laurie Davis at 518-962-4810 x404 or email lsd22@cornell.edu.

Is your recipe ready to go to market? If your goal is to launch a specialty food business, then this program is for you. Bob Weybright, an Extension Agricultural Development Specialist with the Eastern New York Commercial Horticulture program, will present this one-day seminar providing future food entrepreneurs with instruction in food business basics and knowledge of the critical issues to consider before starting a food processing business.

Topics include:

- Food Business Basics
- Marketing: Developing a Strategy, Objectives, Research, and Communication Plan
- The NYS Food Venture Center
- Market Trends and Product Development
- Regulatory Agencies and Requirements
- Food Safety, Processing, Packaging and Labeling

Bob Weybright has a strong agricultural economic development and marketing background. After receiving his undergraduate degree from Michigan State University and his graduate degree from California State University in New Business / Small Business Management, Bob has been actively involved in a number of development projects. He has experience in all phases of agriculture, including production, processing, marketing and sales. He is engaging in methods that help producers develop innovative new products and increase their marketing opportunities, especially in the local foods area.

Cost is $75 and includes lunch and all educational materials.

Deadline for registration is October 15.

Presented in collaboration with Cornell Cooperative Extension Associations of Jefferson and Essex Counties, The Eastern New York Commercial Horticulture Program, the New York State Food Venture Center, and the Whallonsburgh Grange.

Sweet Corn Trap Catches for the Week Ending September 21, 2014					
Location	**ECB-E**	**ECB-Z**	**Corn Earworm**	**Fall Armyworm**	**W. Bean Cutworm**
Albany	0	0	5	0	0
S. Clinton	0	0	0	77	0
Columbia	0	0	11	103	0
Fulton	0	0	3	0	0
N. Ulster	0	1	10	N/A	N/A
C. Washington	0	0	19	3	0
N. Washington	0	0	0	1	0

2014 Weather Table—This chart is compiled using the data collected by Northeast Weather Association (NEWA) weather stations. For more information on NEWA and a list of sites, visit http://newa.cornell.edu/ This site has information not only on weather, but insect and disease forecasting tools that are free to use.

2014 Weekly and Seasonal Weather Information						
	Growing Degree Information Base 50° F			**Rainfall Accumulations**		
Site	**2014 Weekly Total** 9/15 - 9/14	**2014 Season Total** 3/1 - 9/21	**2013 Season Total** 3/1 - 9/21	**2014 Weekly Rainfall** 9/15 - 9/21 (inches)	**2014 Season Rainfall** 3/1 - 9/21 (inches)	**2013 Total Rainfall** 3/1 - 9/21 (inches)
Albany	59.9	2560.6	2575.0	0.25	21.27	30.59
Castleton	50.3	2410.1	2543.8	0.20	23.01	26.93
Clifton Park	48.6	2311.0	2419.7	0.31	23.30	31.39
Clintondale	71.4	2613.0	2749.8	0.15	24.29	30.33
Glens Falls	34.5	2263.7	2207.5	0.21	22.67	24.55
Guilderland	53.5	2337.5	2449.0	N/A	N/A	N/A
Highland	70.3	2599.6	2716.6	0.16	24.31	29.16
Hudson	66.9	2594.3	2695.7	0.06	24.33	22.72
Marlboro	66.5	2498.6	2634.9	0.17	25.41	29.39
Montgomery	57.9	2525.9	2597.5	0.18	20.29	28.66
Monticello	37.8	1971.4	2063.0	N/A	N/A	N/A
Peru	41.1	2170.8	2269.7	0.19	19.31	23.85
Shoreham, VT	44.0	2288.9	2419.2	0.08	19.77	26.74
Wilsboro	36.6	2108.7	2222.6	N/A	N/A	N/A