



The number of herbicide resistant weeds in the U.S. continues to rise. Should you be concerned?

PAGE 1



The 2015 Cornell Vegetable Guidelines are now available. Print and online options are available. Learn about new pricing options.

PAGE 2



Why should farmers install tile drainage? Learn about the benefits of tiling and important considerations when installing tile drainage.

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Many educational events are being offered in February and March in our area. Find a listing in VegEdge and on our website at cvp.cce.cornell.edu.

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VEGEEdge

YOUR TRUSTED SOURCE FOR RESEARCH-BASED KNOWLEDGE

Volume 11 | Issue 2 | February 1, 2015

Photo: Judson Reid

 **Cornell University**
Cooperative Extension
Cornell Vegetable Program

Herbicide Resistant Weeds – What is All the Hype?

Darcy Telenko, CCE Cornell Vegetable Program

If you have attended a weed control talk or discussion lately you probably have heard a lot about herbicide resistance and the need to implement integrated management programs to limit impact. Why all this hype? Well there are a number of factors that have led to the increased emphasis on implementing herbicides programs to slow the development of herbicide resistant weeds. They include: no herbicides with new mechanisms of action are in advanced development trials (**the last mechanism of action was introduced 20 years ago!**); the number of herbicide resistant weeds in the United States continues to increase (146 as of January 1, 2015) and weeds with resistance to more than one herbicide is increasing (78 weed populations as of January 1, 2015) (see Figure 1); acreage with resistant weeds is increasing in the United States and glyphosate (Roundup) resistance continues to develop; and herbicide resistant weeds will change herbicide use, although resistance has not yet led to total loss of any one herbicide.



Common lambsquarter is one of the four identified unique herbicide resistant weeds in New York State, resistant to the Group 5-Photo System (PS) II site of action triazine/triazinones.
Photo: Darcy Telenko, Cornell Vegetable Program

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VegEdge 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 team, and Cornell University.

We're interested in your comments. Contact us at:
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VegEdge is published 25 times per year, parallel to the production schedule of Western New York growers. Enrollees in the Cornell Vegetable Program receive a complimentary electronic subscription to the newsletter. Print copies are available for an additional fee. You must be enrolled in the Cornell Vegetable Program to subscribe to the newsletter. For information about enrolling in our program, visit cvp.cce.cornell.edu. Cornell Cooperative Extension staff, Cornell faculty, and other states' Extension personnel may request to receive a complimentary electronic subscription to VegEdge by emailing Angela Parr at aep63@cornell.edu. Total readership varies but averages 750 readers.

Information provided is general and educational in nature. Employees and staff of the Cornell Vegetable Program, Cornell Cooperative Extension, and Cornell University do not endorse or recommend any specific product or service.

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 Department 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.**

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 North Main Street, Canandaigua, NY 14424.



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2015 Cornell Vegetable Guidelines Available

The 2015 edition of the Cornell Commercial Vegetable Production Guidelines is now available. This annual publication provides up-to-date vegetable crop production information for New York State. It has been designed as a practical guide for vegetable crop producers, crop consultants, and ag suppliers. In addition to the annually revised pesticide and crop production information, this edition also includes revised soil management guidelines; adding mode of action/group numbers to all pesticide listings; updated Colorado potato beetle resistance management information; totally revised organic vegetable production information; and the addition of western bean cutworm in sweet corn and western flower thrips in tomatoes as pests of concern.

NOTE: Beginning in 2015, Vegetable Guidelines will no longer be offered for free online. Instead, you will have the option to purchase just a print copy (\$33 plus shipping), online version (\$33), or a bundle of a print copy plus online access (\$46 plus shipping). You can order this publication, or other Cornell Guidelines from the Cornell Store at Cornell University at 800-624-4080. ●

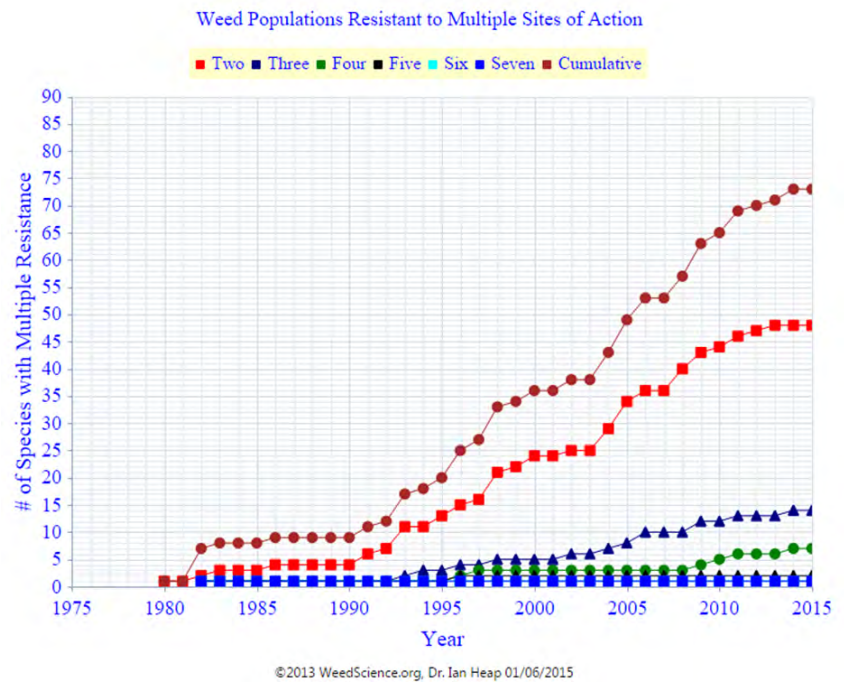
Why should we care about herbicide resistance?

1. Resistant weed populations will require changes in current weed and crop management programs.
2. They will increase the cost of weed management.
3. Reduce viability of herbicide options.
4. And in the long run could impact yield potential and income.

What can we do to reduce our risk of herbicide resistance?

Best Management Practices (BMP's) for effective weed control must use an integrated program including cultural, mechanical and herbicidal options which include:

1. Understanding weed biology.
2. Preventing weed seed production and reducing the number weed seeds in the soil seedbank.
3. Plant into weed-free fields and keep them as weed free as possible.
4. Plant weed-free crop seed.
5. Scout field regularly.
6. Use multiple herbicide mechanisms of actions (MOAs).
7. Apply labelled rate of herbicide for weed size.
8. Implement cultural practices that increase crop competitiveness.
9. Use mechanical and biological options when available.
10. Prevent field-to-field and within field movement of weed seed or propagules (rhizomes, etc.).
11. Manage weed seed at harvest and after harvest to prevent buildup in soil seedbank.
12. Manage field borders to reduce influx of weeds.



PLEASE NOTE
This chart presents the occurrence of multiple resistance within the same population. This is different to the next chart which presents cumulative SOA's for a species.

Figure 1. The International Survey of Herbicide Resistant Weeds (I. Heap).

The good news for now in New York State is we have only four identified unique herbicide resistant weeds, common lambsquarters, smooth pigweed, common groundsel and common ragweed. These populations all contain resistance to the Group 5- Photo System (PS) II site of action triazine/ triazinones (atrazine, cyanazine, metribuzin, simazine). Pennsylvania has nine reported including a number resistant to glyphosate (horseweed, common ragweed, and palmer amaranth). It may be only a matter of time before we start seeing resistance to glyphosate in New York if it isn't already present. For more information there will be a weed resistance presentation at the upcoming Erie County Vegetable Growers' meeting on February 5, 2015. If you suspect you may have resistance in your field, please contact your local extension office or Darcy Telenko at dep10@cornell.edu.

Information adopted from Norsworthy et al.: Best practices for reducing herbicide resistance. Weed Science 2012 Special Issue: 31-62, and WSSA Herbicide Resistance Lessons 2011 ●

Cornell Cooperative Extension of Monroe County Office has Moved

Susan Maney, Executive Director, CCE Monroe County

Effective in early January 2015 Cornell Cooperative Extension of Monroe County permanently vacated 249 Highland Ave, Rochester. This land reverts to Highland Park South. Our popular Master Gardener PLANT SALE will continue to be a part of the Lilac Festival.

On Monday, January 12, 2015, full operations resumed in a County-owned building:

CCE Monroe County
2449 St. Paul Blvd., Rochester, NY 14617
Hours: Monday - Friday, 9 am to 3 pm

Phone - Main line: 585-753-2550

Fax: 585-753-2560

Master Gardener Helpline: 585-753-2555

To learn more about CCE Monroe County programs, find direct contact info for staff, or make a donation, visit: <http://monroe.cce.cornell.edu/> For more information contact Susan Maney, Executive Director, at: 585-753-2559; 607-742-3386 (mobile); or sam497@cornell.edu ●

Advancing Living Mulch

Judson Reid and Elizabeth Buck, CCE Cornell Vegetable Program

Grower interest in living mulch as alternative weed control between rows of plastic mulch continues. After another season of on-farm research, the Cornell Vegetable Program recommends with confidence the addition of Dutch White Clover to a winter grain for those growers interested in the benefits offered by this system:

- Weed control without herbicides
- Improved harvest conditions
- Reduced erosion potential
- Increased organic matter

2014 On-Farm Research

In 2014 we established 4 living mulch treatments between rows of peppers on a cooperating farm in Yates County, NY and between onions on another cooperating farm in Seneca County. The living mulches were rye, barley, rye+clover and barley+clover. Our seeding rates were 150 lbs/ac for grains and 20 lbs/ac for the Dutch White clover. Seeding occurred immediately after plastic was laid, prior to transplanting. To measure the effect of the living mulch we collected data on yield, weed growth and crop nutrient levels.

Looking at the results it becomes apparent why we favor the inclusion of Dutch White Clover. For example, the combination of rye and clover created the greatest percentage of ground cover between plastic beds over the length of the pepper growing season (Figure 1). Our experience is that a winter grain such as barley dies out too early (often from a rust caused by the fungus *Puccinia graminis*) and provides very little coverage, allowing weeds to germinate in mid-summer. Rye outlasts barley but also dies too early to compete with mid-late season weed pressure. Barley+clover provides fair weed control, but the barley may die back too early for complete clover establishment. To date in our trials rye+clover provided the best weed control as the rye lasts long enough for the clover to establish.

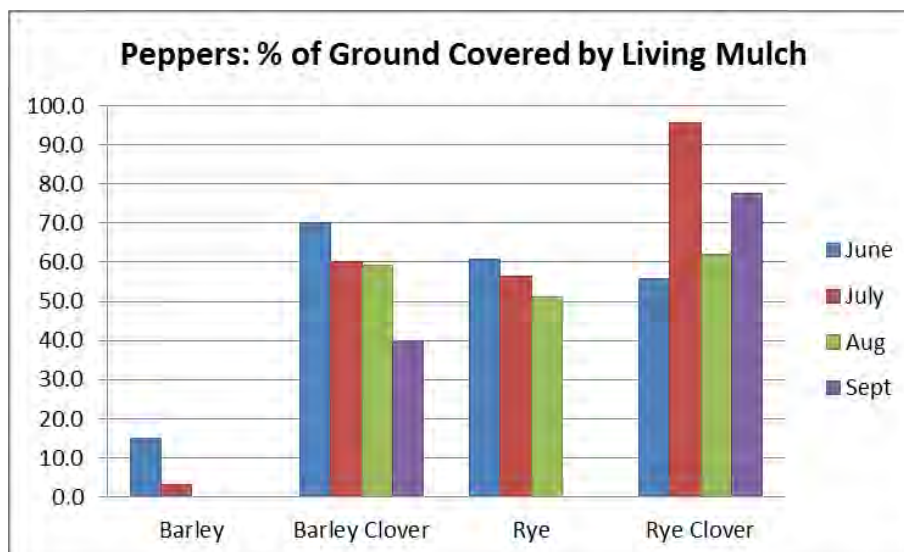


Figure 1. Different living mulch treatments between plastic mulch beds.

In terms of vegetable yields, living mulch either had little to no effect in our pepper trial; and a slightly negative effect in the onion trial. The average weight per bulb in the cultivation treatment was statistically greater than the rye, barley and barley-clover treatments. There were no significant differences in grade distribution (boiler, small, medium, jumbo, colossal) or weight. There was no difference in market category and economic value (\$0.50/large onion). Small onions have very little wholesale value and thus were not included in economic calculations.

Chart 1. Onion yield as influenced by living mulch treatment.

	Plot Totals		Large Onions				
	Stand	Weight / Bulb	No. of Bulbs	Weight (lbs)	\$ Value	% of Plot Stand	% of Plot Weight
Barley	49.0	.54 B	31.3	20.33	15.67	67.0	78.1
Barley Clover	53.0	.60 B	39.3	26.58	19.67	73.6	81.5
Rye	48.3	.58 B	33.0	21.52	16.50	70.1	78.9
Rye Clover**	59.0	0.64	46.0	29.60	23.00	78.0	79.6
Cultivated	60.0	.76 A	42.7	33.98	21.33	71.5	74.7
p-value*	NS (0.5900)	0.0416	NS (0.3092)	NS (0.1070)	NS (0.3092)	NS (0.9601)	NS (0.9376)
Comparison Value	21.2	0.15	14.6	12.06	7.31	29.2	25.1

*Fisher's LSD at .05 significance level.

**Average of two plots only. Not included in statistical analysis or significant difference groupings.

A failed rye sowing in one rye-clover plot allowed for anecdotal observation of weed control with a clover only cover.

continued on page 5

Challenges

Anything but a ‘cookie-cutter’ weed control method, this is a biological system that requires attention and finesse. Inadequate moisture or poor weed control prior to seeding can reduce weed control. Both cooperating growers express concerns with the management (mowing) of a living mulch in-season. Dead mulches, such as compost or straw could provide similar weed control without any water competition.

If you are interested in more results from this trial please contact Judson Reid at 585-313-8912 or jer11@cornell.edu, or Elizabeth Buck at 607-425-3494 or emb273@cornell.edu. We thank NESARE for their support of this project. ●

Research and Extension Priority Survey for Fresh Market Veg Growers

Fresh market vegetable growers, we need your input! Please help your local Cornell Cooperative Extension program, the Cornell Vegetable Program, and Cornell University researchers best meet your research and extension needs. Please go to this link: https://cornell.qualtrics.com/SE/?SID=SV_cSxwtNrVpVFYhny

It shouldn't take more than 20 minutes. Thanks! ●

USDA National Survey of Organic Agriculture

USDA – NASS, Harrisburg

According to the 2012 Census of Agriculture, total organic product sales by farms and ranches in the U.S. have continued to show substantial growth, increasing by 83% since 2007. To learn more about the trends of organic agriculture, the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS) is now conducting the 2014 Organic Survey.

“The Organic Survey comes in direct response to the continued interest among consumers, producers, businesses, and others,” said King Whetstone, Director of the NASS Northeastern Regional Office. “This is an oppor-

tunity for organic producers to provide more detailed data to help provide the industry with a reliable source of information to use in justifying research projects and funding requests for the continued growth and sustainability of organic farming in the United States.”

NASS will mail the survey in January to all known organic producers in the United States. The survey will look at organic agriculture during the 2014 calendar year – production and marketing practices, and income and expenses. It will focus not only on operations that are currently engaged in or-

ganic production, but also on those making the transition to organic.

Producers can fill out the survey online via a secure website, www.agcensus.usda.gov **no later than April 3**, or return their form **by mail no later than February 13**. Federal law (Title 7, U.S. Code) requires all producers who receive a form to respond and requires NASS to keep all individual information confidential. NASS will publish the results in August 2015. For more information about the Organic Survey, visit www.agcensus.usda.gov or call (717) 787-3904. ●

Website Offers GAPs Info For Eastern Broccoli Growers

Jill Eccleston and Thomas Björkman, Cornell

The Eastern Broccoli project recently added information on Good Agricultural Practices (GAPs) to the project website, www.easternbroccoli.org. The new webpages, targeted specifically to broccoli growers, include an [introduction to GAPs](#), an [overview of the GAPs certification process](#), and a descriptive [tour](#) of how broccoli production might look on a GAP-certified farm.

Adding or expanding broccoli acreage can be a profitable move for New York growers. However, buyers now commonly expect produce growers to be GAP-certified to show that the produc-

tion practices they use minimize the risk of introducing pathogens and other contaminants to the crop. This is especially true for vegetables like broccoli that may be eaten raw. The new webpages make the certification process less daunting by breaking it down into approachable steps and offering a vision of production using good agricultural practices.

The SCRI and industry-funded Eastern Broccoli Project seeks to establish year-round production of quality broccoli in the Eastern U.S. by developing and commercializing broccoli hybrids

adapted to Eastern growing conditions, and providing growers with research-based information on production practices, post-harvest options, and economic concerns. In addition to the newly updated GAPs pages, the website contains other resources, including lists of the [best commercial varieties](#) and links to [crop budgets](#) that can help growers decide if broccoli would be a good addition to their farm.

The National GAPs Program and CVP are offering GAPs training to growers. See the Upcoming Events section of VegEdge on page 8-10. ●

Improving Crop Land with Tile Drainage

Laura McDermott, CCE Eastern NY Commercial Horticulture Program (from *The Produce Pages*, Vol. 2, Issue 2, 12/14; edited by C. MacNeil, CVP)

(This article is a summary of highlighted points made at a November 12 workshop sponsored by Cornell Cooperative Extension's Capital Area Agriculture and Horticulture Program, CCE Rensselaer County and CCE's Central NY Dairy and Field Crops Program. ed. L. McDermott)

Why should farmers install tile drainage?

Tiling not only removes yield limiting water from the soil, but it can also reduce compaction – a huge problem on many soils. The water holding capacity of soil improves once it is drained and improved drainage allows more flexibility for alternative crop rotations and increased cover cropping. Better timeliness of planting, harvesting, and cultivating, is another great benefit realized by tile drainage.

Why don't more farmers install tile drainage?

One of the primary reasons farms don't install tile drainage is initial cost. The cost of an average drainage tile installation usually ranges between \$1000-1500/acre. Reduced crop losses in wet seasons should help convince growers that tiling can be very worthwhile.

A second obstacle to installation is a fear of regulatory issues. It is VERY important to visit with the USDA-NRCS staff prior to digging to determine federal wetland status. Farmers must file Form AD 1026 prior to digging. Go to: <http://forms.sc.egov.usda.gov/efcommon/eFileServices/eForms/AD1026.PDF>. Turn-around time for the AD-1026 is supposed to be 30 days but can often take longer. (There are also NYS Wetlands. Contact your county SWCD office staff for that determination. ed. C. MacNeil, CVP)

A third significant obstacle is finding a drainage specialist who can design an efficient system and then finding installation specialists who can accomplish the job in a timely manner. Many farmers will install tiling themselves, which is an excellent idea if the job is uncomplicated. Good reasons to install your own drainage include:

- Timeliness
- Quality control
- Straightforward job on small acreage

Good reasons to NOT install tile drainage:

- No spare time
- Steep learning curve required – especially for larger jobs.
- Availability of manpower. It is very likely that a large job will require 3-4 men devoted to the job.
- Construction equipment is necessary. Farms may have some of this equipment but likely not all. Equipment required includes a drain plow and stringer plus tractor; a bulldozer with a winch; a dumptruck; a jackhammer on an excavator and a rock rake on a payload. All of these may be necessary for correct and efficient installation.

Considerations when Installing Tile Drainage

Design specialist Steve Mahoney, owner of River Bend Farm Agricultural and Environmental Services, discussed design requirements for successful drainage systems. (There are many sources of drainage tile, including home/commercial construction outlets. For specialized tile, or the larger diameter tile for main lines, your tile installer will have contacts, or see: Advanced Drainage Systems (ADS), <http://www.ads-pipe.com/en/> with distributors throughout the Midwest and Northeast; or Baughman Tile Co., Paulding, OH, <http://www.baughmantile.com/>. ed. C. MacNeil, CVP) Because these materials are so bulky it doesn't make a lot of sense to order

from outside of the region – if you do be sure to check shipping prices.

There are four types of drainage pipe:

- 1) Standard – can be used on every soil type with the exception of “quick sand”.
- 2) Sand slot – excellent choice for almost every soil type. Slots are difficult to see but these pipes have been shown to drain well.
- 3) Wrapped pipe – wrapped with fabric – some farms have had problems using this pipe on clay – but wrapped pipe works extremely well with sand and loam soils.
- 4) Non-perforated tiling – This smooth walled pipe eliminates the threat of root penetration. It is often used near hedgerows and outlets.

Tile should be installed using laser or GPS

guidance! Laser guidance needs to be moved more frequently, especially when contours are involved, but it's often the guidance of choice for main lines. GPS guidance does a great job and is often considered to be the ‘cadillac’ guidance system. (If tile has “dips” water will pool in the tile reducing its efficiency. ed. C. MacNeil, CVP.)

Tile fittings are important and farmers should consult the supply company when placing the order, especially if they are doing the job themselves. One important tip given was that an animal guard should definitely be installed at the outlets. These are very low cost and can prevent a lot of damage by encroaching critters. Fixing the damage is very difficult and expensive. Still, outlets need to be checked annually. It would also be helpful if outlets were permanently located on a map or spreadsheet using GPS coordinates so that future generations can find them. You might also consider locating and recording existing drainage that may be known by the older generation but not necessarily the younger crew.

Another consideration in design is the question of allowing tiles to drain into the irrigation pond. Vegetable farmers who have fields infested with *Phytophthora capsici* should not allow drainage tiles to flow into the irrigation pond as that would result in all of the irrigated farm being infested by this extremely damaging vegetable crop disease.

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(Wherever there is a tile outlet there should be a 1 ft. drop to the typical level of the water in the ditch. This will ensure that water in the tile keeps moving, reducing settling out of silt within the tile. ed. C. MacNeil, CVP)

For more help with tile drainage questions, visit your local Soil and Water Conservation District office and ask for the SWCD Drainage Guide or download one at this link: http://www.waynecountynysoilandwater.org/wp-content/uploads/drainage_guide_ny.pdf ●

USDA Kicks Off the International Year of Soils

From the Cornell Soil Health Blog at <http://blogs.cornell.edu/soilhealth>

The U.S. Department of Agriculture (USDA) has begun its celebration of the [International Year of Soils](#) to highlight the importance of healthy soils for food security, ecosystem functions and resilient farms and ranches. “Healthy soil is the foundation that ensures working farms and ranches become more productive, are resilient to climate change and are better prepared to meet the challenges of the 21st century,” Agriculture Secretary Tom Vilsack said. “We join the world in celebrating this living and life-giving resource.” The United Nation’s Food and Agriculture Organization (FAO), working within the framework of the [Global Soil Partnership](#), spearheaded the adoption of a resolution by the UN General Assembly designating 2015 as the International Year of Soils. The Natural Resources Conservation Service (NRCS) is coordinating activities to mark USDA’s involvement in the International Year of Soils. Conservation that works to improve soil health is one of the best tools NRCS has to help landowners face the impending challenges – and maintain and improve their productivity with the use of soil management that includes cover crops, conservation tillage and no-till, and crop rotations. NRCS will

be working with the [Soil Science Society of America](#) (SSSA) and other partners throughout 2015 to showcase the importance of soil.

Order stickers
at the Soil
Science
Society of
America
website:



<https://www.soils.org/iys/stickers> ●

Preparing for the FDA's Food Safety Modernization Act

Robert Hadad, CCE Cornell Vegetable Program

The comment period has closed on some of the last remaining items for the FDA’s Food Safety Modernization Act (FSMA). It is expected that sometime in mid-2015 the final rule will be ready for implementation. NY farmers are in a unique position for training under the new regulations.

The FDA has tasked the Cornell National GAPs program to lay the groundwork for creating a curriculum to be used across the country. The Produce Safety Alliance was created to meet the task. For the last several years, Elizabeth Bihn and Gretchen Wall have organized advisory groups and steering committees, led meetings, and synthesized all the feedback into developing this national curriculum for both training trainers and training farmers under the new rule.

In mid-December, the first training of FSMA trainers was held at the Geneva Experiment Station. For two days Extension educators, industry professionals, several farmers, and University faculty from around the country went

through the extensive training. In order to train farmers in the FSMA regulations, trainers have to be trained and certified by a third party tasked with the job. This was done to make sure all trainers are committed to the curriculum, are competent in the subject matter, and have background in fruit and vegetable production and microbiology.

Two Cornell Cooperative Extension regional specialists were part of this inaugural class of trainers. Craig Kahlke of the Lake Ontario Fruit Team and Robert Hadad of the Cornell Vegetable Program participated. The two trainers are currently awaiting their certificates. Both specialists have been very active in training farmers in GAPs and HGAPs over the years across the state.

Under the FSMA, all fresh produce farmers will be required to have training. The training course will be a minimum of 7 hours of course work. The regulations call for a phasing in of farms by size over the course of several years. The largest growers will start off

first. The plan for NY is to combine the FSMA training with the current GAPs/HGAPs two day workshops. In this way, those who just need FSMA can take the first day while those who might want or need the GAPs/HGAPs training will go for both days. Unfortunately, the FDA regulations require that those who already have taken GAPs/HGAPs trainings will still have to come back and take the FSMA course.

The FDA has a team working on finalizing the last parts of the regulations and preparing for the launch. A second FDA team has been busy training inspectors and working out the methods for measuring compliance on the farm.

For more information on training courses for farm food safety, check out the Cornell National GAPs website at www.gaps.cornell.edu, or for trainings in our region, visit the Cornell Vegetable Program website at <http://cvp.cce.cornell.edu/events.php>. You may also contact Robert Hadad at 585-739-4065 or rgh26@cornell.edu. ●

UPCOMING EVENTS *view all Cornell Vegetable Program upcoming events at cvp.cce.cornell.edu*

2015 Pesticide Training and Recertification Series

February 2, 9, 16, and 23 | 7:00 PM - 9:30 PM

CCE Ontario County, 480 N Main St, Canandaigua, NY 14424



Anyone interested in obtaining pesticide certification and meets the DEC (Department of Environmental Conservation) experience / education requirements **OR** current applicators seeking pesticide recertification credits should attend. 2.5 recertification core credits will be available for each class. \$150 for certification, includes the training manuals and all 4 classes. (Note: The \$150 class fee does NOT include the \$100.00 exam fee.) Exam: Monday, March 2, 2015 at 6:30 PM - 11:00 PM. Recertification is \$25.00 per class.

For more info, contact CCE Ontario County, 585-394-3977 x 427 or nea8@cornell.edu. Registration form available at www.cceontario.org.

Erie Vegetable Growers Meeting – High Tunnel School

February 4, 2015 | 9:30 AM - 2:30 PM

Erie County CCE, 21 South Grove St, East Aurora, NY 14052



This beginner level school is for new high tunnel growers and will focus on best management practices, with an emphasis on tomato production. The school is strongly encouraged for growers with 2 or fewer seasons of tunnel growth experience, those considering getting a tunnel in the next few seasons, or NRCS EQIP recipients. Topics will include site selection and structural considerations, crop and variety selection, cultural management, disease management, and an experienced grower panel. Lunch is included. Find [more info](#) on the CVP website. Cost for Cornell Vegetable Program Enrollees or Erie County Ag Enrollees: \$20.00 per Erie Vegetable Growers Meeting. Cost for non-enrollees: \$35 per Erie Vegetable Growers Meeting/\$65 for both Erie Vegetable Growers Meetings (see February 5). Registration with payment is required by January 30, 2015. Please [register online](#) or contact Megan Burley at 716-652-5400 x138 or msb347@cornell.edu. Location is subject to change. Check the [Erie County CCE website](#) or call 716-652-5400 x177 just prior to the meeting to confirm the location.

Erie Vegetable Growers Meeting – Addressing Issues in Vegetable Production

February 5, 2015 | 9:00 AM - 3:00 PM

Erie County CCE, 21 South Grove St, East Aurora, NY 14052



All vegetable producers are encouraged to attend this day-long meeting featuring Cornell Plant Pathologist Sarah Pethybridge, Vegetable IPM Coordinator for the NYS IPM program Abby Seaman, and Regional Vegetable Specialists. Topics will include weed biology and management, herbicide resistance in weeds, disease biology and management, marketing, spotted wing drosophila management, beneficial insects and rotation in organic vegetable production systems. 4.0 DEC recertification credits will be offered. Cost for Cornell Vegetable Program Enrollees or Erie County Ag Enrollees: \$20.00 per Erie Vegetable Growers Meeting. Cost for non-enrollees: \$35 per Erie Vegetable Growers Meeting/\$65 for both Erie Vegetable Growers Meetings (see February 4). Registration with payment is required by January 30, 2015. Please [register online](#) or contact Megan Burley at 716-652-5400 x138 or msb347@cornell.edu. Location is subject to change. Check the [Erie County CCE website](#) or call 716-652-5400 x177 a day or two prior to attending the meeting to confirm the location.

Niagara Vegetable Growers Meeting – Addressing Issues in Vegetable Production

February 6, 2014 | 9:00 AM - 12:30 PM

Niagara County CCE, 4487 Lake Ave, Lockport, NY 14094



All vegetable producers are encouraged to attend this half-day meeting featuring Cornell Plant Pathologist Sarah Pethybridge, Vegetable IPM Coordinator for the NYS IPM program Abby Seaman, and Regional Vegetable Specialists. Topics will include weed biology and management, concepts of plant pathology and disease management, variety selection and spraying in high tunnels, and how to recognize and use beneficial insects to your advantage. Lunch included if registered by January 30, 2015. 3.0 DEC recertification credits will be available for growers that attend the entire meeting. Cost for Cornell Vegetable Program enrollees or Niagara County ag enrollees: \$20.00 per attendee; \$35 per attendee if not enrolled. Register and pay online by 1/30/15 at <http://cvp.cce.cornell.edu/event.php?id=282> or call Darcy Telenko at 716-652-5400 x178. Registration will be accepted at the door but lunch will not be guaranteed.

Organic Dry Bean Discussion

February 9, 2015 | 9:00 AM - 12:00 Noon

CCE Ontario County, 480 N Main St, Canandaigua, NY 14424



The Cornell Vegetable Program is organizing a discussion on the potential opportunities and challenges of increased organic dry bean production in New York State. The goals of this discussion are to explore the demand for increased organic dry bean production; discuss how organic dry bean production is different from conventional production; learn the details of organic certification of farms, and of handling/cleaning facilities; and brainstorm how to match potential organic dry bean production with the capacity of organic cleaning/shipping facilities.

All interested dry bean and field crop growers and shippers are welcome to attend. There is NO CHARGE but **preregistration is requested** – [preregister online](#) or contact Carol MacNeil at 585-394-3977 x406 or crm6@cornell.edu.

UPCOMING EVENTS *view all Cornell Vegetable Program upcoming events at cvp.cce.cornell.edu*

Updated Farm Food Safety (GAPs) Training for Produce Growers

February 9-10, 2015 | 8:30 AM registration; 9:00 AM - 4:00 PM training
Village of Arcade Fire Department, 145 North St, Arcade, NY 14009



Are you a farmer interested in produce safety? Are your markets asking for food safety plans or third party verification? Do you want to understand produce safety issues and Good Agricultural Practices as well as the FSMA proposed Produce Rule and third party audits? If so, join us for this multi-day workshop on Good Agricultural Practices (GAPs) and leave with a farm food safety plan for YOUR farm! Day 1 covers: what GAPs are, how you can implement GAPs, what GAPs mean for your farm operation, FSMA overview, and information about third-party audits. Day 2 covers: writing a food safety plan for your farm.

\$60 per person includes lunch. Add \$15 for each additional attendee from the same farm. Register online at <http://tinyurl.com/GAPs2015-Arcade> or contact Don Gasiewicz at 585-786-2251 x113 or drg35@cornell.edu. Pre-register by Sunday, February 8, 2015. Space is limited!

Winter Wednesday Vegetable and Small Fruit Production Webinars

February 11, 2015 | Soil Health Through Reduced Tillage and Cover Crops – Carol MacNeil, CVP, and Thomas Björkman, Cornell
March 4, 2015 | Using Sanitizers in Wash Water – Luke LaBorde, Penn State
March 25, 2015 | Tomato Nutrition in High Tunnels – Judson Reid, Cornell Vegetable Program, and Steve Bogash, Penn State
1:00 PM - 2:00 PM *via webinar*

Penn State, Cornell University, and Cooperative Extension 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 per webinar or \$35 for the series of five webinars (payable by check or credit card). For more information on the entire series and to register, go to Penn State Extension's website or call 724-627-3745.

Orleans Produce Auction Winter Meeting

February 13, 2015 | 1:00 PM - 4:00 PM
CCE Orleans County, 12690 Rt 31, Albion, NY 14411



Auction growers will meet to discuss current production challenges including corn pests, aphids, vine crop diseases, and small allium production. 2.75 DEC recertification credits will be available in categories 1a, 10, and 23. FREE! Contact Kim Hazel at 585-798-4265 to register. For more info, contact Judson Reid at 315-536-5123.

2015 Farmers Market Managers Conference

February 19-21, 2015
Ramada Inn, Syracuse

For the full agenda, hotel information and registration, visit <http://nyfarmersmarket.com/annualconference>.

Each session promises new skills, new ideas and new opportunities to help grow our markets, build sales, reach more consumers, and be a better partner with our community. There's also the opportunity to meet other managers and share experiences, concerns, and successes. The meeting culminates in a tour of the CNY Regional Market. *Sponsored by the Farmers Market Federation of NY, Fayetteville, NY.*

Genesee Valley Produce Auction Meeting

February 20, 2015 | TBD
Centerville Firehall, 8936 County Rd 3, Centerville, NY 14029

This meeting is targeted towards wholesale auction growers of the Genesee Valley Produce Auction in Centerville, NY. The forenoon will be a Season Extension workshop, followed in the afternoon by field produce issues, including Food Safety. For more info, contact Judson Reid at 315-536-5123.

Garlic School 2015

March 3, 2015 | 9:30 AM - 3:00 PM
NYS Agricultural Experiment Station, Jordan Hall, 630 W North St, Geneva, NY 14456



This year's garlic school will have a broad focus on disease, insect and weed pests that growers are already dealing with or that may show up in New York from other parts of the country. Cornell pathologists and growers will discuss the latest research on Aster Yellows, a disease which has devastated the garlic industry in the Midwest, and the soil-borne diseases such as Fusarium. The latest fertility and weed control research will also be presented. Industry updates will be presented by David Stern of the NYS Garlic Seed Foundation. [For more information](#), visit the Cornell Vegetable Program website at cvp.cce.cornell.edu.

Cost: \$20 CVP enrollee / \$25 non-CVP enrollee includes lunch. [Register online](#), use the [registration form to mail in with your payment](#), or contact Robert Hadad at 585-739-4065 and pay at the door.

UPCOMING EVENTS *view all Cornell Vegetable Program upcoming events at cvp.cce.cornell.edu*

Weed Management Workshop for Processing Vegetable and Dry Bean Growers

March 11, 2015 | 12:30 PM - 3:30 PM

First United Methodist Church, 8221 Lewiston Rd (Rt 63), Batavia, NY 14020



Workshop will focus on developing a long-term plan for managing weeds and weed seed banks, selection and use of herbicides for processing vegetables and dry beans, and reducing the risk for herbicide resistant weeds. DEC and CCA credits have been applied for. Cost: \$10/CVP enrollee; \$20/non-enrollee. Register online at cvp.cce.cornell.edu or pay at the door. For more info, contact Julie Kikkert at 585-394-3977 x404. Sponsor opportunities – details online or contact Angela Parr at aep63@cornell.edu or 585-394-3977 x426.

Farm Food Safety for Post-Harvest Handling and Small-Scale, Low-Cost Facility Design

March 9, 2015 | 9:30 AM - 12:30 PM | Lakestone Family Farm, 1089 County Road 28, Shortville, NY 14548

March 23, 2015 (Finger Lakes area - location TBD)



Join NOFA-NY and Cornell Vegetable Program's Robert Hadad to learn how to design, build, and operate a small-scale, DIY post-harvest handling system! This workshop will focus on the trifecta of good washing and handling—food safety, maintaining high quality and efficiency, and affordability for new and small growers. Includes a discussion and hands-on demonstration of how to design and set-up your wash line, tables, and packing shed, with a focus on safe and efficient product flow to separate “dirty” field harvested produce from the washed and “clean” final product. Look at setting up standard operating practices covering a range of methods of washing produce, as well as the why and how of using organic sanitizers. Exam clean-up procedures and post-harvest handling considerations. \$10/person and \$15/two or more people per farm. To pre-register, call Stephanie at 585-271-1979 ext. 509. Pre-registration is encouraged and closes at 4:00 PM on March 4. Contact Robert Hadad at rgh26@cornell.edu or 585-739-4065 for more info.

Pesticide Training and Exam

March 17 and 19, 2015 Training | 12:30 PM - 4:00 PM

March 20, 2015 Exam | 12:30 PM - 4:00 PM

CCE Wayne County, 1581 NYS Rt 88N, Newark, NY 14513



CCE Wayne is offering a pre-exam training and test to become a private certified pesticide applicator. **Pre-register by March 2** by calling: 315-331-8415. Registration is \$50 pp; make checks out to *Cornell Cooperative Extension*. This training does not qualify for 30 hour pre-test training. All participants must have experience working on their farm, or through employment on another farm, and will need to sign a document stating so. Participants will need the most recent core manual (2012) and category manual: Field and Forage-21 (2003), Fruit – 22 (2003), and Vegetable – 23 (2004). **Order and pay for all manuals by March 2 to ensure delivery.** There is a link to order manuals, and more info on pesticide training at: ccewayne.org. Search “agriculture” and “pesticide certification”.

You must register separately for the exam. Call Chris Wainwright, NYS DEC at: 607-776-2165 x23. A check or money order for \$100, made out to *NYS DEC*, and an official photo ID, are required for the exam.

2015 NYS Dry Bean Meeting

March 18, 2015 | 9:00 AM - 3:00 PM

LeRoy County Club, 7759 E Main Rd/Rt 5 (1 mile east of LeRoy), LeRoy, NY 14482



Topics to be included are: the performance and development of new varieties and breeding lines; weed management update; white mold management recommendations; Western bean cutworm risk and control; the effects of tillage, cover crops and rotation on dry bean yields. Bean dishes at lunch! The NYS Dry Bean Committee will meet right after the meeting. DEC and CCA pesticide credits will be available. Cost: \$20/CVP enrollee; \$30 all others, *if preregistered by March 10*. \$5 more at the door. Contact Carol MacNeil at crm6@cornell.edu or 585-394-3977 x406 for meeting details. Sponsor opportunities - contact Angela Parr at aep63@cornell.edu or 585-394-3977 x426.

High Times with High Tunnels

March 19, 2015 | 1:00 PM - 4:00 PM

Yates County - Location TBD



This meeting will acquaint growers in the central Finger Lakes with the latest updates from the Cornell Vegetable Program on high tunnel tomato production. Topics will include grafting, container growing, winter greens production, pest management and fertility. For more information, contact Judson Reid at 315-536-5123 or jer11@cornell.edu.

13th Annual Celebrate Genesee Agriculture Dinner

March 21, 2015 | Doors open at 6:00 PM

Alexander Fire Hall, Rt 98, Alexander, NY 14005

Cost \$25, tickets available at the Genesee County Chamber of Commerce, 210 East Main St., Batavia. *Questions? Call 585-343-7440 x27.* Join us in recognition and celebration of the abundance agriculture provides in Genesee County. The dinner is open to the public.

Coordinated by: Cornell Cooperative Extension of Genesee County, Genesee County Chamber of Commerce, Genesee County Soil & Water Conservation District, and Genesee County Farm Bureau. Sponsored by many local farms and businesses.

Proceedings of the 2015 Empire State Producers Expo

Did you miss the Expo, or a session you would have liked to attend? Copies of most of the speakers' talk summaries, from 2011 through 2015, are available at:

<http://www.hort.cornell.edu/expo/> ●



Schools Procurement of Fruits & Vegetables – Pilot Project

NYS Office of General Services (edited by C. MacNeil, CVP)

New York State will be participating in a **USDA Pilot Project for Unprocessed Fruits and Vegetables**. The goal is to develop additional opportunities for schools to purchase produce for National School Lunch Programs with USDA funding. The USDA pilot program encourages the use of locally-grown foods.

- This is a great opportunity for vendors such as **farmers, growers, aggregators, food hubs** and the like to grow and expand their local customer base.
- Vendors of **all** sizes - both large and small - have the opportunity to tap into an existing and expanding market.
- Over **800** New York State School Districts currently in the National School Lunch Program have USDA funding to procure commodities through this pilot program.
- Fresh fruits and vegetables, minimally processed items such as apple slices, as well as IQF frozen locally sourced produce, are all eligible under this program for **year-round** purchasing.
- The pilot is effective immediately and will continue through the 2015 – 2016 school year. Our goal is to have this program available statewide within the next two years. Success of the pilot will help to ensure that USDA makes this a permanent program.

As soon as a vendor is placed on the USDA Approved Vendor list, they can begin to do business under the pilot program. For the USDA Requirements, and the Application to participate in the pilot, check the links below:

[Vendor Eligibility Requirements](#)

[Vendor Application Forms \(Attachments A-D\)](#)

<http://www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateN&page=CPDPilotProjectUnprocessedFV>

For further info on NYS's Pilot Program, please contact at the NYS Office of General Services, Food Distribution and Warehousing: Annemarie Garceau, Director: 518-474-5122, or Diane Green: 518-473-9386. ●

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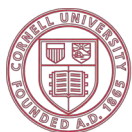
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VegEdge is the award-winning newsletter produced by the Cornell Vegetable Program in Western New York. It provides readers with information on upcoming meetings, pesticide updates, pest management strategies, cultural practices, marketing ideas and research results from Cornell and Cornell Cooperative Extension. VegEdge is produced every few weeks, with frequency increasing leading up to and during the growing season.



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