Lessons Learned from the *Listeria* Outbreak in Cantaloupes

*Wesley Kline, Cumberland Co. Cooperative Extension, Rutgers, NJ*

Everyone by now should have heard about the *Listeria* outbreak in CO cantaloupes. With 28 deaths and at least 105 people from 26 states still recovering, this is the most deadly food-borne illness outbreak in 25 years. The Food and Drug Administration (FDA) was able to quickly trace the outbreak to one farming operation in CO (Jensen Farms). The company recalled the melons, but it was too late. *Listeria* can take a long time to develop and will multiply even under refrigeration (40°F or lower). *Listeria monocytogenes* is usually associated with raw/poorly pasteurized milk, soft cheeses, raw meats and cold cuts.

How did *Listeria* get on the melons? After investigation, FDA has reported the following:

1. There is no evidence the contamination came from the field. They were not able to find *Listeria* in the field. That does not mean it could not have been a factor in early contamination.

2. *Listeria monocytogenes* was found in pooled water on the packing house floor. The water collected near packing equipment and conveyors that moved melons. Wet areas can be a reservoir for *Listeria*.

3. The packinghouse floor could not be cleaned easily and the drains were not accessible for cleaning.

4. A truck was used to move cull melons to a cattle operation where the truck or driver could have picked up *Listeria* and spread it into the packing-house.

5. The farm had purchased used grading equipment which was not easily cleaned and sanitized. FDA was able to collect *Listeria* from the packing equipment.

6. The melons were not pre-cooled to remove field heat prior to placing in a cold room. Warm fruit put in cold storage results in condensation on the outside of the fruit - an environment for *Listeria* to grow. Cantaloupe collected from the cold storage tested positive for *Listeria monocytogenes* strains that were the same as those from the outbreak.

What are the lessons produce growers should learn from this outbreak and what impact will this have on local growers?

1. That a food borne outbreak can happen on any farm. It does not mean just CA or FL. Every grower needs to assess their operation and see where there may be potential risks. Even if you do not need a third party audit, do a self assessment.

2. Food safety needs to be a team effort. Everyone in the operation must buy into the need for food safety. Jensen Farms had a third party audit before the recall, but an audit is only as good as the farm wants it to be. Anyone can clean up the packinghouse for the day of the audit then go back to the “old ways”. It is time everyone makes food safety an impor-
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This publication contains pesticide recommendations. Changes in pesticide regulations occur constantly and human errors are possible. Some materials may no longer be available and some uses may no longer be legal. All pesticides distributed, sold or applied in NYS must be registered with the NYS Dept of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide usage in NYS should be directed to the appropriate Cornell Cooperative Extension (CCE) specialist or your regional DEC office. CCE and its employees assume no liability for the effectiveness or results of any chemicals for pesticide usage. No endorsement of products or companies is made or implied. READ THE LABEL BEFORE APPLYING ANY PESTICIDE.
GAPs Food Safety Workshops: Develop Your Own Farm Food Safety Plan
Cornell Cooperative Extension, NYS Dept. of Agriculture & Markets, and the National GAPs Program collaborate on 2-day workshops to help produce growers learn about GAPs and write their own farm food safety plans. After attending the workshop, growers are invited to a mock third party audit during the growing season.

Upcoming Workshops:
January 4 & 5 — Mt. Morris
February 15 & 16 — Rochester
March 14 & 15 — Albany
March 28 & 29 — Syracuse

Check back to http://www.gaps.cornell.edu/ for registration info or call Craig Kahlke at 585-735-5448.

Donations to Farm Families Hurt by Irene and Lee

Robert Smith, Farm Credit East

Farm Credit East and United Way are coordinating an effort to help farm families hurt by Irene and Lee with donations to show “farm community concern.” This support is for any farm family with at least $10,000 of crop loss/damage in designated disaster counties in NY, NJ, MA, CT, RI and NH who has applied by December 1st. The donations will be given in mid-December. Farm Credit East and their employees, CoBank, Yankee Farm Credit and United Way - Greater Capital Region have made significant contributions.

Others are welcome to contribute. Go to:

NYS Energy Authority Gives Ag Disaster Assistance

NY Farm Bureau

The NYS Energy Research & Development Authority (NYSERDA) has opened an Agriculture Disaster Energy Efficiency Program to assist on-farm producers in NYS damaged by Tropical Storms Irene and Lee. Under this program $4.17 million is available to provide assistance to replace and install energy efficient electric and natural gas distribution and use equipment, and systems damaged during the storms in non-residential facilities. Farms seeking assistance must provide supporting documentation, invoices, estimates. NYSERDA will reimburse for projects that have been completed.

Applications will be accepted on a first-come, first-served basis through 5 pm on Thursday, December 15th, or until funds are exhausted. Applications are available at http://nyserda.ny.gov/agriculture-disaster-program Call 800-732-1399.
Western bean cutworm (WBC) is an emerging pest in NY, with the capacity for substantial damage to dry beans. WBC has historically been a pest of corn and dry beans in the High Plains of the US. Recently infestations have steadily moved eastward. By 2009 WBC was confirmed in PA, NY and Quebec, previously having been detected in MI and Ontario, Canada. Pheromone trapping in 2010 and 2011 in corn and dry bean fields showed that WBC was broadly distributed and numbers were rising in NY. In 2010, 54 of 55 traps in 29 counties caught WBC moths. A total of 67 WBC traps in 37 counties were monitored statewide this season in collaboration with Cornell Entomology, the NYS IPM Program, Cornell Cooperative Extension field staff, and grower and agribusiness cooperators. Average number WBC/trap/yr in 2010 was 13.4, while in 2011 the number was 21.4.

**Background** - WBC is a late season pest of dry beans, and 8 - 10% yield losses due to WBC feeding have been reported. It begins as leaf feeding and, once the larvae grow to the 3rd stage, they begin feeding on pods, and then directly feeding on the developing beans. Entry holes promote infection by fungi and bacteria. Direct feeding on beans can cause yield loss, and quality is affected because of the presence of chewed, shriveled, moldy beans that make it through the combine. 2% pick caused by direct feeding can down-grade the beans, and heavier damage can cause rejected loads. WBC thresholds for dry beans have not yet been established.

Pheromone traps are used to determine the number of moths present and time of peak moth flight. Pod feeding typically occurs 10 - 21 days after peak moth flight so having a trap at the field helps determine when to scout for WBC damage, to determine whether/when a spray is needed. In addition, the threshold for field corn is 4% of plants with WBC egg masses. Michigan State University and Ontario researchers suggest if a corn field has reached threshold, then adjacent dry bean fields should be considered at risk and should be scouted for pod feeding and sprayed if damage is observed.

**Discussion** – WBC moths were found in WBC pheromone traps in dry bean fields (cranberry, black bean or kidney bean) at eleven of 12 locations in Genesee, Livingston, Monroe, Ontario, and Wyoming counties. Numbers of WBC moths collected approached the MSU monitoring guideline of 100 moths/trap in Attica and Stafford. Using the MSU guideline for detecting risk of WBC injury, corn fields adjacent to dry bean monitoring sites in Attica and Stafford were scouted for egg masses and dry bean fields checked for pod injury, but none was detected. As of the time of this report, no dry bean yield impacts have been attributed to WBC this season (John McCreedy, pers. com.) though some kidney bean damage may have been observed in a couple of cases (Steve Blowers, pers. com.) Early indications are that WBC did not have an economic impact on dry bean production this season. It is possible that dry weather conditions during peak moth activity may have caused mortality of WBC egg masses. The Attica field received a fungicide + potato leaf hopper insecticide application in early August. If WBC eggs or larvae were present they would have been killed. As WBC populations increase there is the potential to observe more “pick” in harvested dry beans, especially in large seeded classes like light/dark red kidney. When beans are threshed, the combine may be better able to separate out small damaged beans like blacks. There were reports in 2011 of field corn damage the Malone and Chazy, NY, with as much as 50% of ears infested with WBC larvae. Unfortunately, no WBC traps were in those areas. Yield impacts, if any, are not yet known.

**Table 1. Total WBC moths collected from Dry Bean Fields in Western NY**

<table>
<thead>
<tr>
<th>County</th>
<th>Town</th>
<th>Total WBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genesee</td>
<td>Stafford</td>
<td>96</td>
</tr>
<tr>
<td>Livingston</td>
<td>Caledonia E</td>
<td>19</td>
</tr>
<tr>
<td>Livingston</td>
<td>Caledonia W</td>
<td>22</td>
</tr>
<tr>
<td>Livingston</td>
<td>Leicester</td>
<td>0</td>
</tr>
<tr>
<td>Livingston</td>
<td>Lima</td>
<td>33</td>
</tr>
<tr>
<td>Livingston</td>
<td>Wayland</td>
<td>9</td>
</tr>
<tr>
<td>Monroe</td>
<td>Churchville</td>
<td>24</td>
</tr>
<tr>
<td>Monroe</td>
<td>Mendon</td>
<td>49</td>
</tr>
<tr>
<td>Monroe</td>
<td>Mumford</td>
<td>24</td>
</tr>
<tr>
<td>Ontario</td>
<td>Hopewell</td>
<td>59</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Attica</td>
<td>164</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Pavilion</td>
<td>56</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>555</strong></td>
</tr>
</tbody>
</table>

Many of the WBC moths captured have been in excellent condition suggesting the insect is overwintering locally. The increase in average number of WBC caught per trap from 2010 and 2011 indicates the potential that WBC will...
US dry bean markets find themselves moving up into relatively unfamiliar territory as prices continue to reach for the sky in reaction to a small 2011 crop, strong prices for other field crops, and moderate demand. The October US dry bean production estimate was down 38% from a year earlier. Harvested area for the 2011 dry bean crop is currently expected to be 1.12 million acres—the lowest since 1921. The first production estimate of dry beans by class will be released by USDA on December 9.

The 2011/12 dry bean season opened in September with a preliminary estimate of $40.90 per cwt for the industry aggregate grower price—54% above a year earlier but less than the record high (unadjusted for inflation) price of $47.20 per cwt received in March 1974. Grower prices continued to move higher into October with very limited open-market sales. (Prices were up in October compared to a year ago 65 - 70% for dark and light red kidneys in the Midwest, and 140% for black beans in Michigan.) These limited supplies and strong prices will likely attract imported product. As a result, dry bean import volume is expected to see double digit increases in 2011, while export volume likely falls below 8 million cwt for the first time since 2006/07.

Although dry bean stocks entering the 2011/12 season were the highest in a decade, total available supplies will likely be among the lowest of the past 2 decades. In combination with moderate world demand, the weak U.S. dollar, and smaller crops in some competing and consuming nations (including Canada and Mexico), it is not surprising that nominal dollar prices are reaching record highs this fall. After adjusting for the impact of inflation, this year’s season average dry bean grower price is expected to be the highest since 1989. See the complete report at: http://www.ers.usda.gov/Publications/VGS/2011/10Oct/VGS347.pdf

Acknowledgement: This study was funded by a grant from the NYS Dry Bean Industry. Thanks to John McCreedy, the WNY Crop Management Association, and Don Sweet for their assistance.

Smallest US Dry Bean Harvested Area Since 1921

US dry bean markets find themselves moving up into relatively unfamiliar territory as prices continue to reach for the sky in reaction to a small 2011 crop, strong prices for other field crops, and moderate demand. The October US dry bean production estimate was down 38% from a year earlier. Harvested area for the 2011 dry bean crop is currently expected to be 1.12 million acres—the lowest since 1921. The first production estimate of dry beans by class will be released by USDA on December 9.

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NYS Advises Garlic Growers to Beware of Imported Nematode

Michael Moran, NYS Department of Agriculture & Markets, 
www.agriculture.ny.gov

11/10/11 - NYS Agriculture Commissioner Darrel J. Aubertine alerted New York’s garlic growers that Stem and Bulb Nematode (Ditylenchus dipsaci), a serious pest of garlic and other crops, has been found in the State on imported seed garlic. The Commissioner provided advice to growers on options to help protect their crop. The presence of Stem and Bulb Nematode, also known as the Bloat Nematode, in seed shipments destined for NYS has been confirmed by US Customs and Border Protection (CBP) Agricultural Specialists. Once established, Stem and Bulb Nematode will cause a significant decline in production and, at times, death of the plants. The USDA’s Animal and Plant Health Inspection Service (APHIS) continues to work with CBP to identify and address pathways by which this nematode may enter the United States. Given the potential economic impact of this pest, APHIS has initiated a review to determine appropriate ways to prevent further spread within the US.

In follow up, U.S. Customs and Border Protection (CBP) initiated Operation Stem Bloat Nematode, where they sampled all imported shipments of garlic for seed and found 40 – 50% of the shipments were infested with the nematode. “We were surprised at the volume of shipments found to be infested with this nematode, given how clean and disease-free the garlic cloves appeared”, said Ann Marie Paul, CBP Assistant Director of Field Operations, Buffalo, NY. These findings initiated a temporary change in national protocol on garlic entering the country from Canada by requiring all shipments (whether labeled for seed or food), from Detroit to Maine entry points, to be sampled and tested for the presence of this nematode.

The Stem and Bulb Nematode is a microscopic worm that can cause yellowing and death to garlic plants. Some host crops can experience swelling and distortion of plant parts and rotting of stem bases. While the nematode poses no risk to human health, it can affect international trade of certain commodities. It is nearly impossible to eliminate because it can survive on a range of other hosts, as well as in the soil itself. Other host crops include onions, potatoes, alfalfa, strawberries and ornamental plants.

To help prevent Stem and Bulb Nematode from entering the country and impacting our local crop, growers should always require a valid phytosanitary certificate when they purchase foreign seed. If growers have concerns about a shipment of seed, they should contact their local Cornell Cooperative Extension (CCE) agent to have the seed tested. Garlic growers can also reach out to CCE for testing to receive confirmation that a crop is nematode free, whether just imported or grown on their farm for several years. The Department has provided a $69,122 grant to the NYS Agricultural Experiment Station in Geneva for testing and analysis of garlic seed. The grant will also assist with determining the extent of this pest’s presence in NY.

Cornell Cooperative Extension held three meetings last year where growers expressed their concerns regarding the possible presence of Stem and Bulb Nematode. The Garlic Seed Foundation has also been hearing from growers. According to David Stern, Director of the Foundation, “We are hearing from an increasing number of growers regarding problems with their garlic crop due to this Nematode. The attention to this issue by NYSDAM, Cooperative Extension, CBP, APHIS and Dr. George Abawi, with his work at Cornell, is greatly appreciated! We look forward to working with them to address what is becoming a very serious problem for garlic growers.”

According to the 2007 US Census of Agriculture, New York has 330 garlic farms that dedicate 306 acres to garlic production. Garlic production is up considerably since 1992 when the State only reported 11 acres grown. The vast majority of the garlic grown in New York State is marketed fresh and is valued at $24.5 million. New York State is fourth in the nation in terms of acreage devoted to garlic production.
The 2012 Empire State Fruit & Vegetable Expo and Direct Marketing Conference, will be held January 24 - 26 at the On Center in Syracuse. The 2012 Becker Forum will be held January 23 at the Holiday Inn Liverpool – Syracuse. You can view the program, preregister and pay, all online this year at: www.nysvga.org Click on EXPO. (You should receive your printed Expo program in the mail any day.)

2012 sessions will include: Business and Labor Management, Direct Marketing, Flower Production, Potatoes, Tree Fruit, Tomatoes, Peppers & Eggplant, Vine Crops, Cover Crops, Berry Crops, Cabbage and other Cole Crops, Onions, Winter Greens and Storage, Sweet Corn, Processing Vegetables, Specialty Vegetables, Phytophthora Blight, Greenhouse & Tunnels, Trickle Irrigation, New Invasive Insect Pests, Pesticide Safety, Phone Apps for Ag, Food Safety, and educational sessions in Spanish. Reduced tillage speakers are included in crop sessions. 1 DEC pesticide recertification credit will be given for each hour of pest/pest management programming. Details on some of the sessions follows.

The Soil Health & Cover Crop session at last year’s Expo had a record attendance of nearly 140 growers, consultants, industry reps and Cornell/CCE staff. This year’s session, on January 24th, will cover traditional cover crops as well as the newer crucifer cover crops, and how to best manage them. Featured on the program is Paul Salon, USDA-NRCS Big Flats Plant Materials Center. He’ll discuss the newest cover crop technique - mixing diverse grasses, legumes and crucifers to maximize soil building and crop yields. Chris Martin, Martin Farms, Brockport, and Joe Brightly, Brightly Farms, Hamlin, will describe their experiences and experimentation with different cover crops, including some innovative planting methods. George Abawi, Cornell, will document the many soil and crop benefits that have occurred with good soil management in his long-term cover crop and tillage trial. Finally, Thomas Bjorkman, Cornell, will explain how to get the most from your cover crops without risk.

Reduced tillage grower-speakers are on the program in the Processing Vegetable, Sweet Corn, Vine Crops and Cabbage sessions, sharing how they do it and the soil-building and crop benefits they’ve seen. Donn Branton, Branton Farms, LeRoy, will share his decades of experience with zone and no-till in processing vegetables. Dan Brainard, Michigan State University, brings research results on the benefits of reduced tillage and cover crops in sweet corn. Tim & Nick Stanton, Stanton’s Feura Farm, Feura Bush, will describe their success with reduced tillage in vine crops and other vegetables. Casey Kunes, Hemdale Farms, Seneca Castle, will discuss their experiences and what they’ve learned since expanding reduced tillage to the majority of their transplanted cabbage crop.

The NYS Flower Industries joins the Expo for the first time on January 25th and will offer an afternoon of greenhouse topics. The session will include: Cultural tips for growing proven winners by Jessica Boldt, Pleasant View Gardens; Vegetable varieties for bedding plant sales by Bill Russell, Harris Seed; Save time for greenhouse sanitation by Betsy Lamb, NYS IPM Program; New plant varieties and opportunities for 2012 by Don Brown, Griffin; and an Update on peat moss availability and alternatives in transplant production with Neil Mattson, Cornell.

Wondering if you are getting the most bang for your buck from your Trickle Irrigation system? In this January 25th session growers will learn how to design a trickle system from expert Rob Rider of OA Newton Irrigation Systems in Bridgewater, DE. Steve Reiners, Cornell, will discuss how to know when you need to irrigate and how to determine when crops have had enough. Bring your pencils to do a little math in this session! Penn State Extension Specialist Steve Bogash will talk about adding nutrients or ‘fertigating’ vegetable crops. Growers from across the state will discuss how they use this low input, water saving mode of irrigation to their advantage on their farms.

Join Berry growers January 26th for the day long program featuring national expert Barclay Poling, NC State, speaking on strawberry plasticulture systems. This technique is becoming more important as growers raise more day neutral berries. Cornell entomologist Dr. Greg Loeb will describe how to control insects in the longer season day-neutral strawberries. Alan Eaton, U. of NH, and Martin Lowney, USDA Wildlife Service, will share bird management strategies. Growers will share how to use netting effectively in berries. The session will include information on controls for the Brown Marmorated Stink Bug and Spotted Winged Drosophila, two new invasive pests recently found in NY. Marvin Pritts, Courtney Weber and Greg Loeb, Cornell, will talk about the potential of bramble crops in high tunnels.

A special feature of the Berry Day is a Berry Grower Roundtable. The topic for this informal discussion is ‘Tools that make berry growing easier’. Bring photos, small equipment or any ideas to share with the group. John Shenk, Eco-Weeder, will discuss his equipment.

Be sure to check out the Expo program, with the overview of all the sessions, and the option of preregistering online, at: www.nysvga.org/expo/. For more information, contact the NYS Vegetable Growers at jmarvin@rochester.rr.com or call 315-986-9320.

The 2012 Empire State Fruit & Vegetable Expo is sponsored by the NYS Vegetable Growers Assoc, Empire State Potato Growers, NYS Berry Growers Assoc, NYS Farmers’ Direct Marketing Assoc, NYS Horticultural Society, Cornell University and Cornell Cooperative Extension.

(Edited by C. MacNeil, CVP)
### Upcoming Meetings

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates and topics:</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Winter Wednesday Vegetable Production Webinars</strong>&lt;br&gt;&lt;i&gt;Presented by the Extension Vegetable and Small Fruit Production Program, Penn State&lt;/i&gt;</td>
<td><strong>December 7</strong> - Dealing with weather extremes: excess heat and moisture&lt;br&gt;<strong>January 4</strong> - New resources for beginning organic vegetable growers: What you need to know and where to find it&lt;br&gt;<strong>February 29</strong> - Vegetable disease management: What you need to know for 2012&lt;br&gt;<strong>March 14</strong> - New insect pests</td>
<td>To register go to: <a href="http://www.cvent.com/events/winter-wednesday-lunch-series-vegetable-production-webinars/event-summary-5bd38ff53bbf47e7a31275cb16c444f6.aspx">http://www.cvent.com/events/winter-wednesday-lunch-series-vegetable-production-webinars/event-summary-5bd38ff53bbf47e7a31275cb16c444f6.aspx</a></td>
</tr>
<tr>
<td><strong>Growing Cherries: 2011 in Review</strong></td>
<td><strong>Thursday, December 8</strong>&lt;br&gt;9:00 am - 11:00 am&lt;br&gt;Hector Fire Hall, Rt 414, Hector</td>
<td>Brown rot, spotted winged drosophila and brown marmorated stinkbug covered in detail. DEC credits. $10/person or $15/farm. Pre-register 607-687-4020, <a href="mailto:meh39@cornell.edu">meh39@cornell.edu</a>.</td>
</tr>
<tr>
<td><strong>Upstate NY Potato Advisory and Cornell Potato Breeding Line Show &amp; Tell</strong></td>
<td>The 30th annual meeting is coming up! Growers, processors, packers, extension, college and state personnel will discuss the concerns, needs and opportunities of the industry. In addition, Walter De Jong, Cornell potato breeder, will host his annual Show &amp; Tell of the most promising potato lines coming along. Weather related closure questions? Contact Carol MacNeil at 585-313-8796. Reservations required by <strong>Monday, December 5</strong>&lt;sup&gt;th&lt;/sup&gt;. Contact Don Halseth at 607-255-5460 or <a href="mailto:deh3@cornell.edu">deh3@cornell.edu</a>.</td>
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<tr>
<td><strong>Growing &amp; Marketing Ethnic Vegetables</strong></td>
<td><strong>Friday, December 9</strong>&lt;br&gt;9:00 am - 2:30 pm&lt;br&gt;CCE Ontario County&lt;br&gt;480 N Main St, Canandaigua</td>
<td>Ethnic vegetables and greens are a fast-growing sector of fresh market crops in the Northeast. Although currently unfamiliar to many Americans, these vegetables are popular among the large and growing immigrant populations of New York State. Frank Mangan, University of MA, will speak on Latino, Asian and African vegetables and greens. Robert Hadad, Cornell Vegetable Program, will share details on seed sources and local considerations in variety selection. $20.00 includes lunch. Pre-registration required by December 7th - 585-394-3977 x427 or <a href="mailto:nea8@cornell.edu">nea8@cornell.edu</a>.</td>
</tr>
<tr>
<td><strong>Processing Pea, Beet and Carrot Advisory Meeting</strong></td>
<td><strong>Tuesday, December 13</strong>&lt;br&gt;9:30 am – Coffee and Donuts&lt;br&gt;10:00 am – Pea, Beet &amp; Carrot Mtg&lt;br&gt;First United Methodist Church&lt;br&gt;8221 Lewiston Rd/Rt 63, Batavia</td>
<td>DEC pesticide and CCA credits available. Free, including lunch, and no reservation required. For more info contact: Julie Kikkert at <a href="mailto:jrk2@cornell.edu">jrk2@cornell.edu</a> or 585-394-3977 x404. Growers, processors, and ag business reps will discuss the season, hear results from projects funded for 2011, and make priorities for research funding in 2012 by the NYS Vegetable Research Assoc/Council.</td>
</tr>
<tr>
<td><strong>Cornell Economic Outlook Conference</strong></td>
<td><strong>Tuesday, December 13</strong>&lt;br&gt;9:00 am - 3:30 pm&lt;br&gt;Statler Hotel Ballroom, Cornell, Ithaca</td>
<td>National economic outlook, outlook for crops, dairy, fruits &amp; vegetables, and immigration laws, plus Marcellus Shale Development: implication for agriculture. Go to <a href="http://dyson.cornell.edu/outreach/ag_outlook_conference.php">http://dyson.cornell.edu/outreach/ag_outlook_conference.php</a> for registration and program info, or contact Carol Thomson at <a href="mailto:cmt8@cornell.edu">cmt8@cornell.edu</a> or 607-255-5464.</td>
</tr>
<tr>
<td><strong>New England Vegetable &amp; Fruit Conference and Trade Show</strong></td>
<td><strong>Tuesday - Thursday, December 13 - 15</strong>&lt;br&gt;Radisson Hotel, Manchester, NH</td>
<td>For more info contact Jon Clements at 413-478-7219 or go to <a href="http://www.newenglandvfc.org/">http://www.newenglandvfc.org/</a></td>
</tr>
<tr>
<td>Event</td>
<td>Date(s)</td>
<td>Location(s)</td>
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<td>----------------------------------------------------------------------</td>
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<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Basic Farm Business Management Planning</td>
<td>5 dates and locations,</td>
<td>Choosing the one most convenient for you. Contact Sandy Buxton at 518-380-1498 or <a href="mailto:sab22@cornell.edu">sab22@cornell.edu</a></td>
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<tr>
<td></td>
<td>choose the most</td>
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<td></td>
<td>convenient for you</td>
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<tr>
<td>NYS Dry Bean Industry Advisory Committee Meeting</td>
<td>Friday, December 16</td>
<td>LeRoy Country Club, 7759 E Main Rd, LeRoy</td>
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<td></td>
<td>9:30 am - 3:00 pm</td>
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<tr>
<td>Managing Crops &amp; Soils for Fewer Pests and Greater Yields</td>
<td>Monday, December 19</td>
<td>Sam Yoder’s Farm, 12041 Northeast Rd, Conewango Valley</td>
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<td></td>
<td>1:00 - 3:00 pm</td>
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<tr>
<td>Vegetable Growers Association of NJ Convention</td>
<td>Tuesday - Wednesday,</td>
<td>Trump Taj Mahal, Atlantic City, NJ</td>
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<td></td>
<td>January 17 - 18</td>
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<tr>
<td>2012 NOFA-NY Winter Conference: The Cooperative Economy</td>
<td>Friday - Sunday,</td>
<td>Saratoga Springs</td>
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<td></td>
<td>January 20 - 22</td>
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<tr>
<td>Empire State Fruit &amp; Vegetable Expo, Direct Marketing Conference and</td>
<td>OnCenter Convention</td>
<td>For more info contact Rocco DiGerolamo, Jr. at 857-797-1686 or visit:</td>
</tr>
<tr>
<td>Becker Forum</td>
<td>Center, Syracuse,</td>
<td><a href="http://www.njveggies.org">www.njveggies.org</a></td>
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<tr>
<td></td>
<td>and Holiday Inn,</td>
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<td></td>
<td>Syracuse – Liverpool.</td>
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<tr>
<td>Ontario Processing Vegetable Industry Conference</td>
<td>Tuesday - Wednesday,</td>
<td>For more information: 519-681-1875 or <a href="mailto:opvg@opvg.org">opvg@opvg.org</a> or visit <a href="http://www.opvg.org">www.opvg.org</a></td>
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<td>January 24 - 25</td>
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<tr>
<td>Mid-Atlantic Fruit &amp; Veg Conference</td>
<td>January 31 - February 2</td>
<td>For more info contact William Troxell at 717-694-3596, <a href="mailto:pvg4@pvga.org">pvg4@pvga.org</a> or visit <a href="http://www.mafvc.org">www.mafvc.org</a></td>
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<tr>
<td></td>
<td>Hershey, PA</td>
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</tbody>
</table>
Pesticide Trainings & Recertification Classes

| Pesticide Training & Recertification Classes | Anyone interested in obtaining pesticide certification and meeting the DEC experience/education requirements, or current applicators seeking pesticide recertification credits should attend. **This is NOT a 30-hour certification course.**
| | The cost for the pesticide training to obtain a license is $120.00, includes training manuals and attendance at all four classes. **This does not include the $100.00 DEC exam fee, due the day of the exam payable by check.** Certified applicators, private and commercial, seeking recertification credits will receive 2.5 core credits per class. The cost for recertification is $70.00 for all four classes or $20.00 per class. To receive registration materials contact CCE Ontario County at (585) 394-3977 x427 or x436, nea8@cornell.edu or rw43@cornell.edu. The registration form is available on-line at www.cceontario.org
| Mondays, February 6, 13, 20, 27 | (Exam: March 5, 7:00 pm - 11:00 pm)
| 7:00 pm - 9:30 pm | CCE Ontario County
| | 480 N Main St, Canandaigua

| Pesticide Recertification Day | Pesticide use, safety, pest management, up to 6 DEC credits. Morning - core credits; afternoon - category specific credits for 3a, 1a, 7a and private categories. Registration required. Contact Chuck Schmitt at 518-765-3513 or cds34@cornell.edu
| Thursday, March 15 | The Century House
| 997 New Loudon Rd/Rt 9, Latham |

Cleaning Pesticide Application Equipment at the End of the Season

*Andrew Landers, Cornell*

This procedure should also be followed whenever the pesticide type is changed and before sprayer maintenance. **Reminder:** Remember to wear the personal protective equipment (PPE) listed on the pesticide label.

1. Be sure that all mixed pesticides have been used up from the sprayer or removed and disposed of properly.
2. Flush sprayer with clean water, making sure to wash all inside surfaces of the tank, including the underside of the lid. Use of a tank rinse system is preferred so that rinsing can be done in the field where the rinse water can be applied to the crop. If a tank rinse system is not available, fill the spray tank about half full with clean water and flush the system for at least 5 minutes using both agitation and spraying. Be sure to open and close any control valves during the rinse process. The rinsate should be applied to the crop at labeled rates. Repeat this procedure two more times.
3. Hose down the outside of the sprayer making sure to reach all parts, scrubbing if necessary.
4. Remove suction, main and in-line filter elements and wash them thoroughly in clean water using a soft bristle brush. Put the filters back on the sprayer when clean.
5. Remove the nozzles, nozzle screens and nozzle bar end caps (if used) and wash them thoroughly in clean water with the appropriate cleanser and rinse. Remember to use a soft bristle brush, such as an old toothbrush, when cleaning nozzle parts.
6. Partly fill the sprayer with clean water and run the sprayer to flush out all parts.
7. Refill the tank with clean water, adding any detergent recommended by the pesticide manufacturer. Remember, use commercial cleansers according to their directions. Agitate the solution and pump it through the sprayer plumbing system.
8. Discharge the cleaning solution from the sprayer through the sprayer plumbing system, making sure to drain the system as thoroughly as possible.
9. Rinse the sprayer and flush the plumbing system with clean water.
10. Inspect the sprayer for deposits that may remain in the tank or plumbing system. If any remain, use some of the cleaning solution and scrub the problem spots. Rinse the sprayer out completely.
11. Repeat steps 7 to 9.
12. Hose down the outside of the tractor and sprayer, scrubbing if necessary.
13. If changing from one type of pesticide to another, refit nozzles, filters and other parts that may have been removed in the cleaning process.
14. When cleaning and preparing the sprayer at the end of the season, safely store nozzles and filters to keep them clean and damage-free. Leave valves open and the tank lid loosely closed.

For more on sprayers and spraying pesticides go to Andrew Landers’s Cornell Pesticide Application Technology website at: [http://web.entomology.cornell.edu/landers/pestapp/](http://web.entomology.cornell.edu/landers/pestapp/) Click on In-field Cleaning of Sprayers for photos, research results regarding effectiveness of cleaning agents, applicator/cleaner safety regarding pesticide residues on equipment.
New Seed Treatments for Onion Maggot: What Onion Growers Need to Know

Christy Hoepting, CCE Cornell Vegetable Program, and Brian Nault, Dept of Entomology, NYSAES

Finally! We have options!
Believe it or not, I have worked on control of onion maggot via seed treatments for the past 15 years. In fact, my Master’s Degree involved management of onion maggot. And, I am absolutely thrilled that New York onion growers FINALLY have not one, but TWO new seed treatment options for control of onion maggot. Sepresto® was first introduced for the 2011 growing season, but is available only on Nunhem’s onion varieties. Also available for the 2012 growing season on all onion varieties is Farmore® FI500. Both of these insecticide seed treatments are only available in packages that also include fungicides. Altogether, NY onion growers now have FIVE insecticides (counting diazinon), labeled for onion maggot control (Table 1). Of these, 3 are seed treatments; decisions for which one to use must be made when seed orders are placed. In making these decisions, it is important to know the relative effectiveness of the insecticides, what diseases the fungicides in the seed treatment packages control and how to extend the useful life of these precious new insecticides. The information that follows addresses these questions and should assist you in making a decision on how to control maggots as well as early season seedling diseases.

The new seed treatments on the scene Sepresto® has a novel mode of action compared to Lorsban and Trigard and is a combination of two neonicotinoids with a 3:1 ratio of clothianidin (same active as Poncho) and imidacloprid (same active as Gauch and Admire). It also controls seedcorn maggots, which can also kill onion seedlings if left unprotected. Sepresto is available exclusively on Nunhem’s onion varieties such as Hendrix and Pulsar, and only as part of a seed treatment package, “CAPS”. The “C” is for Coronet, “A” is for Allegiance, “P” is for Pro Gro and “S” is for Sepresto. Diseases controlled by these fungicides are discussed later in this article.

Table 1. Insecticide roster for control of onion maggot in onion in New York, 2012.

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Company</th>
<th>Active Ingredient for OM</th>
<th>Chemical Class (IRAC² group)</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diazinon AG500 Diazinon 50WP Etc.</td>
<td>Makhteshim</td>
<td>diazinon</td>
<td>OP (1)</td>
<td>Pre-plant broadcast &amp; incorporate</td>
</tr>
<tr>
<td>Lorsban 4E, 75WG, Advanced and OLF¹</td>
<td>Dow AgroSciences (Lorsban), other companies for OLF</td>
<td>chlorpyrifos</td>
<td>OP (1)</td>
<td>At planting in-furrow, Post-planting banded spray over row</td>
</tr>
<tr>
<td>Trigard</td>
<td>Syngenta</td>
<td>cyromazine</td>
<td>triazine (17)</td>
<td>Seed treatment</td>
</tr>
<tr>
<td>Sepresto</td>
<td>Bayer Crop Sciences</td>
<td>clothianidin + (imidacloprid)</td>
<td>neonicotinoid (4) + neonicotinoid (4)</td>
<td>Seed treatment</td>
</tr>
<tr>
<td>Farmore FI500</td>
<td>Syngenta</td>
<td>spinosad + (thiamethoxam)</td>
<td>spinosyn (5) + neonicotinoid (4)</td>
<td>Seed treatment</td>
</tr>
</tbody>
</table>

¹OLF: other labeled formulation such as Warhawk. ²IRAC: Insecticide Resistance Action Committee

Farmore® FI500: Syngenta’s Farmore Technology has been around for a few years now: Farmore F300 consists of 3 fungicides including mefenoxam, fludioxonil and azoxystrobin that make up a seed treatment package for control of mostly soil-borne pathogens and is labeled on several crops. A couple of years ago, Syngenta launched Farmore FI400, which includes the insecticide thiamethoxam (same active as Cruiser, Platinum and Actara), and is labeled on cucurbits, leafy Brassicas and carrots, predominantly for control of beetles and aphids. Farmore FI500 is essentially FI400 with the addition of spinosad for control of onion maggot and seedcorn maggots and it is only labeled on onions, but on all varieties. Spinosad represents yet another different chemical class for managing onion maggot in NY.

How do the new seed treatments rate?
In Table 2, the relative performance of several insecticides that were evaluated for onion maggot control on muck in NY is summarized. Clearly, the active ingredient, fipronil has been an outstanding performer for onion maggot control. Unfortunately, after more than a decade of outstanding results, we had to give up the dream of this active ever seeing the light of day as a registered product on onion as all of its agricultural uses were discontinued a couple of years ago.

It is very exciting that the newly registered Sepresto has performed neck and neck with the industry standard, Trigard + Lorsban (in-furrow). Thus, when using Sepresto seed treatment, it does not need to be accompanied with an application of Lorsban in order to achieve excellent control of onion maggot. Unfortunately, this option is only available on Nunhem’s onion varieties.

Although far from a robust database, the newly registered Farmore FI500 provided an average of 81% control of onion maggot. This trial was conducted under very high onion maggot pressure and under such conditions, Farmore FI500 performed neck and neck with Trigard and slightly better than Sepresto. We do have a lot of trial experience with the spinosad component of Farmore FI500, which

Continued on page 12
has consistently provided excellent control of onion maggot (88%) and we expect this to be an excellent seed treatment for control of onion maggot. Research is planned for 2012 to help determine the need for Lorsban with Farmore F1500.

Interestingly, one of the neonicotinoid components of Sepresto (specifically, imidacloprid) and one in Farmore F1500 (specifically, thiamethoxam) provided very poor control of onion maggot in NY studies. In fact, clothianidin and spinosad are the active ingredients doing all the work in Sepresto and Farmore F1500, respectively. In other onion growing regions where onion thrips is a problem earlier in the season than they are in NY, these systemic components might provide some protection against onion thrips, but that is NOT the case in NY. All registered seed treatments provided better control of onion maggot than Lorsban alone. It is important to note that resistance to Lorsban and Trigard had occurred at several of the trial locations, which brought the averages down. However, with implemented resistance management strategies at these sites that involved rotating away from Trigard, Trigard provided excellent control of onion maggot in the last two years of trials. Trigard is the only insecticide labeled for onion maggot that does not also control seedcorn maggots; where this pest is a concern Lorsban should be used in-furrow with Trigard seed treatment.

Precautions for resistance management
Onion maggot is notorious for developing resistance to insecticides, first to organochlorines, then to carbamates and organophosphates (OPs), including Lorsban and probably also to Trigard (resistance never confirmed, but effectiveness noticeably declined in many fields). Onion maggot can develop resistance to an insecticide within 4-5 years of continuous exposure. Because onions may be grown in the same field or adjacent field year after year, local populations of onion maggot get exposed to the same insecticide year after year. Once resistance to a chemical class has developed in an onion maggot population, the population can become controllable again after eliminating exposure for a few years, but, resistance and difficulty in controlling the infestation will occur faster with resumed continuous exposure. Because onions are a minor use crop and onion maggot is mostly a problem in New York, Michigan and Wisconsin within the United States, there is not a lot of interest from chemical companies to pursue the registration of insecticides for onion maggot control. Consequently, it is essential to preserve the useful life of Sepresto and Farmore F1500. The best way to ensure this happens is to follow a resistance management strategy.

First, individual growers should rotate among chemical classes on all of their acreage every year. Unfortunately, Sepresto is only available on Nunhem’s varieties, so unless a grower has exclusively Nunhem’s varieties, it will be impossible to have his entire acreage treated with Sepresto. In this case, it is recommended to rotate the ground from year to year that is cropped to Nunhem’s varieties treated with Sepresto. Better yet, use Sepresto every other year. Second, do not use Lorsban in-furrow in combination with Sepresto seed treatment. A practical rotation sequence to cautiously bring in new chemistries follows on the next page.

For large onion growing regions like Elba and Orange County where several growers’ acreage is intermingled, it would be ideal if all growers followed the same rotation strategy (such as the one outlined on the next page), so that the onion maggot population in the region is not exposed to all chemical classes every year. Implementing such a regional management strategy would require a lot of grower cooperation. If this is simply not possible, rotating chemical classes on individual fields, even if out of synchrony with the neighboring field will still go a long way towards preserving the useful life of our new (and old) chemistries. Onion maggot flies do not move great distances, so any level of chemical rotation should be beneficial.

Table 2. Relative efficacy of seed treatments evaluated (not all labeled) for control of onion maggot, listed in order of best to worst performance: B. Nault et al. (Cornell University) 2004 to 2009.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Insecticide (a.i.)</th>
<th>No. of Trials</th>
<th>Ave. OM Control</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regent*/Mundial ST* (fipronil)</td>
<td>12</td>
<td>94%</td>
<td>Provided significantly better control than Trigard 38.5% of the time</td>
</tr>
<tr>
<td>2</td>
<td>Trigard ST + Lorsban IF* (cyromazine + chlorpyrifos)</td>
<td>11</td>
<td>90%</td>
<td>Provided significantly better control than Trigard alone 36% of the time</td>
</tr>
<tr>
<td>3</td>
<td>Poncho*/Sepresto ST (clothianidin ± imidacloprid)</td>
<td>13</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Entrust*/Regard ST* (spinosad)</td>
<td>17</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Farmore F1500 (spinosad + thiamethoxam)</td>
<td>1²</td>
<td>81%</td>
<td>Trial conducted under very high pressure. Trigard provided 80% and Sepresto 74% control in this trial</td>
</tr>
<tr>
<td>6</td>
<td>Avicta ST* (abamectin)</td>
<td>4</td>
<td>81%</td>
<td>Also controls nematodes</td>
</tr>
<tr>
<td>7</td>
<td>Trigard ST (cyromazine)</td>
<td>15</td>
<td>80%</td>
<td>Did not provide significant control over untreated 6% of the time</td>
</tr>
<tr>
<td>8</td>
<td>Lorsban IF (chlorpyrifos)</td>
<td>14</td>
<td>68%</td>
<td>Did not provide significant control over untreated 14% of the time</td>
</tr>
<tr>
<td>9</td>
<td>Gaucho* (imidacloprid)</td>
<td>1</td>
<td>31%</td>
<td>Did not provide control of onion thrips in NY</td>
</tr>
<tr>
<td>10</td>
<td>Cruiser* (thiamethoxam)</td>
<td>1</td>
<td>20.6%</td>
<td>Did not provide control of onion thrips in NY</td>
</tr>
</tbody>
</table>

¹ ST: seed treatment; IF: in-furrow treatment. ² trial conducted by C. Hoepting, 2010.

* not labeled for use on onion.
Regarding fungicides in seed treatment packages – make sure you have onion smut protection!

Direct seeded onions cannot be grown in muck soils where onions have been grown for decades without fungicide treatments for control of onion smut due to the high buildup of this very persistent pathogen. Treatment to combat this disease includes Pro Gro seed treatment plus mancozeb in-furrow. Fortunately, Nunhem’s Sepresto seed treatment package (CAPS) includes Pro Gro for control of onion smut. Despite containing three fungicides, Farmore FI500 does not provide control of onion smut, so Pro Gro still needs to be added to this seed treatment, as it would to Trigard. Application of mancozeb in-furrow is still recommended in addition to both of these seed treatments for adequate onion smut control.

Pro Gro provides decent control of damping off pathogens caused by *Pythium* spp. Additional protection against *Pythium* spp. is provided by Allegiance in the Nunhem’s seed treatment package. In Farmore FI500, Apron and Maxim provide control of damping off pathogens caused by *Pythium* spp. and *Rhizoctonia solani*, respectively. In addition, Maxim provides some protection against *Fusarium* spp., which can especially be problematic in some red onion varieties.

In the Nunhem’s seed treatment package, Coronet is unique in providing control of *Botrytis allii* and *Aspergillus* spp., which are both seed-borne fungi that cause losses from neck rot and black mold, respectively, especially in storage. If Nunhem’s varieties are grown from bare root transplants, it is recommended that the seed be treated with Coronet (via CAPS), because bare root onion transplants can become infected with *B. allii* during transplant production in Arizona.

### Table 3. Summary of fungicide packages included in Nunhem’s varieties and Farmore FI500.

<table>
<thead>
<tr>
<th>Trade Name</th>
<th>Active Ingredient</th>
<th>FRAC group</th>
<th>Disease Controlled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nunhem’s CAPS seed treatment package:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allegiance (Bayer)</td>
<td>Metalaxyl&lt;sup&gt;2&lt;/sup&gt;</td>
<td>4</td>
<td>No</td>
</tr>
<tr>
<td>Pro Gro (Chemtura)</td>
<td>Thiram + carboxin</td>
<td>M3</td>
<td>7</td>
</tr>
<tr>
<td>Sepresto (Bayer)</td>
<td>Clothianidin + imidacloprid</td>
<td>insecticides</td>
<td>For onion maggot control (~90% control)</td>
</tr>
<tr>
<td><strong>Farmore FI500 (all Syngenta materials):</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apron</td>
<td>Mefanoxam</td>
<td>4</td>
<td>No</td>
</tr>
<tr>
<td>Maxim</td>
<td>Fludioxonil</td>
<td>12</td>
<td>No</td>
</tr>
<tr>
<td>Quadris</td>
<td>Azoxystrobin</td>
<td>11</td>
<td>No</td>
</tr>
<tr>
<td>Regard</td>
<td>Spinosad</td>
<td>Insecticide</td>
<td>No</td>
</tr>
<tr>
<td>Cruiser</td>
<td>Thiamethoxam</td>
<td>Insecticide</td>
<td>No</td>
</tr>
</tbody>
</table>

<sup>1</sup> same actives as Pristine.  
<sup>2</sup> Metalaxyl = mefanoxam (Apron).  
<sup>3</sup> FRAC: Fungicide resistance action committee.  
<sup>4</sup> For 80%+ control of onion smut, include mancozeb in-furrow with Pro Gro treated seed.
Correction: NY Onion Production

Carol MacNeil, CCE Cornell Vegetable Program

The NY onion statistics reported in the November Veg Edge, from the National Agricultural Statistics Service, New York Office, www.nass.usda.gov/ny did not reflect the losses in Eastern New York from Hurricane Irene or Tropical Storm Lee. In that report the NY onion crop for 2011 was forecast at 2.95 million hundredweight (cwt), down 4% from last year. Harvested acreage was estimated at 8,200 acres, down 16% from last year’s acreage of 9,800. Yields were expected to average 360 cwt. per acre, up from 315 last year. However, the excessive rains of the two storms resulted in the loss of about 50% of Orange County’s crop.

Late Blight on Tomatoes & Potatoes in Eastern USA in 2011

W. Fry, K. Myers, G. Danies, I. Small, Plant Pathology, Cornell

As part of an Agriculture and Food Research Initiative (AFRI), USDA, grant involving more than 20 collaborators from throughout the US, our lab had received in 2011 more than 80 suspected late blight (LB) samples by September, 19th. At least 79 were positive for LB. We received samples from CT, DE, FL, ME, MN, NH, ND, PA, RI, VA and WI. Our major focus was to determine genotype (using microsatellite markers for LB strain), and convey information on the LB strain as rapidly as possible to extension personnel who submitted the sample. Microsatellite analysis can be done on infected tissue or on sporangia from lesions, so data can be obtained without culturing the pathogen. In many cases, information was returned to the submitter within 24-48 hr of receipt of the sample. The data were uploaded to a national website that reported these various occurrences of LB.

Preliminary analyses to date (19 September) indicate that the genotypes of Phytophthora infestans strains in at least 70 of these samples corresponded to those that had been detected in previous years. These lineages were:

- **US8** - A2 mating type, resistant to the fungicide mefenoxam, not aggressive on tomato, very pathogenic to potato, one sample
- **US11** - A1 mating type, resistant to mefenoxam, aggressive to tomato and potato, one sample
- **US22** - A2 mating type, sensitive to mefenoxam, aggressive on tomatoes, but also pathogenic on potato, 15 samples
- **US23** - A1 mating type, sensitive to mefenoxam, aggressive on both tomatoes and potatoes, 39 samples
- **US24** - A1 mating type, sensitive to mefenoxam, aggressive mainly on potatoes, 14 samples

There were at least seven samples containing genotypes that we had not previously seen. We are currently investigating their mating types, sensitivities to mefenoxam, host preference and relative aggressiveness. We are also investigating their relatedness to other strains.

Phenotypic analyses (the course of disease development, etc.) were conducted in the lab on isolates from the US8, US22, US23 and US24 clonal lineages collected in 2010. Isolates from the US8 and US24 clonal lineages had been obtained almost exclusively from potatoes. We found that sporulation on tomatoes was typically only about 10% that of sporulation on potatoes for each of these two lineages. Thus, it seems that neither US8 nor US24 is likely to cause a sustained epidemic on tomatoes. US8 and US23 appeared to sporulate about equivalently on potato, and more abundantly than did US22 or US24, so US8 and US23 may be the most aggressive potato pathogens. In contrast, US22 and US23 were aggressive to both potato and tomato. Using lesion growth rate and sporulation as criteria, US23 appeared to be somewhat more aggressive on both potato and tomato than was US22.

This project was supported by the Agriculture and Food Research Initiative Competitive Grants Program 2011-68004-30104 from the USDA National Institute of Food and Agriculture.

(From the Fall 2011 Potato News, Empire State Potato Growers, Inc)
Wet Weather During Northern Potato Harvest


Wet weather interrupted the fall potato harvest this year for many growers from the upper Midwest to the Northeast. Soggy fields may cause growers to abandon more acreage than normal, and there may be more problems with potatoes deteriorating in storage. Given the wet, cool spring weather across northern States that delayed planting and crop development, yields will likely be below trend in many areas. Favorable weather in Washington and Idaho over the last few months allowed late season varieties to bulk up and harvest to progress unimpeded. However, early harvest of some processing potatoes (with growers sacrificing yields to fulfill contract obligations) may impact the average yields for both States. Despite a 6% increase in planted area, with acreage abandonment higher than anticipated and yields below the 5-year average, the 2011 fall potato crop could hover around 380 million hundredweight (cwt), 4% above a year earlier.

In North Dakota, despite a slow start to the harvest, by October 9 growers had almost caught up to the 5-year average of 84% of potatoes harvested. In Wisconsin, potato harvesting was finishing up in mid-October with reports of average yields and good quality. In Maine, farmers had problems with spring and fall rains that may limit the amount and quality of the potatoes they are able to harvest.

As harvest progresses, grower prices traditionally decline seasonally in September and bottom out in October. Preliminary September all-potato grower price is 29% higher than a year earlier and 30% above the monthly average for 2006-10. Prices could drop in coming months if growers sell potatoes that are unlikely to hold up in storage. If quality and storage issues develop, the season average price for 2011/12 could remain above historical levels. The average US grower price for fresh (tablestock) potatoes reached a marketing year high of $23.05 per cwt in August, $9.78 per cwt above a year earlier.

As demonstrated in the summers of 2008 and 2011, when fresh potatoes are short—for example, when potatoes are shipped to processing plants to fulfill contract terms—prices in the fresh market can rise rather quickly. In August, the average grower price for U.S. processing potatoes was $7.24 per cwt, down $1.17 per cwt from May’s marketing year high. Industry sources report that chip plants are already using potatoes from storage and supplies will be tight until production is available from winter growing regions. Fryers are looking to lock up supplies for the coming marketing year. According to USDA Agricultural Marketing Service’s Market News, potato processors were buying potatoes from growers on the open market during the last week of September. Open market prices paid to growers (field-run, bulk and less dirt, rot, and green tare, f.o.b. [free on board]) for french-fry quality russet Burbank potatoes were $2.50 per cwt over field-delivery contract (expected to return the grower between $9 and $10 per cwt) with a few purchases $2 per cwt over field delivery contract (expected to return the grower $8-$8.60 per cwt).


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Ordering Potato Seed - Ensuring the Highest Standards

Sandy Menasha, CCE – Suffolk Co.

(Do not forget the December 8th Potato Advisory Meeting and Cornell Potato Breeding Line Show & Tell! See page 8 for details. C. MacNeil, CCE, CVP)

Seed potato fields in many areas of NYS and the Northeast were affected by the excessive rainfall and flooding in 2011, resulting in both seed supply and quality concerns for the 2012 planting season. Growers are thus encouraged to order potato seed as soon as possible to make sure the varieties they want are available; don’t wait until the last minute to place your order. Growers are also encouraged to buy certified potato seed to ensure they are receiving and planting the highest quality seed. In order for seed to be sold as certified, seed potatoes must meet the minimum requirements described in the standards for seed potato certification (1NYCRR Parts 106 and 107) which include:

- Use of pretested and approved seed stocks.
- A minimum of 2 field inspections.
- A bin inspection of tubers after harvest.
- A winter test.
- A Federal-State shipping point inspection to ensure conformity with New York certified seed grades.

Only seed meeting all of the requirements listed above and bearing official tags (bags and totes) or certificates (bulk loads) issued by the certification agency may be represented for sale as “Certified” seed. Note: certified seed is not disease free but does not exceed the tolerances set forth by the agency based on visual inspections. When ordering seed be sure to ask your seed growers if they can supply you with certification tags or certificates to guarantee you will be receiving certified, high quality seed potatoes. If you are purchasing/receiving non-certified seed, be sure to cut open some tubers before you accept the load as there is no legal guarantee on the level of disease present. Also, for a fee, a NYS Ag and Markets inspector can be hired to inspect seed loads upon delivery.

NYS Dept. of Agriculture & Markets Inspectors:
Albany – 518-457-2090
Rochester – 585-427-0200
Syracuse – 315-487-0852

Both the New York and the Maine 2011 Certified Seed Potato Crop Directories are out and available free of charge:

New York 2011 Certified Seed Potato Crop Directory: If you haven’t received a copy call 607-255-9869, or write the New York Seed Improvement Project, 103C Leland Lab, Cornell University, Ithaca, NY 14853.


(From the Long Island Fruit & Vegetable Update, November, edited by C. MacNeil, CCE – CVP)
North American Certified Seed Potato Health Certificate

Carol MacNeil, CCE Cornell Vegetable Program

To ensure that you know the full history of the seed lot that you’re purchasing, and the disease history of the farm you’re buying from, be sure to ask for a copy of the North American Certified Seed Potato Health Certificate. The certificate includes results of the field, harvest and lab inspections regarding seed borne potato diseases, including late blight. You can see a copy of this certificate at the Potato Association of America website at:

http://potatoassociation.org/Industry%20Outreach/seed.html

Click on North American Seed Health Certificate under Seed Certification.

United States Standards for Seed Potatoes

USDA Agricultural Marketing Service, Reprinted - January 1997

(For the complete grade standards go to: http://www.ams.usda.gov/AMSv1.0/getfile?dDocName=STELPRDC5050320)

§51.3001 Grade.
"U.S. No. 1 Seed Potatoes" consist of unwashed potatoes identified as certified seed by the state of origin by blue tags fixed to the containers or official State or Federal State certificates accompanying bulk loads, which identify the variety, size, class, crop year, and grower or shipper of the potatoes, and the State certification agency. These potatoes must meet the following requirements:

(a) Fairly well shaped.
(b) Free* from:
   (1) Freezing injury;
   (2) Blackheart;
   (3) Late Blight Tuber Rot;
   (4) Nematode or Tuber Moth injury;
   (5) Bacterial Ring Rot;
   (6) Soft rot or wet breakdown; and
   (7) Fresh cuts or fresh broken-off second growth.
(c) Free from serious damage caused by:
   (1) Hollow Heart; and,
   (2) Vascular ring discoloration.
(d) Free from damage by soil and any other cause.

§51.3002 Tolerances.
In order to allow for variations incident to proper grading and handling in the foregoing grade, the following tolerances, by weight, are provided.

(a) For defects:
   (1) 10 percent for potatoes in any lot which are seriously damaged by hollow heart;
   (2) 10 percent for potatoes in any lot which are damaged by soil;
   (3) 5 percent for potatoes in any lot which are seriously damaged by vascular ring discoloration;
   (4) 11 percent for potatoes which fail to meet the remaining requirements of the grade including therein not more than 6 percent for external defects and not more than 5 percent for internal defects: Provided, that included in these tolerances not more than the following percentages shall be allowed for the defects listed:

   * Percent
   Bacterial Ring Rot .......................................................... 0.00
   Serious damage by dry or moist type Fusarium Tuber Rot ..................... 2.00
   Late Blight Tuber Rot ...................................................... 1.00
   Nematode or Tuber Moth injury ............................................. 0.00
   Varietal mixture ............................................................. 0.25
   Frozen, soft rot or wet breakdown ........................................ 0.50

* Percent

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585-734-7214
1-800-263-7233
www.stokesseeds.com
## Contact the Cornell Vegetable Program

### Cornell Vegetable Program (CVP) Specialists

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<thead>
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<th>Name</th>
<th>Title</th>
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* Member of the Cornell Vegetable Program Administrative Management Team

### CVP Administration

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<td>Co-Team Leader</td>
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### Cornell Cooperative Extension Offices of the CVP

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<td>Deborah Breth</td>
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<td>Cathy Heidenreich</td>
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</tbody>
</table>

### Website
- [Visit our website at http://cvp.cce.cornell.edu](http://cvp.cce.cornell.edu)
Contact the Capital District Vegetable & Small Fruit Program

Capital District Vegetable and Small Fruit Program (CDVSFP) Specialists

Chuck Bornt, Team Leader
Extension Specialist
Vine crops, sweet corn, potatoes, tomatoes and reduced tillage

Laura McDermott, Extension Specialist
Small fruits, leafy greens, labor, high tunnels, and food safety

Crystal Stewart, Extension Specialist
Small and beginning farms, organic, root crops, brassicas, and garlic

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Washington: George Armstrong and Rich Moses
Warren: Kim Feeney

Industry Representatives: Jay Matthews and Paul Peckham

If you have questions or comments about this publication or the Capital District Program in general, please contact your county’s grower advisory member or the Agricultural Program leader of your local Cornell Cooperative Extension office.
Dates to Remember...

**Dec 7, Jan 4, Feb 29, and Mar 14 - Winter Wednesday Vegetable Production Webinars, see page 8.**

December 8 - Upstate NY Potato Advisory and Cornell Potato Breeding Line Show & Tell, see page 8.


December 9 - Growing & Marketing Ethnic Vegetables see page 8.

December 13 - Pea, Beet and Carrot Advisory Meeting see page 8.

December 13 - Cornell Economic Outlook Conference see page 8.


December 14, Jan 14, Feb 7, April 4, or May 10 - Basic Farm Business Management Planning, see page 9.

December 16 - NYS Dry Bean Industry Advisory Committee Meeting, see page 9.

December 19 - Managing Crops & Soils for Fewer Pests and Greater Yields, see page 9.

January 4-5, February 15-16, March 14-15, or March 28-29 - GAPs Food Safety Workshops, see page 3.

January 17-18 - Veg Growers Assoc of NJ Convention see page 9.


January 24-26 - Empire State Fruit and Vegetable Expo, Farmers’ Direct Marketing Conference & Becker Forum, see front cover.

January 24-25 - Ontario Processing Vegetable Industry Conference, see page 9.

January 31-February 2 - Mid-Atlantic Fruit & Vegetable Conference, see page 9.

February 6, 13, 20, 27 - Pesticide Training & Recertification Classes, see page 10.

March 15 - Pesticide Recertification Day, see page 9.

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