Veg Edge
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Cornell University
Cooperative Extension
Cornell Vegetable Program

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Sanitize Now for Spring Transplant Health

Judson Reid, CCE Cornell Vegetable Program

With field and greenhouse season at a rest, winter is the time to tackle a number of chores that ensure a successful season next year, which really is not far off. In fact, transplants will be started less than three months from now! The success of any transplant crop starts with a healthy greenhouse environment. This applies to flowering annuals such as impatiens, all the way to long season field vegetables such as Brussels sprouts. There are many factors involved in producing a healthy transplant: light, water quality, fertility, growing medium, and of course pest management.

The first step to managing pests in transplant production strives to prevent outbreaks. Sanitation is the first step and can be applied in many ways. Now is the time to clean the greenhouse of all plant material debris, remove all weeds, and sanitize with materials listed below. Although we don't recommend reusing pots, if it is being done, they too should be cleaned and sanitized.

The disinfection of surfaces such as benches, glazing and structural components can reduce overwintering populations of insects (and mites) as well as sources of disease. There are a number of disinfectants available to commercial growers. Ammonium chloride materials such as Physan 20/20, GreenShield and Kleengrow are exclusively for sanitation of hard surfaces. Hydrogen peroxide applications of ZeroTol or Oxidate are also allowed for the surface of plants.

Often in greenhouse settings materials have different labels for ornamental and vegetable transplants. The above hydrogen peroxide materials illustrate this point. ZeroTol is labeled for flowers, while Oxidate is for vegetables. Although these have the same active ingredient, to be in compliance with NY pesticide law, each should be applied only to the crop specified on the label.

Specifically labeling insecticides and fungicides for ornamentals or vegetable transplants applies as well. Given the opportunity for confusion, there is no substitution for studying the label. However, if you'd like to learn more about what is legal, effective and practical come to the Transplant session Tuesday, January 21, at the Empire State Producers Expo at the Oncenter in Syracuse, NY. ■

A cleaned, sanitized greenhouse or high tunnel helps ensure successful transplant production.
Photo: J. Reid, Cornell Vegetable Program

Veg Edge newsletter is exclusively for enrollees in the Cornell Vegetable Program, a Cornell Cooperative Extension regional agriculture team, serving 11 counties in Western New York.

The newsletter is a service to our enrollees and is intended for educational purposes, strengthening the relationship between our enrollees, the Cornell Vegetable Program specialists, and Cornell University faculty.

We're interested in your comments. Contact us at:
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Help us serve you better by telling us what you think. Email us at *cce-cvp@cornell.edu* or write to us at Cornell Vegetable Program, 480 N Main St, Canandaigua, NY 14424.

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Cooperative Extension
Cornell Vegetable Program

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Cornell Cooperative Extension provides equal program and employment opportunities.
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Reduced Tillage, Cover Crops & Muck Soil Management at the Expo January 22nd

Carol MacNeil, CCE Cornell Vegetable Program

Soil management sessions on muck soils, reduced tillage and cover crops will be held Wednesday, January 22 at the 2014 Empire State Producers EXPO, Oncenter Convention Center, Syracuse. *Nutrient management for vegetables on muck soils* will be the focus at the 9 am Muck Soil session by renowned muck soil specialist Darryl Warncke, Michigan State University. Both beginning and experienced muck growers will take something back to the farm from this talk.

The 1 pm Reduced Tillage session offers a new look at reduced tillage and cover crops for vegetables. Conservation Tillage Farmer Innovator Award winner Jesse Sanchez, farm manager of Sano Farms, Firebaugh, CA, introduced the soil conservation practices ten years ago in tomatoes and other crops on their 4,000 acre farm and has been an inspiration to other CA growers ever since. Hear about the changes they made and the improvements they've seen in their crops. There will be a Reduced Tillage Grower Group Discussion following. Members of the Western NY and Central NY Groups, and all others interested, are invited to participate.

The Cover Crop session will kick off at 3:30 pm. Dave Robison, Legacy Seeds, Winona Lake, IN, and a founding member of the Midwest Cover Crop Council, will describe how *Cover crops CAN benefit vegetable fields!* More and more New York fields are getting cover cropped, primarily with grasses, but also with legumes, and even some crucifers and other crops. Many vegetable growers aren't making use of the significant amount of nitrogen those legumes are providing, however, by decreasing fertilizer rates.

Darryl Warncke, Professor of Soil Fertility & Plant Nutrition, Michigan State, will explain *How cover crops affect nutrient management*, so you can realize all the benefits they provide. Last but not least, Thomas Bjorkman, Cornell, will explain how you can *Get the most out of a buckwheat cover crop after early vegetables.* Buckwheat can be super at crowding out weeds and preventing weed seed production.

For information on the Soil sessions at the EXPO contact Carol MacNeil, CCE Cornell Vegetable Program, at crm6@cornell.edu or 585-394-3977 x406. For info on all sessions at the EXPO, and to pre-register, go to: http://nysvga.org/ Click on EXPO. Complete EXPO programs will be mailed to Cornell Vegetable Program enrollees very soon. ■

Is the Sweet Corn Insect Trap Report Important to You?

Marion Zuefle, NYS Vegetable IPM Program

(The Sweet Corn Trap Network Report appears in each issue of the Veg Edge Weekly with weekly counts of European corn borer, fall armyworm, corn earworm and Western bean cutworm moths catches, along with analysis and recommendations on scouting and treatment. Ed. CRM, CVP)

Please take a few minutes to fill out a survey on how the Sweet Corn Pheromone trap network has impacted your pest management decisions. To be able to provide you with weekly trapping and reporting information we need to demonstrate that our efforts are important to sweet corn growers. Only with support will we be able to continue the Sweet Corn Pheromone Trap Network. The survey is completely confidential and will only take 5 minutes. To access the survey online please go to https://cornell.qualtrics.com/SE/?SID=SV_5b8s6TZE7u4hPPD. You can also request a paper copy of the survey be sent to you, by contacting Marion Zuefle at mez4@cornell.edu or calling 315-787-2379. Thank you for your participation. ■

CCE Director Helene Dillard Named Dean at UC Davis

Cornell Chronicle, 11/26/2013

Helene Dillard, director of Cornell Cooperative Extension (CCE), will become dean of the College of Agricultural and Environmental Sciences at her graduate alma mater, the University of California, Davis, January 27, 2014.

Dillard, a San Francisco-area native, has led CCE since 2002. She is also professor of plant pathology and associate dean in the College of Agriculture and Life Sciences and associate dean of outreach and extension in the College of Human Ecology. Dillard has been a member of Cornell's faculty since 1984, when she joined the Department of Plant Pathology at the New York State Agricultural Experiment Station in Geneva, NY.

CCE provides leadership to 52 extension associations that provide extension programming across the state, reaching nearly 3 million individuals in 2012. As CCE director, Dillard oversees 1,700 employees and an annual system budget of approximately $120 million.

Dillard's research program focuses on the biology, ecology and management of a wide variety of fungal diseases in vegetable crops. Her major research projects have examined fungal diseases of beans, tomatoes, corn, as well as cabbage and other cruciferous vegetables.

A plan is being developed to identify Dillard's successor. ■

Ensuring Longevity of New Seed Treatments for Onion Maggot

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

After more than a decade and a half long drought from registrations of new chemistries for onion maggot control, a couple of new products finally became available.

1) **FarMore® FI500**, is a seed treatment from Syngenta with the active ingredient spinosad. It belongs to a completely different chemical class than Lorsban (a.i. chlorpyrifos) and Trigard (a.i. cyromazine) for managing onion maggot. Included in this seed treatment package is another insecticide, thiamethoxam and three fungicides for control of damping off pathogens. Addition of Pro Gro is required for protection from onion smut. **FarMore® OI100** is also now available, which contains only spinosad.

2) **Sepresto®** is a seed treatment combination of two neonicotinoids with a 3:1 ratio of clothianidin (same active as Poncho) and imidacloprid (same active as Gaucho and Admire), which are both in the same chemical class as the thiamethoxam component in FarMore FI500. On Nunhem's varieties, Sepresto is available as part of a seed treatment package, "CATS", which includes three fungicides for control of damping off and onion smut. The fungicide for onion smut is thiram, not Pro Gro (a.i. thiram + carboxin); without carboxin, control of onion smut will not be as good. Nunhem's will not treat with Pro Gro.

New in 2014 – Sepresto will be available on <u>all</u> onion varieties, not just on Nunhem's varieties

Even though Bayer has opened Sepresto up to all varieties, treatment of other varieties with Sepresto would likely have to be a special order, as would treatment of Nunhem's varieties with Farmore FI500.

BE CAUTIOUS WHEN USING SEPRESTO

Historically, the active ingredient in Sepresto, clothianidin both alone and in combination with imidacloprid, has performed as well as Trigard + Lorsban in Cornell trials with an average performance of 90% control in 13 trials from 2004 to 2009. Unexpectedly, in 2012 trials, Sepresto failed to provide adequate control of onion maggot (< 50% control) in 2 out of 3 studies, where onion maggot damage ranged from 21 to 83% in the untreated check. At the location where pressure was lowest, Sepresto gave 85% control.

Unfortunately, again in 2013, Sepresto failed to provide adequate control of onion maggot under high pressure (95% damage in the untreated). Despite this, we have only heard of one complaint of unsatisfactory performance with Sepresto from onion growers. It is our understanding that most growers have been using Sepresto in combination with chlorpyrifos (i.e. Lorsban).

DOES USING CHLORPYRIFOS (LORSBAN) WITH SEPRESTO IMPROVE CONTROL?

Sometimes, it depends if Lorsban works. The combination of Lorsban and Sepresto performed differently across our trials. At one site in 2012 where onion maggot pressure was high and Sepresto only gave 31% control, the combination with chlorpyrifos reduced pressure by 50%, which worked as well as chlorpyrifos by itself. At another site, where Sepresto gave 43% control, the combination of chlorpyrifos and Sepresto had no effect. At the third site in 2012 and in the 2013 trial, the combination with chlorpyrifos also made no difference, because chlorpyrifos was not working at these sites, probably due to the development of resistance. Unfortunately, it does not appear that combining Sepresto with Lorsban is a reliable solution to the seemingly inconsistent performance of Sepresto, especially when onion maggot pressure is high. This situation also illustrates the need to switch to new chemistries altogether.

Fortunately, we have Farmore FI500!

The active ingredient in this seed treatment (spinosad) belongs to a completely different chemical class than Lorsban, Trigard and Sepresto. Farmore FI500 has consistently been one of the top performing treatments in all five of Cornell's trials in 2012 and 2013 with an average performance of 79% control, which was comparable to Trigard + chlorpyrifos (average 81%). Not once did we see a significant increase in control with the addition of Lorsban, although numerically better control was achieved in 2 out of 5 trials. Therefore, **we suggest using FarMore FI500 by itself in nearly all cases.** The only exception would be in a field or portion of a field that has an annual history of high onion maggot damage.

RESISTANCE MANAGEMENT IS CRITICAL FOR LONGEVITY OF NEW SEED TREATMENTS

Onion maggot is notorious for developing resistance to insecticides, including organochlorines, carbamates and organophosphates like chlorpyrifos (Lorsban) and probably also to Trigard (resistance never confirmed, but efficacy noticeably declined in many fields). However, **Lorsban + Trigard has continued to be one of the best performing treatments in recent Cornell trials, despite not working that well when each product is used alone.**

Onion maggot can develop resistance to an insecticide class within 4-5 years of continuous exposure. Once resistance to a chemical class has developed in an onion maggot population, the population may become controllable again after eliminating exposure for a few years. This is the reason why **we suggest rotating away from Trigard and chlorpyrifos, to reverse development of resistance to these materials.** Hopefully, we can regain our confidence in Sepresto in the meantime and will be able to use it in 2 to 3-year rotations with Farmore FI500. Farmore FI500 may be used on Nunhem's varieties. We understand that rotating chemical classes in every field in the entire state is not realistic, but…

Growers should at least strive to switch chemical classes after a maximum of three years in a given field.

More information is available on the website of the Cornell Vegetable Program (http://cvp.cce.cornell.edu/) in the onion section (click "view complete list of onion content" and scroll down). ■

Advanced Lines from the Cornell Potato Breeding Program

Walter DeJong, Cornell, 11/6/13 (edited by C. MacNeil, CCE, CVP)

(This is a summary of information presented by Walter DeJong, Cornell potato breeder, at the November 6th Cornell Potato Variety/Line Show & Tell in Ithaca. Some New York potato certified seed growers may have seed, or very small quantities may be available from Cornell on request. Contact Carol MacNeil at crm6@cornell.edu or 585-394-3977 x406.) For the New York Certified Seed Potato 2013 Crop Directory, Grower Info and Varieties Grown, go to: http://cvp.cce.cornell.edu/crop.php?id=24)

The information presented below is based on numerous research trials conducted at Cornell farms around Ithaca, and in growers' fields, by Walter DeJong and Don Halseth, Cornell. Photos are from the 2012 Potato Show & Tell, Canandaigua *(Photos: C. MacNeil, CVP).*

Waneta (NY138) *(from a cross of Marcy x NY115 in 1998).* Late maturity chipstock and tablestock. Large tubers, attractive shape, moderately textured skin.

- Tompkins County marketable yields over eleven years averaged 90% of Atlantic.
- Steuben and Wyoming County yields over ten years averaged 100% of Atlantic.
- Wayne County (muck soil) yield over five years averaged 100% of Atlantic.
- Moderate resistance to common scab. Resistant to race Ro1 of the golden nematode.
- Vines start slow but develop well. Tuber size is similar to Atlantic. Large tubers have shown 5-10% hollow heart (consider planting closer together). Less susceptible to blackspot bruise than Snowden. Long tuber dormancy; seven weeks longer than Atlantic (enabling storage/marketing into April, May). Specific gravity has averaged 0.010 less than Atlantic. Chip color out of 44°F storage has been very good: visual chip scores over nine years averaged 3.0 compared to 3.6 for Snowden (lower is better). In fifteen SFA trials Agtron scores averaged 65, compared to 63 for Snowden.

NY141 *(R6-4 x NY115, 1998).* Early to mid season tablestock, large, attractive tubers.

NY141 - Tablestock

- Tompkins County marketable yields over eleven years have averaged 99% of Atlantic. Early yield, the end of July in Ithaca, has been good, averaging 111% of Superior.
- Wayne County (muck) yield over four years averaged 100% of Atlantic.
- PA yield over seven years averaged 96%.
- Good resistance to common scab. Resistant to race Ro1 of the golden nematode.
- Typically 2 to 3% of tubers have knobs. Has set an average of 7 tubers per foot, with an average weight of 6.1 ounces. Tuber dormancy is about two weeks longer than Atlantic. Very good resistance to blackspot bruise. Specific gravity has averaged 0.011 less than Atlantic. Does not chip.

NY140 *(NY121 x NY115, 1998).* Late season; dual purpose chip and tablestock. High yields of large tubers; lightly textured skin.

- *Note! Susceptible to common scab, comparable to Katahdin. Moderate resistance to late blight as well as early blight in PA trials in 2007 - 2009. Resistant to races Ro1 and Ro2 of the golden nematode.*
- Tuber dormancy is about six weeks longer than Atlantic. Specific gravity has averaged 0.012 less than Atlantic (37 trials), which will limit where it could be grown for chips. Chip quality has generally been very good: over the past nine years it has averaged 3.5, comparable to Snowden.

NY148 *(NY128 x Marcy, 2003).* Late season, high gravity chipstock. *NOTE! Some heat necrosis, variable chip color, but has resistance to PVY, some resistance to early and late blight.*

- Tompkins County yields over six years averaged 112% of Atlantic.
- Wyoming and Steuben County yields over five years averaged 96%.
- Good resistance to common scab to date. Resistant to potato virus Y. Some resistance to early and late blight in PA in 2012. Resistant to race Ro1 of the golden nematode.
- Tuber size is similar to Snowden. Scurfy tuber skin. In 2010, two-thirds of tubers exhibited internal necrosis in one yield trial. Heat necrosis has been observed on Long Island in 2013 and in trials in southern states. Tuber dormancy is comparable to Atlantic. Specific gravity is high. Chip color from 44°F storage is variable and not as good as Snowden.

NY151 (NY121 x Salem, 2005). Late season, white tablestock with relatively smooth skin. *Has been in trials fewer years than other lines listed here.*

- Tompkins County marketable yields over four years averaged 105% of Atlantic.
- Long Island yield was 117% of Reba in two years.
- Moderate resistance to common scab. Resistant to race Ro1 of the golden nematode.
- Low levels of defects. Specific gravity is low. Tubers do not slough appreciably after boiling. Tuber dormancy is comparable to Atlantic. ■

Acetochlor Herbicide Stewardship - New York State

Robin Bellinder and Russ Hahn, Cornell

Acetochlor herbicide products received registration approval in New York in February 2013 providing New York growers with a valuable new tool and an expanded array of options for weed control. A chloroacetamide herbicide, acetochlor is already widely used across the United States for weed control in corn and is consistently effective for control of grasses and small-seeded broadleaf weeds. It has been shown that acetochlor is very effective on velvetleaf, pigweed species, common ragweed, common lambsquarters, smartweed, and eastern black nightshade as compared to other chloroacetamide herbicides. Acetochlor premixes now available in New York provide broad spectrum weed control and can play an important role in herbicide resistance management.

Acetochlor Products Registered in New York State (as of October 15, 2013):
Degree® Xtra, Harness®, Harness® Xtra, Harness® Xtra 5.6L, TripleFLEX® and Warrant® are registered trademarks of Monsanto Company

FulTime® NXT, Keystone®, Keystone® LA, Keystone® LA NXT, Keystone® NXT, SureStart®, Surpass® EC, Surpass® NXT are trademarks of The Dow Chemical Company ("Dow") or an affiliated company of Dow

Integral to the New York State registration, the Acetohchlor Registration Partnership members Monsanto and Dow AgroSciences agreed to implement a product stewardship program to promote the responsible use of acetochlor products in New York State for protection of water resources. Developed in coordination with Cornell University and the New York State Department of Environmental Conservation, the educational outreach reinforces the general responsibility that users have for proper handling and application of pesticide products and for acetochlor products specifically. It is expected that this initiative will contribute to the long-term sustainability of weed control options needed for production agriculture in New York.

The foundation of the Acetochlor Stewardship Program for New York is the development and communication of information which will reinforce the knowledge of farmers, dealers, distributors, and custom applicators for responsible use of acetochlor products. Key elements include: (1) Water Quality Best Management Practices for Acetochlor; (2) Acetochlor Stewardship Slide Deck; (3) Quick Reference Card for Label Requirements; and (4) Use of multiple methods and channels for communicating the information including the opportunity for obtaining continuing education credits.

Label Use Restrictions

While the Water Quality Best Management Practices for Acetochlor are a set of voluntary Best Management Practices (BMPs) to reduce the likelihood that acetochlor will impact water resources, an understanding of label use restrictions is important and is a point of emphasis with the program. Label use restrictions are mandatory requirements and they are summarized below.

Use restrictions common to all acetochlor-containing products:

- Not for Sale, Sale into, Distribution and/or Use In Nassau and Suffolk Counties of New York State
- New York State "Restricted Use" pesticide product is restricted in its purchase, distribution, sale, use and possession, and each product may only be purchased and used by a certified applicator. In addition, any person that distributes, sells, offers for sale, purchases for the purpose of resale, or possesses for the purpose of resale is required to have been issued a commercial permit. Atrazine-containing premixes are also Federal Restricted Use Products.
- Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.
- Do not flood irrigate to apply or incorporate.
- Do not apply this product through any type of irrigation system, unless otherwise directed by approved supplemental labeling in possession of the user at the time of application.
- Do not apply this product using aerial application equipment.
- Product must be used in a manner which will prevent: back-siphoning into wells; and spills or improper disposal of excess pesticide spray mixtures or rinsates.

Water Quality BMPs for Acetochlor

Water Quality Best Management Practices for Acetochlor work in conjunction with the "Core BMPS for All Agricultural Herbicides" currently available on Cornell's Pesticide Safety Education Program (PSEP) website. They are provided as a series of voluntary options. Producers, crop consultants, and extension specialists should select options most appropriate for a given farming operation, soil types and geography, tillage and cultivation practices, and irrigation and runoff management.

The BMP document lists each practice, describes its use along with the benefits of adopting that practice. The BMPs are summarized here:

1. Adopt the "Core BMPs for All Agricultural Herbicides" when applying acetochlor.
2. Limit acetochlor applications to the lowest effective labeled rate.
3. Maintain application setbacks from surface water, tile inlets, wells, and sinkholes as directed by product label.
4. Maintain vegetative filter strips between areas where acetochlor is applied and points where field runoff enters surface water, tile inlets, and sinkholes.
5. Adopt conservation tillage practices appropriate for your farm's topography and in karst areas.
6. Use precision application methods.

The Water Quality BMPs for Acetochlor are available at [http://psep.cce.cornell.edu/facts-slides-self/facts/waterquality.aspx]. **Always read the product label. Label use requirements are legally enforceable.**

Additional Information

Additional information regarding the Acetochlor Stewardship Program is available on-line [http://psep.cce.cornell.edu/facts-slides-self/facts/waterquality.aspx] or by contacting the Monsanto or Dow AgroSciences representative in your area. ■

Acetochlor products which also contain atrazine have label use restrictions driven by atrazine requirements. Users must follow the most restrictive requirements on the product labels for applications. The table below summarizes restrictions for atrazine-containing acetochlor products and compares them with acetochlor products not containing atrazine.

Label Use Restriction	For acetochlor products containing atrazine	For acetochlor products NOT containing atrazine
Use within 50 feet of any well, including abandoned wells, drainage wells, and sink holes.	Not allowed	On the following soil types, do not apply this product within 50 feet of any well where the depth to groundwater is 30 feet or less: sands with less than 3% organic matter; loamy sands with less than 2% organic matter; or sandy loams with less than 1% organic matter.
Mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any wells, including abandoned wells, drainage wells, and sink holes **without** impervious containment.	Not Allowed	Not Allowed
Mixing or loading within 50 feet of perennial or intermittent streams, rivers, natural or impounded reservoirs.	Not Allowed	Not Allowed
66 foot application setback from points where field surface water enters perennial or intermittent streams or rivers. If applied to highly-erodible land, the 66 foot buffer from runoff entry points must be planted to crop, seeded with grass, or other suitable crop.	Required	Not Required
200 foot application setback from all natural or impounded lakes and reservoirs.	Required	Not Required
Use restrictions in tile-outletted fields and terraced fields containing standpipes.	Required. See product labels for specifics.	Not Required

Upcoming Meetings

Farm Food Safety Trainings with GAPs

December 10-11, 2013
Fire Training Center
7690 State Street Road, Batavia

December 18-19, 2013
CCE Wayne County
1581 Rte 88N, Newark

January 6-7, 2013
CCE Ontario County
480 N Main St, Canandaigua

February 27-28, 2013
Steuben County

8:30 AM - 3:00 PM both days

Cornell National GAPs Program, Cornell Vegetable Program, Cornell Lake Ontario Fruit Team, and Cornell Cooperative Extension, along with assistance from NYS Dept. Ag & Markets, will be presenting farm food safety training/GAPs (including Harmonized GAPs) this winter. *These workshops are funded through a grant by the Genesee Valley Regional Marketing Authority.*

This training is for those farmers who are being required by buyers to provide third party verification of their food safety practices and for farmers thinking about moving in this direction.

The first day of training will focus on the details of what GAPs is, how it works and what it means for your farming operation. The second day will be devoted to helping you write a food safety plan as required for audit certification. A laptop computer is required for the second day.

After attending the 2-day workshop, growers are invited to a mock audit during the growing season so they know what to expect from a third party audit.

For more information or registering online, click on the date of the event (to the left) or contact Craig Kahlke at cjk37@cornell.edu or 585-735-5448.

Agribusiness Economic Outlook Conference

Tuesday, December 10, 2013

9:00 AM - 3:30 PM

B25 Warren Hall
Cornell University, Ithaca

Topics: Outlook for the national economy; panel on "Legislative Challenges on the Road to Immigration Reform"; and breakout sessions on vegetables, fruit, grapes & wine, dairy, feed grains.

For details go to: http://dyson.cornell.edu/outreach/ag_outlook_conference.php
Questions? **Carol Thomson at** 607-255-5464 or cmt8@cornell.edu

Presented by The Charles H. Dyson School of Applied Economics & Management, Cornell

Processing Sweet Corn, Snap & Lima Bean Advisory Meeting

Wednesday, December 11, 2013

Jordan Hall Auditorium, NYSAES,
630 W. North St, Geneva

A complimentary lunch will be included. DEC and CCA credits will be available. No registration is required and the meetings are FREE.

For more info, contact Julie Kikkert, 585-394-3977 x404 (office), 585-313-8160 (cell) or jrk2@cornell.edu.

Winter Wednesday Lunch Series: Vegetable and Small Fruit Production Webinars

December 18, 2013
January 15, 2014
February 12, 2014
March 19, 2014
April 2, 2014

1:00 - 2:00 PM

To register, go to http://extension.psu.edu/vegetable-fruit/winter-webinars or call 724-627-3745.

Penn State and Cornell University have teamed up to present a series of webinars to keep you informed about critical production issues. This series provides convenient access to timely updates in commercial vegetable and small fruit production for extension educators, producers, and industry representatives in Pennsylvania, New York, and surrounding states. Cost: $10/webinar or $35 for whole series.

December 18: Sweet Onions—Cultural Practices and Brand Marketing - *Christy Hoepting (Cornell) and Lee Stivers (Penn State)*

January 15: Spotted Winged Drosophila and Brown Marmorated Stink Bug - *Kathy Demchak and Shelby Fleischer (Penn State) and Greg Loeb (Cornell)*

February 12: Dealing with Late Blight - *Meg McGrath (Cornell) and Beth Gugino (Penn State)*

March 19: Conventional and Organic Weed Control in Sweet Corn, Pumpkins, and Winter Squash - *Robin Bellinder (Cornell) and Dwight Lingenfelter (Penn State)*

April 2: Fertigation: Scheduling and Water Quality Considerations - *Elsa Sánchez (Penn State) and Steve Reiners (Cornell)*

NYS Ag Society Forum:
The Next Generation of Agriculturists: Millennials' Perspective on their Future

Thursday, January 9, 2014

Registration: 8:30 AM

Holiday Inn, Liverpool/Syracuse

For complete meeting details, visit: http://www.nysagsociety.org/wp-content/uploads/2013/05/2014-invitation.pdf or to register online, visit https://plazameetings.com/nysas/

NOFA-NY Winter Organic Conference: Preserving the Past, Seeding the Future

January 24-26, 2014

Saratoga Hilton and City Center, Saratoga Springs

For more info and to register go to: http://www.nofany.org/events/winter-conference or call 585-271-1979.

National Conference on Cover Crops & Soil Health: Harvesting the Potential

Tuesday, February 18, 2014

9:30 AM - 12:30 PM

CCE Ontario County,
480 N Main St, Canandaigua

Howard G. Buffett, Secretary of Agriculture Tom Vilsack, and four Midwestern cash crop farmers will discuss by webinar the benefits of cover crops and conservation tillage to improve soil health and farm profitability. *More info in January VegEdge* or contact Carol MacNeil at 585-394-3977 x406, crm6@cornell.edu

Potato Short Course - Disease Management, Variety Development & New Breeding Technology

Wednesday, February 19, 2014

9:30 AM - 3:30 PM

Holiday Inn, I-90, exit 37, Liverpool

FREE – Pre-register by February 14 with Don Halseth, Cornell, at deh3@cornell.edu or 607-255-5460. Lunch will be ordered off the menu and paid by attendees. *Sponsored by the Empire State Potato Growers, Inc.*

Use Tobacco Mosaic Virus/Tomato Mosaic Virus and Leaf Mold Resistant Varieties in High Tunnels and Greenhouses

Tom A. Zitter, Cornell, November 2013

(For a list of the resistant varieties go to: http://vegetablemdonline.ppath.cornell.edu/NewsArticles/NewsList.htm Scroll down to Tomatoes and click on the article title for the extensive list of tomatoes with resistance. Tobacco mosaic virus (TMV) and Tomato mosaic virus (ToMV) are highlighted in yellow in the variety list. Leaf mold is highlighted in blue. Other resistances are listed but are not important for Northeast tomato growers at this time.)

With ever increasing tomato production shifting to high tunnels and greenhouses, the importance of identifying tomato varieties with good disease resistance takes center stage. This is particularly true for mosaic virus diseases and leaf mold, two important diseases found in confined production facilities.

Tobacco mosaic virus (TMV) and tomato mosaic virus (ToMV) are two closely related members of the tobamovirus group and share much in common including being seedborne in tomato and readily spread by normal high tunnel and greenhouse operations (suckering, tying, harvesting). Both remain infectious for long periods, allowing them to survive indefinitely. Seed treatments, sanitation and cross-protection, even with attenuated/mild strains of ToMV, have not been totally effective. TMV and ToMV do not cross protect against each other and can coexist in tomato, and they can only be distinguished from each other by serological tests and protein composition. It is rare for TMV to be a lasting problem in tomato. ToMV is more adapted to tomato. The use of three dominant resistance genes for ToMV (Tm-1, Tm-2 and Tm-2^2), corresponding to ToMV strains 0, 1 and 2, have been introduced into many commercial varieties.

Leaf mold has increased in occurrence over the past 5 years with the increase in high tunnel production, lack of heat and over-planting with many indeterminate plants with limited head room creates a perfect moisture environment for this fungus. Formerly called Cladosporium fulvum, it is now known in the vegetable seed industry as causal agent Fulvia fulva (Ff). The resistance genes take their name from the old name of the pathogen = Cf. Not all identified Cf genes have been used in commercial varieties, but gene Cf-9 is very versatile with resistance conveyed to all 5 race groups (A-E). Common occurrence of leaf mold in European greenhouses (mostly unheated) has contributed to a wide selection of resistant varieties. ■

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Veg Edge

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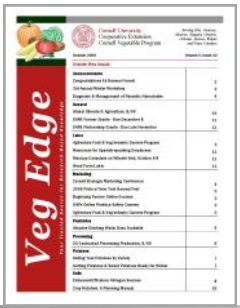

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