

2011 High Tunnel Tomato Variety Trial

Judson Reid, Kathryn Klotzbach and Nelson Hoover, CCE Cornell Vegetable Program

For the past several years the Cornell Vegetable Program has conducted variety trials on high tunnel tomatoes. Variety selection is very important to maximize yields as well as reduce losses to diseases and insects. A trial of 5 greenhouse varieties was established in a commercial high tunnel in Central New York in the spring of 2011.

Trial Details - All tomatoes trialed were seeded on February 15 and transplanted into the high tunnel soil, a Lima Silt Loam, on April 12. The high tunnel, fabricated on farm, is a 30 by 120 foot galvanized steel structure, covered with Tuff Lite IV 6 mil polyethylene. No supplemental heat was used in growing the crop post-transplant. The tomatoes were grown on black plastic mulch with drip irrigation and conventional fertilizer. A full 'Materials and Methods' section for these trials is available online at: <http://cvp.cce.cornell.edu>



High tunnel production of tomatoes.
Photo: Judson Reid, CCE Cornell Vegetable Program

Results and Discussion - Yield data can be observed for indeterminates in Table 1. Growers are cautioned that pounds per plant does not tell the entire story.

For the indeterminate (greenhouse) varieties pounds of fruit per plant were not significantly different among the 5 varieties evaluated, with Geronimo yielding the highest. But again, fruit quality must be considered. Panzer was the cooperators preferred variety for fruit quality as judged by internal color and fruit firmness. Some Geronimo fruit contained a pithy interior, perhaps related to low potassium levels. Big Dena suffered a foliar necrosis, likely related to low light conditions in the early months of the cropping cycle and excess foliar levels of sulfur. Pilvay was the only variety susceptible to Brown Leaf Mold.

Table 1. Mean yields per plant of 5 high tunnel grown greenhouse tomato varieties.

Variety	Mean Yield per Plant (lbs)	Mean Fruit Number per Plant	Mean Fruit Weight (lbs)	Mean Brown Leaf Mold Rating (0-9)
Geronimo	23.45 ns	49.65 ab**	0.47 ab	0.0 b
Torrey	19.76	52.25 a	0.38 b	0.0 b
Panzer	18.68	36.60 b	0.52 a	0.0 b
Big Dena	19.62	41.01 ab	0.48 ab	0.0 b
Pilvay	16.93	43.90 ab	0.39 b	6.63 a
LSD	NS*	4.36	0.03	1.11

* No significant differences detected.

** Means with different letters (groupings) are significantly different according to Fishers Protected Least Significant Difference Test (p<0.05).

Contents



Veg Edge is a shared publication of two Cornell Cooperative Extension teams, the **Cornell Vegetable Program**, serving 12 counties in Western & Central NY, and the **Capital District Vegetable & Small Fruit Program**, serving 11 counties in the Capital Region of NY



3
**Financial Assistance
 for Conservation
 Initiatives**
**Energy, Organic and
 High Tunnel**



4
**Can Pumpkin Yield
 be Increased by
 Supplementing
 Fields with
 Honey Bees
 or
 Bumble
 Bees?**



15
**Potato Seed Testing
 for Late Blight**

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.**

Contact Us

Cornell Vegetable Program	18
Capital District Vegetable & Small Fruit Program.....	19

Cucurbits

Can Pumpkin Yield be Increased by Supplementing Fields with Bees?.....	04
--	----

General

Financial Assistance for Conservation Initiatives.....	03
Crop Insurance Deadline - March 15th	05
Farm Credit Northeast AgEnhancement Funds Expo Speaker	05

Marketing

Genesee Valley Fruit and Vegetable Production Survey	05
New York Ranks 1st for Winter Farmers' Markets	05
Vegetable Situation	06

Meetings

Greater Capital District Farmers Direct Marketing Conference	10
High Tunnel Winter Growing and Seeding Meeting.....	10
Niagara Winter Produce Meeting.....	11
Capital District Vegetable & Small Fruit Program Annual Winter Meeting	11
Winter High Tunnel Pest Management Meeting.....	12
Tomato Seed Treatment Workshop	12
Greenhouse IPM In-depth	12
Vegetable Production, Pest Management & Marketing Meeting	13
GAPs Food Safety Workshops: Develop Your Own Food Safety Plan.....	13
2012 NYS Dry Bean Meeting.....	13
Multi-Farm Marketing: Understanding Family Farm Collaboration	13
Sweet Potato School.....	13
Garlic School.....	14
<i>Plus MANY more meetings</i>	10-14

Pesticides

Phosphorous Acid Fungicides for Vegetable Disease Management	07
2012 DEC Core Recertification Classes	14
Pesticide Training & Recertification Classes	14
Pesticide Recertification Day	14
Pesticide Certification Core Exam Prep & Recertification Credit Meetings.....	14

Potatoes

Commercial Potato Production in America	07
Potato Seed Testing for Late Blight	15
Cull Potato Disposal Options	16

Soils

Agronomy Fact Sheets.....	15
New USDA - NRCS Amendment - Erodible Lands & Wetland Conservation.....	17

Tomatoes

2011 High Tunnel Tomato Variety Trial.....	01
--	----

"Building Strong and Vibrant New York Communities"

Cornell Cooperative Extension provides equal program and employment opportunities.

Please contact Cornell Cooperative Extension if you have special needs.

Cornell Cooperative Extension does not endorse or recommend any specific product or service.

Continued from cover

Conclusions - High tunnel tomatoes continue to grow in popularity with New York vegetable growers for disease control, earliness and fruit quality. Variety selection is one of the most important management decisions for tunnels. The decision regarding varieties depends on grower preference and market demand. Total yield must be balanced with fruit quality and disease resistance.

The Cornell Vegetable Program and cooperating grower express gratitude to Harris Seed, Inc., MGS Horticultural Inc. and Syngenta Seed (Rogers) for their collaboration in this project. ■



Cooperating high tunnel with tomato variety trial.
Photo: Judson Reid, CCE Cornell Vegetable Program

Financial Assistance for Conservation Initiatives - Energy, Organic and High Tunnel

USDA Natural Resources Conservation Service (NRCS)

Agriculture Secretary, Tom Vilsack announced the ranking dates for the On-Farm Energy, Organic, Seasonal High Tunnel and Air Quality conservation initiatives. All four initiatives offer technical and financial assistance through the Natural Resources Conservation Service's (NRCS) Environmental Quality Incentives Program (EQIP). NRCS accepts applications for financial assistance on a continuous basis throughout the year. There will be ranking periods for the Organic, On-Farm Energy and Seasonal High Tunnel initiatives, ending on March 30 and June 1, 2012. Ranking period for the Air Quality Initiative ends March 30, 2012. At the end of a ranking period, NRCS ranks all submitted proposals for funding consideration. NRCS will notify all applicants of the results of the rankings and begin developing contracts with selected applicants. The On-Farm Energy, Organic and Seasonal High Tunnel initiatives are available in all 50 states. The Air Quality Initiative is available in Arizona, California, Colorado, Illinois, Montana, New York, Ohio, Pennsylvania and Texas. Air Quality funding is limited to counties within these nine States that have serious air quality resource concerns related to non-attainment for Ozone and Particulate Matter.

Initiative Overviews

On-Farm Energy Initiative: NRCS and producers develop Agricultural Energy Management Plans (AgEMP) or farm energy audits that assess energy consumption on an operation. NRCS then uses audit data to develop energy conservation recommendations. Each AgEMP has a landscape component that assesses equipment and farming processes and a farm headquarters component that assesses power usage and efficiencies in livestock buildings, grain handling operations, and similar facilities to support the farm operation.

Organic Initiative: NRCS helps certified organic growers and producers working to achieve organic certification install conservation practices for organic production. New for fiscal year 2012, applicants will be evaluated continuously during the ranking periods. Applications meeting or exceeding a threshold score may be approved for an EQIP contract before the end of the ranking period. Applications rating below the threshold score will be deferred to the next period. A new threshold score will be established at the beginning of each ranking period. This new scoring process allows organic producers to implement conservation practices in a timelier manner.

Seasonal High Tunnel Pilot Initiative: NRCS helps producers plan and imple-

ment high tunnels, steel-framed, polyethylene-covered structures that extend growing seasons in an environmentally safe manner. High tunnel benefits include better plant and soil quality, fewer nutrients and pesticides in the environment, and better air quality due to fewer vehicles being needed to transport crops. More than 4,000 high tunnels have been planned and implemented nationwide through this initiative over the past two years.

Air Quality Initiative: NRCS helps producers address air quality concerns on their operations. Assistance includes establishing cover crops, planting windbreaks, implementing nutrient management practices and applying other conservation measures that mitigate and prevent air quality problems. Conservation practices installed through this initiative reduce airborne particulate matter and greenhouse gases and conserve energy.

Visit the NRCS National Web site for more information on how to apply at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip> and to connect with an NRCS office near you at: <http://offices.sc.egov.usda.gov/locator/app?state=ny>

(from Cultivating Cumberland, Rutgers Cooperative Extension, 1/12) ■

Can Pumpkin Yield be Increased by Supplementing Fields with Honey Bees or Bumble Bees?

Jessica Petersen and Brian Nault, Cornell - NYS Ag Experiment Station, Geneva

Vine crops are some of New York's most valuable vegetable crops, generating \$87 million annually. These crops require pollination by bees and the honey bee (*Apis mellifera*) is the most common. Honey bee hives are placed in fields during the period these crops need to be pollinated. Unfortunately, Colony Collapse Disorder (CCD) continues to cause significant losses in populations of honey bees throughout the US, including New York. Worker bees from colonies affected by CCD leave their hives and never return. Fewer honey bee hives are now available for vine crop growers and the cost of renting hives has increased from approximately \$30 per hive to \geq \$75 per hive. Without a cure for CCD, hive availability will continue to be low, rental costs will rise even further, and growers will need other pollinators to service their vegetable crops. Previous research has shown that on an individual basis, the common eastern bumble bee (*Bombus impatiens*; Fig. 1) was the most efficient pollinator of pumpkins, compared with other common species including the honey bee and squash bee (*Peponapis pruinosa*). Not only is the bumble bee an efficient pollinator, but it is also abundant naturally, and available commercially, making it a perfect candidate as an alternative pollinator to honey bees.



Fig. 1 Common eastern bumble bee foraging on a female pumpkin flower.

Will Fruit Yield Increase if Bumble Bee Colonies are Placed in Fields? In the Finger Lakes Region in 2011, we explored the potential of increasing pumpkin yields by supplementing fields with bumble bees, honey bees or no bees. A total of 7, 10 and 7 commercial pumpkin fields were assigned bumble bees, honey bees or no bees, respectively. Bumble bees were acquired from Koppert Biological Systems, Inc., whereas honey bee hives were rented locally. Numbers of bumble bee colonies and honey bee hives placed in each field depended on its size. For bumble bees, one QUAD (= four colonies in a box; Fig. 2) was placed on every 2 acres and 1 honey bee hive placed on every 3 acres. Stocking densities of bumble bees and honey bees were recommended by Koppert and by vine crop growers in New York, respectively. Fields ranged in size from 1.5 to 25 acres and were separated from each other by at least 1 mile.

The jack-o-lantern variety 'Gladiator' was transplanted in three locations within each field (10 plants x 3 locations = 30 plants per field). Transplanting spanned a 3-week period in July. In September, when the crop was mature, all marketable fruit were counted and weighed and data were analyzed.



Fig. 2 Bumble bee QUAD.

Fields supplemented with bumble bees had the greatest pumpkin yield (16.5 lbs/plant), followed by honey bee supplemented fields (15.2 lbs/plant) and then non-supplemented ones (13.1 lbs/plant), but these differences were not statistically significant (Fig. 3). A variety of parameters were used in a cost-benefit analysis of supplementing pumpkin fields with bees. The average fruit weight per plant was extrapolated to a pound per acre basis based on a between-row spacing of 6 feet and within-row spacing of 3 feet. A profit value of \$0.24 per pound was based on data from the National Agricultural Statistics Service. We then subtracted the price of supplementing bees (\$110/acre for bumble bees and \$28.33/acre for honey bees) from the totals for each respective treatment. This cost-benefit analysis suggests that supplementing with bees can provide growers with increased revenue, even after the costs of renting or purchasing bees are taken into consideration. By supplementing with bumble bees, growers can expect a profit increase of nearly \$1000 per acre over not supplementing, or a \$750 increase per acre over supplementing with honey bees.

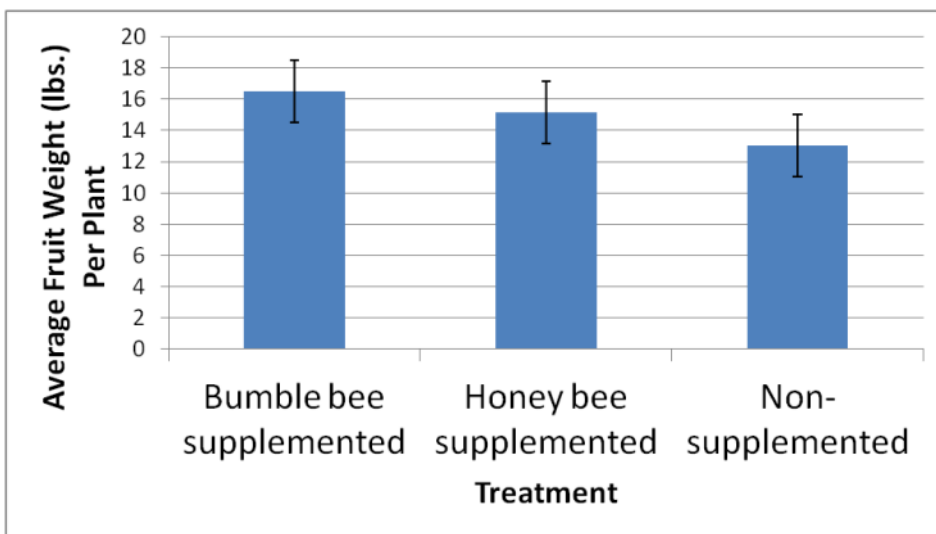


Fig. 3. Mean (\pm SEM) pumpkin, *Cucurbita pepo*, var. 'Gladiator', fruit yield from fields supplemented with bumble bee colonies ($n = 7$ fields), honey bee hives ($n = 10$ fields) or were not supplemented ($n = 7$ fields) in New York in 2011.

Future Research. This was the first year of a 2-3 year study investigating the potential for increasing the profitability and competitiveness of fresh-market vegetable farms by capitalizing on the superior pollination services provided by bumble bees. Using pumpkin as a model crop, we have several objectives: 1) continue to compare fruit yield in fields augmented with either bumble bees, honey bees, or no commercial bees; 2) determine the impact of field size and amount of field bordered by various habitats on bee visits to flowers and subsequent fruit yield; 3) conduct cost-benefit analyses for purchasing bumble bees, renting honey bees or relying entirely on wild bees; and, 4) develop a Decision-Making Guide that can be used to decide whether to rely exclusively on wild bees or to supplement fields with bumble bees or honey bees. Overall, we expect that the pollination services provided by bumble bees will lead to consistently greater yields and lower production costs for vine crop growers in New York. ■

Crop Insurance Deadline – March 15th

The deadline for purchasing crop insurance for most vegetables in NYS is **March 15th** (deadline for onions was February 1). For more details go to USDA Risk Management Agency at: <http://www.agriculture.ny.gov/AP/CropInsuranceBasics.html> ■

Siegers...more than seed

Solutions
Our extensive selection and consultant's knowledge of varieties benefits you, our valued customer.



Dominator

Resist./Tol. Cou(R), CMV(IR), Co(R), Pou(R), Ps(I/R), Pxl(R). Dominator is dark green with exceptional size and shape. Dependable, widely adapted to all growing areas. Outstanding quality, consistent production and high yields. Will dominate the market because it is that good.



Impact

Resist./Tol. Cou(HR), CMV(IR), Co(IR), PRSV(IR), Ps(I/R), Pxl(HR), WMV(HR), ZYMV(IR). High yields of early maturing, super-select, dark green fruits. Very strong disease package. Strike back with Impact!

SIEGERS SEED CO.
100
SERVICE • SELECTION • SOLUTIONS
1-800-962-4999 • www.siegers.com

 **Blake Myers**
(585) 303-3252
vegetableseeds@aol.com

Farm Credit Northeast AgEnhancement Funds Expo Speaker

Alison DeMarree, CCE Lake Ontario Fruit Team

Farm Credit Northeast AgEnhancement made possible Bernie Erven's 2012 Empire State Fruit & Vegetable Expo keynote address and other presentations on January 24th. The \$3,000 awarded met speaking fees for three presentations: "Boosting Workforce Productivity", "Effective Delegation" and "Succeeding As A Supervisor". Bernie Erven, Erven HR Service and Ohio State University, is one of the most popular and engaging agricultural labor speakers in the US. We appreciate the ability to bring this speaker to our New York growers! (For information on Bernie Erven's presentations contact Alison DeMarree, CCE Lake Ontario Fruit Team, at: amd15@cornell.edu or (315) 573-8881.)

Farm Credit Northeast AgEnhancement supports programs, projects and events that are intended to strengthen agriculture, commercial fishing and the forest products sector in the Northeast. This program is a combined effort of Farm Credit East, Farm Credit of Maine, Yankee Farm Credit and CoBank. ■

Genesee Valley Fruit and Vegetable Production Survey

Kristen Park, Applied Economics and Management, Cornell

Cornell's Dyson School of Applied Economics and Management is asking all fruit and vegetable producers in Genesee, Livingston, Monroe, Ontario, Orleans, Steuben, Wayne, Wyoming, and Yates counties to participate in a survey. Stories from buyers and growers alike describe unmet demand for some products. This project will help determine where production opportunities exist. It will examine trends in fruit and vegetable production, where production flows, what expansion is being planned, and what the challenges are for expansion of fruit, vegetable and small grain production in the 9-county region. This will help us inform potential buyers about general fruit and vegetable production in the region and inform policy makers about activities that would encourage production. It will also help us match research and Extension activities to meet your needs.

Please help by contacting Kristen Park (607) 255-7215 or ksp3@cornell.edu for a copy of the questionnaire. If you are on an Extension mailing list, please watch your mailbox for a questionnaire and please complete and return it. If you have any questions, contact: Miguel Gómez (mig7@cornell.edu or 607.255.8159) or Kristen Park (ksp3@cornell.edu or 607.255.7215), Applied Economics and Management, Cornell.

Funded through the Genesee Valley Regional Marketing Authority and NYS Dept. of Agriculture and Markets; managed through CCE - Wayne Co. ■

New York Ranks 1st for Winter Farmers' Markets

CCE News, 1/12

A recent USDA survey shows a rise in winter farmers markets according to Kathleen Merrigan, agriculture deputy secretary. The number of farmers markets has increased by 38% according to the updated National Farmers Market Directory. The number of winter markets, defined as a market that operates at least once between November and March, has risen from 886, recorded in 2010, to 1,225. These winter markets account for nearly 17% of the nation's 7,222 operating farmers markets. According to the USDA data New York leads the pack with 180 winter markets.

A complete list of the farmers markets (as of June 1, 2011) in the 12 Cornell Vegetable Program counties, including 8 winter markets, can be found at <http://blogs.cce.cornell.edu/cvp/archives/712> ■

Vegetable Situation

Brad Rickard, *Applied Economics and Management, Cornell*

Preliminary market conditions reported in the October 2011 edition of the *USDA Vegetables and Melons Outlook* suggest that prices for most fresh vegetables will be up slightly in 2011 compared to levels observed in 2010. The same *Outlook* report shows that total acreage of fresh vegetables in the United States has been relatively stable between 2008 and 2011, yet acreage of processing vegetables has fallen by approximately 150 thousand acres between 2008 and 2011. Similar trends are observed for total crop values; crop values for fresh vegetables are up in 2011 but have fallen from levels observed in 2009 for processing vegetables. Producer price indices show that prices for fresh vegetables were higher in 2011 relative to 2010, yet some vegetables saw lower prices in 2011 (including green peas, onions, and spinach). Relative to 2010, exports of fresh vegetables were up in 2011 by 6%, and imports were down by 8%. Much of the change in trade patterns in 2011 was due to the continued weakness in the U.S. dollar, easing energy prices, and cheap credit. Key export markets for vegetables are Canada, Mexico, Japan, Taiwan, and the United Kingdom.

Recent USDA information indicates that national shipment levels of fresh vegetables were approximately 4% lower than a year earlier; given depressed demand for various consumer products, aggregate prices for fresh vegetables were approximately 3% lower in 2011. These numbers may overstate actual market conditions given that local markets have become much more important and these are not covered in the USDA national shipment information. Excessive summer temperatures in New York State reduced vegetable yields. Pumpkin supplies, in particular, were much lower in 2011 along the eastern seaboard where hurricane and tropical storm weather devastated the crop. USDA data shows that contracted production of key processing vegetables has fallen between 2008 and 2011, and this trend has also been occurring in New York State. Na-

tional production and contracted tons of sweet corn, snap beans, and green peas is down, and the drop in production has been most obvious for snap beans and green peas.

Vegetable Outlook: Marketing and Policy Issues Food safety concerns, traceability issues, country-of-origin labeling requirements, international trade, and generic promotion efforts will certainly affect vegetable markets, and in some cases the effects in vegetable markets may be different from the effects in fruit markets. In New York State, the decline of certain sectors in the processing vegetable industry is particularly alarming. Across the United States, the production of processing snap beans and green peas has decreased substantially between 2000 and 2010. Statistics indicate that there has been a general decline in the production of these two processing vegetables nationwide and the green pea industry has experienced more drastic changes in production than the snap bean industry. Wisconsin has been the largest producer of snap beans nationally, followed by Oregon, New York and Minnesota. Minnesota dominates national pea production followed by Washington, Wisconsin, New York, and Oregon. As one of the top five producing states, New York plays an important role in supplying national markets for green

peas and snap beans. The latest data (2010 for snap beans and 2006 for green peas) show that New York State accounts for about 10% of total national production. In recent years, we have seen dramatic declines in planted acreage of green peas and downward trends in acres planted to other key processing vegetables grown for freezing and canning. This is a critical concern for New York State farmers and is somewhat of an enigma, given the fact that geographically the production areas are relatively close to big cities such as New York City and Boston. A number of factors have combined to influence planting decisions and outcomes, including historically high corn and soybean prices, a 48% decline in per capita use of canned and frozen green peas since 1971, persistent production yield challenges for New York snap bean growers, increasing concentration in the processing industry, and inventory decisions, especially for frozen vegetables, made by New York processing firms during the past four years. In 2011, record rainfall in April and May also led to a sharp reduction in acres planted.

From the 2012 Cornell Economic Outlook Handbook, Fruits and Vegetables. For more on the December 13th conference go to: http://dyson.cornell.edu/outreach/qa_outlook_conference.php#videos and follow the conference links. ■

Dubois Agrinovation
Irrigation Plasticulture Containers

Leader in Innovative Ag Solutions

BiOTELO
Compostable Mulch Film

INOVagry!
Row Cover

NEW Retail Prices Online

450.454.3961 www.DuboisAg.com 1.800.667.6279

Extension Section of The Potato Association of America (PAA)

The second revision of this publication, edited by William Bohl, University of Idaho, and Steven Johnson, University of Maine, is available free online at:

<http://www.umaine.edu/umext/potatoprogram/Fact%20Sheets/Commercial%20>

[Potato%20Production%20in%20North%20America%20Handbook.pdf](#) (1.67MB).

The handbook is authored by 27 potato specialists from all over the US and covers potato history, growth requirements and culture, varieties, pest man-

agement, harvest and handling, storage, marketing and more. ■

Phosphorous Acid Fungicides for Vegetable Disease Management

Tom Zitter, Cornell, 1/12

Phosphorous acids (PA) (H_3PO_3) (Fungicide Resistance Action Committee/FRAC Group 33, 0 days to harvest) have been on the market for more than a decade but their use in agriculture still raises many questions as to their effectiveness and proper use to maximize disease control. The accompanying table (Table 1) lists 8 different products registered for use in NY. Most are not restricted by the DEC, but three are ***restricted use** (*Fosphite, *Kpwhite, and *Resist 57), meaning that they can only be applied by certified pesticide applicators. Most contain a percentage of mono- and di-potassium salts of phosphorous acid of specific active ingredient per gallon, so the best means of comparison is to look at the equivalent lbs. of PA/gal shown in column 1 for aiding in their distinction.

Study of the list of vegetables covered

reveals that many major crops are included, ranging from Asparagus to Potatoes (many other minor vegetable (herbs and spices) are also included on the labels and should be checked individually). The particular diseases listed for control, for the most part, are limited to those known as oomycetes (a group of pathogens that include water molds, downy mildew and white rot), but the spectrum of activity on some labels has been expanded to include suppression of bacterial and other non-oomycete foliar pathogens. PA fungicides are especially effective against water molds since their systemic properties directly inhibit oxidative phosphorylation in these pathogens. The compound is translocated in the plant to the roots and therefore is effective against oomycetes that attack the root. It is also widely accepted that these acids can operate indirectly inside the plants by stimulating the plants nat-

ural defense response against pathogen attack, thus broadening the range of activity.

PA should not be viewed as a silver bullet, but can contribute to disease control in some specific situations. Some labels will specify that the product be tank-mixed with protectants (mancozeb or chlorothalonil) to provide better disease control (ie. DM). A wider array of disease control is available with Catamaran (phosphorous acid + chlorothalonil) which is labeled for some vegetables. Protection of potato in the field and in storage with PA has received considerable attention. In the case of in-furrow application for pink rot and leak control in potato, PA combined with mefenoxam is suggested on some labels. PA should not be used to cure late blight or pink rot infected tubers, but rather protecting healthy tubers with a postharvest application followed by good storage management practices. It is critical to apply this treatment as soon as possible after harvest (Note cautions*).

A common warning on most labels is not to apply the product in intervals of less than 3 days, and often recommend that it should be used at 1-4 week intervals, and not to exceed 4-6 applications/season. The acid is very stable in the plant, so other precautions include: not applying to a plant that is dormant, or heat or moisture stressed (>4 hrs conditions favoring wet tissue), and to avoid copper phytotoxicity, not applying PA to plants treated with copper until a 3 week interval has passed.

Continued on page 8



**LOCAL FARMS,
LOCAL FOOD.SM**

If you operate a farm market, roadside stand, or sell via the Internet, Farm Bureau® can help send customers your way. It's a free service to member farms.

Get details by e-mailing MemberSupport@nyfb.org

Table 1. Listing of phosphorous acid fungicides currently registered in New York.

Abbreviations (in the order they appear)												
All, Gar – all crops, garlic, etc.	Phyto – Phytophthora	T-M – tank-mix	In-Fur – in-furrow	Bac – bacteria	w/protec – with a protectant							
REI - re-entry interval	Pyth – Pythium	MZ – mancozeb	PR – pink rot	Lf Dis - leaf disease (fungal)	PB – purple blotch							
DTH – days to harvest	DM – downy mildew	LB – late blight	Supp - suppresses	WRot – white rot	X. camp – bacterial spot							
					SilvrScf – silver scurf							
<u>Phosphorous Acid Fungicides</u>	<u>Source & Active Ingredients (ai)</u>	<u>Equivalent lbs Phosphorous Acid/gal</u>	<u>Asparagus</u>	<u>Beans, Peas (Legumes)</u>	<u>Crucifers (Brassica)</u>	<u>Beet, Carrot, Celery</u>	<u>Cucurbits</u>	<u>Lettuce, End. Esc, Spin</u>	<u>Onion, Garlic, Lk, Shal</u>	<u>Tomato, Egg, Pepper</u>	<u>Potato</u>	<u>Potato Postharvest per Ton</u>
1) <u>Agri-Fos</u> DEC Label 1/8/10 EPA 71962-1	Liquid Fert. Specific label 45.8% Mono- & di-potassium salts Phosphorous acid 5.17 lb ai/gallon REI 4 hrs; 0 DTH	3.35	<u>Crwn</u> Rot <u>Spear</u> Slime	<u>All</u> Phyto Pyth	<u>All</u> DM	<u>Car</u> Phyto Pyth	<u>All</u> DM T-M w/MZ Phyto Root & Fruit rot	<u>All</u> DM	<u>All</u> DM T-M w/ MZ	<u>Tom</u> LB, Phyto Root rot <u>Egg, Pep</u> Phyto Root rot	<u>In-Fur</u> PR Leak <u>Foliar</u> LB, PR Leak	LB, PR 16.5 fl oz/0.5 gal water *
2) <u>*Fosphite</u> DEC Label 9/14/10 EPA 68573-2	J. H. Biotech Specific label 53% Mono- & di-potassium salts Phosphorous acid 6.22 lb ai/gallon REI 4 hrs; 0 DTH	3.90	Phyto	<u>All</u> DM, Phyto	<u>All</u> DM, Phyto	<u>All</u> DM, Phyto	<u>All</u> DM, Phyto	<u>All</u> DM	<u>On Gar</u> DM	<u>Tom</u> LB, Phyto, Pyth <u>Egg, Pep</u> Phyto, Pyth	<u>Foliar</u> LB, PR	<u>PostHarv</u> LB, PR 6.4-12.8 fl oz/0.5 gal/ton *
3) <u>Fungi-Phite DF lbs Fungi-Phite qts.</u> DEC Label 11/14/11 or 6/16/11 EPA 83472-3 or 83472-1	Plant Protect. Both specific labels 99% Mono- & di-potassium salts Phosphorous acid; equivalent to 0.68 lb PA/pound; <u>or</u> 45.5% of phosphorous acid containing 5.41 lb/gal REI 4 hrs; 0 DTH	3.38	Phyto	<u>All</u> DM, Phyto, Pyth Supp. Bac. & Lf. Dis.	<u>All</u> DM Supp. Bac, Lf dis.	<u>All</u> DM	<u>All</u> DM, Phyto, Pyth Supp. Lf dis.	<u>All</u> DM, Phyto, Pyth Supp. Bac. & Lf dis.	<u>All</u> DM Supp. Bac. Dis.	<u>All</u> Phyto, Pyth Supp. Bac. Dis. Lf dis.	<u>Foliar</u> PR, Leak Supp. LB, PM	<u>PostHarv</u> Supp. PR, & LB 0.65-1 lb/0.5-1 gal water 1-1.5 pts/0.5-1 gal water *
4) <u>Helena ProPhyt</u> DEC Label 10/27/10 EPA 42519-22-5905	Luxembourg Specific label 54.5% Mono- & di-potassium salts Phosphorous acid 34.3% lb ai/gallon REI 4 hrs; 0 DTH	4.2	<u>Crwn</u> Rot <u>Spear</u> Slime	<u>All</u> DM <u>Snap Bean</u> Pyth	<u>All</u> DM	<u>No</u>	<u>All</u> DM, <i>Phyto capsici</i>	<u>All</u> DM <u>Spin</u> WRot	<u>All</u> DM, PB	<u>Tom</u> LB <u>Pep</u> <i>Phyt capsici</i>	<u>In-Fur w/</u> mefenoxam PR Leak <u>Foliar</u> LB w/protec	13 fl oz/0.5gal water for Supp. PR & LB *
5) <u>*Kphite 7LP</u> DEC Label 2/12/10 EPA 73806-1	Plant Food Systems Generic label 56% Mono- & di-potassium salts Phosphorous acid 7.03 lb ai/gal REI 4 hrs; 0 DTH	4.41	Phyto	<u>All</u> DM, Phyto, Pyth Bac & Fungi	<u>All</u> DM, Pyth	<u>All</u> DM, Phyto Pyth	<u>All</u> DM, Phyto, Pyth	<u>All</u> DM	<u>On Gar</u> DM	<u>All</u> Phyto, Pyth X. camp LB	<u>Foliar</u> LB, PR	<u>No</u>

Table 1. Listing of phosphorous acid fungicides currently registered in New York. (continued)

<u>Phosphorous Acid Fungicides</u>	<u>Source & Active Ingredients (ai)</u>	<u>Equivalent lbs Phosphorous Acid/gal</u>	<u>Asparagus</u>	<u>Beans, Peas (Legumes)</u>	<u>Crucifers (Brassica)</u>	<u>Beet, Carrot, Celery</u>	<u>Cucurbits</u>	<u>Lettuce, End, Esc, Spin</u>	<u>Onion, Garlic, Lk, Shal</u>	<u>Tomato, Egg, Pepper</u>	<u>Potato</u>	<u>Potato Postharvest per Ton</u>
6) Phostrol DEC Label 10/12/11 EPA 55146-83	Nufarm Specific label 53.6% Mono- & dibasic Na, K and NH3 phosphites; Phosphorous acid 6.69 lb ai/gallon REI 4 hrs; 0 DTH	4.32 (35.6%)	<u>Crwn</u> Rot <u>Spear</u> Slime	<u>All</u> DM, Phyto, Pyth	<u>All</u> DM	<u>Cel</u> DM?	<u>All</u> DM Phyto Root & Fruit rot	<u>All</u> DM	<u>On</u> <u>Dry Bulb</u> DM	<u>Tom</u> Phyto root rot <u>Pep</u> Phyto, Pyth	<u>In-Fur w/</u> mefen- oxam <u>Foliar</u> LB, PR Leak	<u>Yes</u> 12.8 fl oz/0.5 gal water *
7) Rampart DEC Label 3/17/10 EPA 34704-924	Loveland 53% Mono- & di- potassium salts Phosphorous acid 6.22 lb ai/gal REI 4 hrs; 0 DTH	3.90	Phyto	<u>All</u> DM, Phyto, Pyth	<u>All</u> Phyto, Pyth, DM	<u>All</u> DM, Phyto, Pyth	<u>All</u> DM, Phyto, Pyth	<u>All</u> DM	<u>On Gar</u> DM	<u>All</u> Phyto, Pyth	<u>Foliar</u> Generic	<u>Yes</u> 6.4-12.8 fl oz/0.5 gal water LB, PR *
8) *Resist 57 DEC Label 1/11/10 EPA 82940-1	Actagro LLC Generic label 57% Mono- & di- potassium salts; Phosphorous acid 6.78 lb ai/gal REI 4 hrs; 0 DTH	4.16	Phyto	<u>All</u> DM, Phyto, Pyth	<u>All</u> DM, Phyto, Pyth	<u>All</u> DM, Phyto Pyth	<u>All</u> DM, Phyto, Pyth	<u>All</u> DM	<u>On Gar</u> DM	<u>All</u> Phyto, Pyth	<u>Foliar</u> LB, PR SilvrScf	<u>Yes</u> 0.1 in 0.5 gal water *

* Note: Russet potatoes for processing only

Table 1 Disclaimer: Please read the pesticide label prior to use. The information contained in the article is not a substitute for a pesticide label. Trade names used herein are for convenience only. No endorsement of products is intended, nor is criticism of unnamed products implied. Some information is historical and may no longer be applicable. ■



DuPont provides solutions and products to help grow better, healthier crops and maximize your crop investment

Fungicides

- Curzate® 60DF fungicide
- Mankocide® fungicide
- Tanos® fungicide

Insecticides/Nematicides

- Asana® XL insecticide
- Avaunt® insecticide
- Coragen® insect control
- Lannate® insecticide
- Vydate® C-LV insecticide/nematicide
- Vydate® L insecticide/nematicide

For more information contact:

Gale Drake, Western & Central NY
Gale.E.Drake@usa.dupont.com
585.447.7305

Carl Bannon, Eastern NY & New England
Carl.D.Bannon@usa.dupont.com
413.253.4017



STOKES®
QUALITY
SEED SINCE 1881

Contact **George Dobson**
for the highest
quality seed and service.

585-734-7214

1-800-263-7233

www.StokeSeeds.com

Upcoming Meetings

Basic Farm Business Management Planning Several dates and locations	Helping your farm business achieve success, \$25. Choose the site, time most convenient for you. Contact Sandy Buxton at 518-380-1498 or sab22@cornell.edu February 7 - CCE-Washington Co, 411 Lower Main St, Hudson Falls, 6:00 – 8:30 pm. April 4 - CCE-Albany Co, 24 Martin Rd, Voorheesville, 6:00 – 8:30 pm. May 10 - CCE-Greene Co, Acra, 6:00 – 8:30 pm.
Marketing for Profit: Tools for Success Webinar Series	What's out there? Exploring marketing channels February 7 , 10:00 - 11:30 am <u>OR</u> February 9 , 7:00 - 8:30 pm Where are we and where do we want to be? February 21 , 10:00 - 11:30 am <u>OR</u> February 23 , 7:00 - 8:30 pm To register or details, Diane Eggert at deggert@nyfarmersmarket.com <i>Sponsored by Farmers Market Federation of NY, the NY Farm Viability Institute and USDA Northeast SARE.</i>
Farm Market Management & Regulations: <i>What Every Vendor Should Know</i> Wednesday, February 8 9:00 am - 3:00 pm CCE Ontario County 480 N Main St, Canandaigua	This workshop will provide updates for farmers and farmer market managers, plus information on food safety guidelines for farmers. Cost: \$25 includes lunch. To register call Nancy Anderson at 585-394-3977 x427 or send name, address, phone to nea8@cornell.edu <i>Hosted by Cornell Vegetable Program, CCE Ontario County and supported with funding from the Genesee Valley Regional Market Authority.</i>
Greater Capital District Farmers Direct Marketing Conference - Farmer to Consumer: <i>Your Road to Success</i> Friday, February 10 8:30 am - 4:00 pm Hudson Valley Community College 80 Vandenberg Ave, Troy	Cost \$45. Register with CCE - Saratoga County at 518-885-8995.
27th Annual North American Farmers' Direct Marketing Association Convention February 10 - 17 Williamsburg, VA	For more info contact the NAFDMA at 413-529-0386 or visit: www.nafdma.com
High Tunnel Winter Growing and Seeding Meeting Tuesday, February 14 10:00 am - 12:00 pm Slack Hollow Farm, Argyle	\$10 for those <u>not</u> enrolled in the Capital District Vegetable & Small Fruit program, free for those enrolled. To register contact Laura McDermott at lmg4@cornell.edu or 518-746-2562.
WEEDS: How to Prevent Them and Dispatch the Ones that Show Up in Our Fields - <i>NYCO discussion group</i> Tuesday, February 14 Geneva <u>OR</u> by Webinar	Jordan Hall, NYS Ag Exp. Station, 10:00 am - 2:00 pm, Dish-to-pass Lunch Discussion: How does timing of nutrient application and weeding affect weed growth? <u>OR</u> as a Webinar, 10:15 am - 12:30 pm, enter http://breeze.cce.cornell.edu/r8k194kpy9a/ in to your browser. For more info: Brian Caldwell, bac11@cornell.edu , 607-280-3652; Janice Degni, 607-753-5215, jgd3@cornell.edu ; or Fay Benson, 607-753-5213, afb3@cornell.edu

<p>CDL Training (Classes A and B) for Ag Producers</p> <p>February 16 - info meeting February 22 & 23, training CCE Genesee County 420 E Main St, Batavia</p>	<p>February 16, 7:30 pm – Information meeting (training materials, medical forms) February 22 and 23, 7:30 pm – Classroom training</p> <p>Cost: Class A is \$625; Class B is \$475. This training is designed for producers and farm employees with some experience with commercial truck. Contact Jan Beglinger at 585-343-3040 x132 or jmb374@cornell.edu by Feb 10. <i>Sponsored by CCE - Genesee Co. in collaboration with Genesee Valley Educational Partnership</i></p>
<p>Farm Market Merchandising: The Keys to Incredible Sales</p> <p>Wednesday, February 22 9:00 am - 1:30 pm NYS Agricultural Experiment Station, Jordan Hall, 630 W North St, Geneva</p>	<p>If you are a farm market vendor, CSA farmer, or run a seasonal market at your farm, you can tap into better profits if you merchandise like the pros. This workshop will give you insights about produce sales techniques and show you how to dress up and arrange your stand to increase sales without a lot of effort.</p> <p>Fee: \$25.00 per person includes lunch, handouts, and expert advice on farm market merchandising. Pre-registration is required by February 20. Call CCE Ontario Co., Nancy Anderson at 585-394-3977 x427 or email your contact info to nea8@cornell.edu. <i>Supported by the Genesee Valley Regional Marketing Authority.</i></p>
<p>Bionutrient Rich Crop Production Workshop</p> <p>February 23 - 24 9:30 am - 4:30 pm United Methodist Church, Saratoga Springs</p>	<p>Cost is \$150. To register and pay online go to: www.realfoodcampaign.org. To pay by check or to request financial aid contact Douglas Williams at doug@realfoodcampaign.org or 603-924-7008.</p>
<p>CSA School: Growing Success One Share at a Time</p> <p>Saturday, February 25 9:00 am - 2:00 pm CCE Ontario County 480 N Main St, Canandaigua</p>	<p>One day, high-intensity workshop for new and experienced CSA farmers dealing with marketing, growth, communications, business decisions, liability, regulations. \$25.00 includes lunch. Pre-registration by February 23. Call CCE Ontario Co. at 585-394-3977 x427 or send name, address and phone number to nea8@cornell.edu. <i>Hosted by Cornell Cooperative Extension of Ontario County and NOFA-NY.</i></p>
<p>Niagara Winter Produce Meeting</p> <p>Monday, February 27 8:30 am - 4:00 pm CCE Niagara County 4487 Lake Ave, Lockport</p>	<p>Morning - vegetable production Afternoon - small fruit and berry production</p> <p>DEC credits will be available. Cost is \$20 for CVP enrollees and \$30 for others, and includes lunch. Contact Robert Hadad for vegetable questions at 585-739-4065 or rgh26@cornell.edu or, for fruit questions contact Craig Kahlke at cjk37@cornell.edu or 585-735-5448.</p>
<p>Capital District Vegetable & Small Fruit Program Annual Winter Meeting</p> <p>Wednesday, February 29 9:00 am - 3:30 pm Best Western Albany Airport Inn 200 Wolf Rd, Albany</p>	<p>Culture and pest management updates. Cost: \$30 for the first person from a farm enrolled in the CDVSP and \$20 for additional people; \$50 for those not enrolled. To register contact Marcie at mmp74@cornell.edu or at 518-272-9524.</p>
<p>Small Farmers: Shape Your Future at the Small Farms Summit</p> <p>Wednesday, February 29 9:30 am - 3:00 pm</p>	<p>Free – lunch provided, Ithaca, Voorheesville, Canton, Warsaw and Riverhead. A video connection will allow communication and interaction across sites. Pre-register with Violet Stone, 607-255-9227 or vws7@cornell.edu or visit: www.smallfarms.cornell.edu/pages/news</p>

Upcoming Meetings (continued)

<p>Winter Wednesday Vegetable Production Webinars <i>Lee Stivers, Penn State Extension, Washington, PA</i> 12:00 noon - 1:00 pm</p>	<p>February 29 - Vegetable disease management: What you need to know for 2012 March 14 - New insect pests To register go to: http://www.cvent.com/events/winter-wednesday-lunch-series-vegetable-production-webinars/event-summary-5bd38ff53bbf47e7a31275cb16c444f6.aspx</p>
<p>Winter High Tunnel Pest Management Meeting Monday, March 5 10:00 am - 12:00 pm Canticle Farm CSA 3835 South Nine Mile Rd, Allegany</p>	<p>No charge. Come learn about growing winter greens in unheated high tunnels. Observe a winter harvest of greens at Canticle Farms and learn about organic winter pest management. Judson Reid will share data on managing pests such as aphids, slugs, worms and thrips. Call 585-313-8912 or email jer11@cornell.edu for more info. <i>Sponsored by NESARE.</i> Canticle Farm is a non-profit Community Supported Agriculture (CSA) farm guided by a dedicated core group of local residents.</p>
<p>Tomato Seed Treatment Workshop Wednesday, March 7 Rochester area</p>	<p>Contact Robert Hadad 585-739-4065 or rgh26@cornell.edu</p>
<p>Solar and Wind Power for the Farm: Getting Your Farm Ready for Renewable Energy Wednesday, March 7 9:00 am - 12:00 pm CCE Yates County 417 Liberty St, Penn Yan</p>	<p>Many farm owners see the potential for wind or solar power but it can be hard to get accurate information and separate hype from reality. This workshop will provide practical details about the most important steps to prepare for renewable energy at the farm, what loads can be supplied by wind or solar power, the gadgetry of renewable energy, and how one Finger Lakes farm prepared for and installed solar panels recently. <i>Hosted by CCE of Yates and Ontario Counties.</i> \$15 per farm. Pre-registration required by March 5. Call CCE Yates Co., 315-536-5123.</p>
<p>Greenhouse IPM In-depth Thursday, March 8 CCE Yates County 417 Liberty St, Penn Yan</p>	<p>Including thrips, Botrytis and testing potting mix for pH and salts. DEC pesticide credits will be available. Contact Judson Reid at 585-313-8912.</p>
<p>Farm Disaster Prep Certificate Course Thursday, March 8 8:30 am - 2:30 pm CCE Genesee County 420 E Main St, Batavia</p>	<p>\$35 includes lunch. The Farm Disaster Preparation Certificate program will help farmers plan for and manage disasters. Farms that complete this training will receive a certificate to for their insurer for credit or discount toward their premium. The insurance policyholder must attend. Contact Jackson Wright at 585-746-3016 or Jan Beglinger at 585-343-3040 x132 or jmb374@cornell.edu by March 1.</p>
<p>Cultivating Cole Crops Thursday, March 8 9:00 am - 12:00 pm CCE Orange County, Middletown</p>	<p>Call 845-344-1234 to register.</p>
<p>2012 Farmers Market Federation of NY - Farmers Market Manager Training Program: Keeping the Momentum Going March 8 - 10 Saratoga Marriott Courtyard 11 Excelsior Ave, Saratoga Springs</p>	<p>\$250 for 3 days; \$145 for 1 day – discount for members. Mail registrations, with payment to: Farmers Market Federation of NY, 117 Highbridge St, Suite U3, Fayetteville, NY 13066 Pre-registration form online at: http://www.nyfarmersmarket.com/workshops.htm Questions: Diane Eggert, (315) 637-4690 or deggert@nyfarmersmarket.com</p>

<p>Vegetable Production, Pest Management & Marketing Meeting Monday, March 12 12:30 pm - 4:00 pm NYS Fairgrounds, 581 State Fair Blvd, Martha Eddy Room, Syracuse</p>	<p>DEC and CCA credits will be available. Free for enrollees in the Cornell Vegetable Program, \$10 for others. Enroll at the meeting for free admission! To pre-register contact Lorene Nans at 315-424-9485 or lmn66@cornell.edu</p>
<p>Greenhouse Intensive IPM Meeting Tuesday, March 13 10:00 am - 4:00 pm CCE Saratoga County 50 W High St, Ballston Spa</p>	<p>\$25 includes lunch and a tour of Sunnyside Gardens' greenhouses. To register contact Sharon LaPier at (518) 885-8995 or stl32@cornell.edu.</p>
<p>GAPs Food Safety Workshops: Develop Your Own Farm Food Safety Plan March 14 & 15 - Albany March 28 & 29 - Syracuse 8:30 am - 3:30 pm</p>	<p>These 2-day workshops teach growers about GAPs (Good Agricultural Practices), for food safety. Attendees will write their own farm food safety plans. You must attend both days. A laptop computer is required for the second day, but we may lend you one for the day. After the workshop, growers are invited to a mock third party audit during the growing season. Check: http://www.gaps.cornell.edu/ for more info on the workshops. <i>Sponsored by: Cornell Cooperative Extension, NYS Dept. of Agriculture & Markets, and the National GAPs Program.</i></p>
<p>2012 NYS Dry Bean Meeting Monday, March 19 9:00 am - 3:00 pm LeRoy Country Club 7759 E Main Rd, 1 mi east of LeRoy</p>	<p>2+ DEC, and CCA credits will be available. If pre-registered by March 12: \$20 for current enrollees in the Cornell Vegetable Program; \$30 for others; \$5 extra at the door. To pre-register or for sponsor opportunities contact Angela Parr at 585-394-3977 x426 or aep63@cornell.edu</p>
<p>Organic Sprayer Calibration Workshop Monday, March 19 Finger Lakes region</p>	<p>Contact Abby Seaman at 315-787-2422 or ajs32@cornell.edu</p>
<p>Multi-Farm Marketing: Understanding the Profits and Perils of Family Farm Collaboration Tuesday, March 20 8:30 am - 3:30 pm Ravenwood Gold Club Conference Center, 929 Lynaugh Rd, Victor</p>	<p>This seminar is devoted to the modern ways small-scale family farms can increase their marketing power through collaboration. We will explore multi-farm CSAs, Internet-based farm markets, and food hubs. Learn about key legal considerations. <i>Hosted by Cornell Cooperative Extension of Ontario County with support from the Genesee Valley Regional Market Authority</i></p> <p>\$30 per person. Pre-registration required by March 16. Call CCE Ontario Co., 585-394-3977 x 427 or send name, address and phone number to nea8@cornell.edu</p>
<p>Sweet Potato School Tuesday, March 20 10:00 am - 2:00 pm CCE Albany County</p>	<p>Recommended cultural practices and results of 2 years of variety trials. Contact Chuck at cdb13@cornell.edu</p>
<p>Identification, Assessment & Management of Soilborne Plant Pathogens in Vegetable Production Systems Thursday, March 22 8:30 am - 4:30 pm CCE Saratoga County, Ballston Spa</p>	<p>This workshop will train participants to identify, assess and manage soilborne pathogens. Resources that can be used on-farm and in various outreach activities will be provided. Cost: \$10 includes lunch, breaks, 3-ring binder of resources, and trowels. Pre-register by March 12, contact Marcie Vohnoutka, 518-272-4210. <i>Funded by NE-SARE.</i></p>

Upcoming Meetings (continued)

<p>Genesee County 10th Annual Celebrate Agriculture Dinner Saturday, March 24 at 6:00 pm Alexander Fire Hall, Rt 98, Alexander</p>	<p>Tickets are \$25 or \$230 for a table of ten, available from the Genesee Co. Chamber of Commerce, 210 E. Main St, Batavia, or call the CCE office at 585-343-7440 x27. <i>Coordinated by: CCE - Genesee Co, Genesee Co. Chamber of Commerce, Genesee Co. Soil & Water Conservation District and Genesee Co. Farm Bureau</i></p>
<p>Garlic School Monday, March 26 - CCE Albany Co. <u>OR</u> Tuesday, March 27 - NYS Agriculture Experiment Station, Geneva 10:00 am - 2:00 pm</p>	<p>Garlic culture and pest management, including an update on the garlic bloat nematode. David Stern, founder of the Garlic Seed Foundation, is a speaker. \$20 for those enrolled in CDVSP or the CVP; \$25 for others. To sign up for the Albany location, contact Crystal Stewart at 518-775-018 or cls263@cornell.edu. To sign up for the Geneva location, contact George Abawi at 315-787-2374 or gsa1@cornell.edu; or Robert Hadad at 585-739-4065 or rgh26@cornell.edu</p>

Pesticide Trainings & Recertification Classes

<p>2012 DEC Core Recertification Classes Dates, times and topics listed to the right CCE Monroe County 249 Highland Ave, Rochester</p>	<p>February 7: Pesticide Education I, 1:00 pm - 4:15 pm - Pesticide types, formulations, toxicity, and environmental considerations of pesticide use, calibration, mixing calculations, and application equipment. February 14: Pesticide Education II, 9:00 am - 12:15 pm - Pesticide security including proper transportation, storage and disposal. Safety precautions including poisoning symptoms, residue and tolerance. Integrated Pest Management also presented. February 21: Personal Protective Equipment and Interpreting Pesticide and Fertilizer Labels, 9:00 am 12:15 pm - Appropriate use of personal safety equipment. Reading a label for effective application and preventing misuse of the product. 3 core credits available for each class. Individual sessions are \$40 for Monroe CCE enrollees, \$47 otherwise. Contact Karen at 585-461-1000 x225 or ksk8@cornell.edu for registration or further information.</p>
<p>Pesticide Training & Recertification Classes Mondays, February 6, 13, 20, 27 7:00 pm - 9:30 pm (Exam: March 5, 7:00 pm - 11:00 pm) CCE Ontario County 480 N Main St, Canandaigua</p>	<p>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 those seeking recertification credits is \$70.00 for all four classes or \$20.00 per class. To receive registration materials contact CCE Ontario Co. at 585-394-3977 x427, nea8@cornell.edu. Visit www.cceontario.org for registration form.</p>
<p>Pesticide Recertification Day Thursday, March 15 The Century House, Latham</p>	<p>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</p>
<p>Pesticide Certification Core Exam Prep (& Exam) & Core Recertification Credits Meetings March 20 & 22; Exam March 22 Trolley Bldg, Orleans Co. Fairgrounds, 12690 Rt. 31, Albion</p>	<p>March 20: 8:15 am – noon (regulations, pesticides, personal protective equipment); 12:30 - 3:45 pm (Integrated Pest Management, the label) March 22: 8:15 am – noon (mixing pesticides, calibration, storage) \$25 per training or \$65 for all three (\$45 for CCE Orleans Co. enrollees). DEC pesticide credits will be available. Training meeting preregistration: Contact Vicki Jancef, x33 or Kim Hazel, x26, at 585-798-4265. NYS DEC Pesticide Certification Exam: March 22, 1 – 4 pm, \$100 fee. To register or if you have questions contact Gail Mortimer, NYS DEC at 585-226-5423.</p>

Potato Seed Testing for Late Blight

Steven B. Johnson, University of Maine

Phytophthora infestans-infected potato seed can initiate late blight (LB) epidemics. The onset of such epidemics is difficult to predict and nearly impossible to control. Seed-borne LB epidemics are the most devastating and need to be avoided at all costs. Seed potato growers in Maine have the opportunity to have their seed lots screened for LB. The Maine Dept. of Agriculture's Division of Plant Industry is performing the screening. Again this year, seed screening is a requirement for Farm Service Agency (FSA) clients. Seed screening is highly recommended for all potato growers. The screening program is designed to find seed lots that have a high probability of becoming a LB problem if planted. The test will not guarantee that the seed lot is free of LB, only that it has been tested, and to a certain level of probability, should not be a LB source when

planted. Seed potatoes grown in Maine will be charged \$100 per sample. For additional details, call Allison Todd, Seed Potato Inspector Supervisor at 207-764-2036. This test is voluntary and the results will be reported back to growers. The reported results will not be available to seed customers unless they are released by the seed grower. Know your seed source and have it tested. You don't want to plant a problem.

From Carl Albers, CCE – Steuben Co: New York growers can also benefit from Maine's LB testing program. Ask your seed grower or broker for a copy of the LB test results. You can also ask for a copy of the North American Plant Health certificate for a particular lot of seed; the certificate includes the results of field inspections and the harbin inspection, and also includes the winter test data when it becomes available. The certificate quantifies: % leaf roll, % mosaic, % varietal mixture, % blackleg, % *Verticillium* + % *Fusarium* + % early blight, % PVY, % PVX, and +/- late blight and bacterial ring rot found in that particular lot of seed reflecting that growing season.

The NY Seed Improvement Project also does LB screening for NY-grown seed lots when requested. The charge is \$50 per sample. Ask your seed producer for the results.


A shipping point inspection is the final step in the seed certification process, however, there is still a 1% tolerance for LB tuber rot in the U.S. Standards for Seed Potatoes. As Steve Johnson says it just isn't worth planting a problem, request to see the results of LB testing programs. For more about Maine Seed Potatoes: <http://www.maine.gov/agriculture/pi/potato/index.htm> ■

Agronomy Fact Sheets

Cornell University Nutrient Management Spear Program

The following, and many more, fact sheets on nutrient management for crops are available at: <http://nmsp.cals.cornell.edu/guidelines/factsheets.html>

- 2 – The Nitrogen (N) Cycle
- 7 – Liming Materials
- 22 – Cation Exchange Capacity (CEC)
- 23 – Estimating CEC from Soil Test Data
- 29 – Soil Text – The % Sand, Silt and Clay in Your Soil
- 30 – Soybean N Credits (for the next crop)
- 32 – Zinc Needs of Crops
- 36 – Illinois (spring) Soil N test
- 39 – N Fixation by Legumes
- 41 – Organic Matter
- 43 – N Benefits of Winter Cover Crops
- 44 – N Fertilizers
- 45 – Enhanced Efficiency N Sources
- 52 – Web Soil Survey
- 54 – Timing Lime Applications
- 57 – Subsurface Tile Drainage Install.
- 60 – N Credits from Red Clover
- 64 – Forage Radishes ■



Crop Production Services
Fancher 585.589.6330 Avon 585.226.2700
Cohocton 585.384.5221 Sodus 315.483.9146
www.cropproductionservices.com



HARRIS SEEDS
Located in Rochester, NY for 132 years, Harris Seeds has provided Empire State growers with the very finest products and services our industry has to offer. When you need us, we are here for you.

For on the farm seed service, call Bill Russell. He's built a reputation for sound grower advice and recommendations that you can take to the bank.

HARRIS SEEDS
A grower friendly company
355 Paul Road – PO Box 24966
Rochester, NY 14624-0966
800-544-7938 www.harriseseeds.com

A048

Cull Potato Disposal Options

Timothy Hobbs and George McLaughlin, Maine Potato Board, and James Dwyer, University of Maine

The 2011 growing season in Aroostook County was the wettest season on record. Officially, the National Weather Service office in Caribou recorded six storms that each dropped over an inch of rain, and three storms that each dropped 2+ inches of rain in a 24-hour period. As a result, there are potatoes that will not be marketed and will have to be disposed of in a safe and appropriate manner. Proper disposal of cull potatoes is extremely important to the safety of the Maine Potato Industry. Proper disposal of cull potatoes will help to reduce the risk of disease spread and provide an environmentally sound method of disposing of unwanted potatoes.

As producers and packers prepare for disposing of cull potatoes, they need to be aware that cull potatoes will generate leachate, odor, and potential fly problems once the weather warms again. The negative aspects of breakdown need to be anticipated in order to prevent problems arising from disposal. Producers and packers also need to be aware that all cull piles in Maine will need to be controlled by June 10 as mandated by state regulation. The Maine Potato Board is the clearinghouse for information for cull potato disposal and is cooperating with the Natural Resources Conservation Service (NRCS), the Maine Dept. of Environmental Protection (Maine DEP), the Maine Dept. of Agriculture, and UMaine Cooperative Extension. The following is a summary of several methods available to growers and packers to dispose of cull potatoes.

Cull potatoes may be disposed of by the following methods:

Using a long-term cull potato storage site — Placement must be such that a setback of a minimum of 100 feet from dwellings, property lines, wells, and water bodies is observed. If leachate will be discharged into the soil, the site must be well drained and deep (40 inches or more to seasonal water table or bedrock). The stockpile should be surrounded on three sides by a berm that is at

least two feet thick. The berm may be constructed from earth, hay bales, sawdust, or similar materials. During the growing season, the potatoes must be covered to prevent sprouting and potentially spreading disease. Covers may consist of 6 inches of sawdust, 12 inches of soil, or 6 mil black plastic, each of which must completely cover the pile.

Winter spreading of cull potatoes — (These are the guidelines for the NRCS EQUIP program. Please contact NRCS before spreading) Field spreading of potatoes can be an effective method of disposing of cull potatoes when temperatures will be low enough to freeze the tubers completely.

Appropriate dates for field spreading in Maine:

South of Aroostook County

October 1 — March 15

Aroostook County North

October 1 — March 30

300 to 400 barrels of cull potatoes/acre may be uniformly spread on moderately well-drained soils and well-drained deep soils, respectively. Do not spread on fields with slopes greater than 15° or within 100 feet of sensitive areas.

Ensiling cull potatoes in order to make a livestock feed—The pile must be located at least 100 feet from sensitive areas. If the pile is not within a self-contained structure, it must be sited upon deep, well-drained soils. Care should be taken to manage leachate. The pile must be covered.

Using cull potatoes as fresh animal feed—Cull potatoes can be fresh-fed to livestock; however, please note that "free-range feeding of fresh cull potatoes is considered a cull-spreading practice." Reasonable maximum daily feed volumes are considered to be 100 pounds of potatoes per 1,000 pounds of animal weight for animals being fed cull potatoes.

Composting cull potatoes—Cull potatoes may be composted as a disposal meth-

od. Compost piles should be located in such a manner that leachate will not become an issue. Compost piles should also be actively turned in accordance with good composting practices so that volunteers and diseases will be controlled. (*More info is available on this practice. ed. C. MacNeil, CVP*)

Burying cull potatoes—Cull potatoes may be buried under "permit by rule" and in an approved location by the Maine Department of Environmental Protection. Location for cull burial must be approved by NRCS or a licensed soil scientist. Criteria for location and dimensions of the trench are very specific. Trenches can be a maximum of 12 feet wide, and potatoes may not exceed 2 feet in depth. The potatoes must be at least 18 inches from the seasonal high water table and 24 inches from bedrock. Under this rule, abutting property owners, municipalities, and Maine DEP must be notified 15 days before the cull burial.

Cull potato disposal is a difficult task, and one that our industry must take very seriously in order to prevent negative environmental effects and protect next season's crop. ■



People...Products...Knowledge..

Chris Daum: 585-738-3889
daumc@helenachemical.com

John Ivison: 585-509-2262
ivisonj@helenachemical.com

Cris Wunder: 315-727-1300
wunderc@helenachemical.com

Kevin Witkop: 585-738-9882
witkopk@helenachemical.com

165 S. Platt St. • Suite 100 • Albion, NY 14411
585-589-4195 (Office)

3704 Yaegel Rd. • Geneva, NY 14456
315-789-4450 (Office)

New USDA - NRCS Amendment - Highly Erodible Lands & Wetland Conservation

USDA - NRCS

Effective December 30, 2011: Existing Department of Agriculture (USDA) regulations specify the conditions that may make a producer ineligible for certain USDA benefits, such as disaster assistance payments from the Farm Service Agency (FSA), in certain cases in which agricultural commodities are planted on highly erodible land or a converted wetland. Those regulations also specify the authorized exemptions, which include an exemption based on a "good faith" determination. The "good faith" provisions in the USDA regulations allow violators of highly erodible land conservation (HELCS) or wetland conservation (WC) provisions to retain eligibility for USDA program benefits if certain conditions are met. This rule revises the "good faith" provisions in two ways, first, by requiring a higher level of concurrence with USDA and second, by reducing the amount of the benefit to be received in an amount commensurate with the seriousness of a violation. These changes to the regulations are made

to implement provisions specified in the Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill). The complete final rule in the Federal Register can be found at: <http://www.gpo.gov/fdsys/pkg/FR-2011-12-30/pdf/2011-33547.pdf> ■



Filling Your Crop Needs

<p>Elba Muck: Doug Rathke 716.474.0500 cell; 585.757.6642</p> <p>Batavia: Mike Hammond 585.343.4622</p> <p>Caledonia: Dale Bartholomew 585.538.6836</p>	<p>Knowlesville: Kirk Zinkievich 585.798.3350</p> <p>Gainesville: Larry Dumbleton 585.322.7273</p> <p>Agronomist: Don Jones 585.734.2152</p>
--	---

Chemicals, fertilizer, seed, custom application, airflow spreading & seeding

GROWING green

has never been easier



RootShield®* Biological Fungicide

CEASE®* Microbial Fungicide/Bactericide

MilStop®* Foliar Fungicide

NemaShield® Beneficial Nematodes

BotaniGard® Mycoinsecticide

Mycotrol O®* Mycoinsecticide

SuffOil-X®* Insecticide/Miticide/Fungicide

Molt-X®* Botanical Insecticide/Nematicide

* OMRI Listed Products



BioWorks®

How You Grow Matters™

RESPONSIBLE :: ECONOMICAL :: PROVEN

www.bioworksinc.com
 1.800.877.9443
 Victor, NY





It's amazing what your roots can become with a little help

www.serenadesoil.com

Bejo Seeds offers a wide range of quality hybrid vegetable seeds



Tiara Cabbage



Forum Onion Sets



Ripbor Organic Kale



Naval Carrots



bejo seeds, inc.

A NAME THAT STANDS FOR QUALITY

main office: 1972 silver spur place,
ocean, california 93445

phone: 805.473.2199 fax: 805.473.0897

e-mail: info@bejoseeds.com
web: www.bejoseeds.com

Contact the Cornell Vegetable Program

Cornell Vegetable Program (CVP) Specialists



Robert Hadad
Extension Specialist
Food safety; Western region fresh market vegetables; marketing; organic

Phone: (716) 433-8839 x228
Cell: (585) 739-4065
Email: rgh26@cornell.edu



Julie Kikkert*
Extension Specialist
Processing crops: sweet corn, snap beans, peas, beets and carrots

Phone: (585) 394-3977 x404
Cell: (585) 313-8160
Email: jrk2@cornell.edu



Judson Reid
Extension Specialist
Greenhouse production; small farming operations; Eastern region fresh market vegetables

Phone: (315) 536-5123
Cell: (585) 313-8912
Email: jer11@cornell.edu



Christy Hoepfing
Extension Specialist
Onions, cabbage, field research and pesticide training

Phone: (585) 798-4265 x38
Cell: (585) 721-6953
Email: cah59@cornell.edu



Carol MacNeil
Extension Specialist
Potatoes, dry beans and soil health; Editor of Veg Edge

Phone: (585) 394-3977 x406
Cell: (585) 313-8796
Email: crm6@cornell.edu

John Gibbons, Field Technician
Phone: (585) 394-3977 x405
Email: jgg10@cornell.edu

Katie Klotzbach, Field Technician
Phone: (585) 798-4265
Email: kep39@cornell.edu

Visit our website at
<http://cvp.cce.cornell.edu>

CVP Administration

Mark Giles*, Regional Ag Team Leader
Cornell University
Phone: (607) 255-6619
Email: fmg4@cornell.edu

Angela Parr, Administrative Assistant
Veg Edge, Enrollment, & Sponsorships
Phone: (585) 394-3977 x426
Email: aep63@cornell.edu

Steve Reiners*, Co-Team Leader
Cornell University
Phone: (315) 787-2311
Email: sr43@cornell.edu

** Member of the Cornell Vegetable Program Administrative Management Team*

Cornell Cooperative Extension Offices of the CVP

Allegheny County CCE
Belmont, NY
Phone: (585) 268-7644

Cattaraugus County CCE
Ellicottville, NY
Phone: (716) 699-2377

Erie County CCE
East Aurora, NY
Phone: (716) 652-5400

Genesee County CCE
Batavia, NY
Phone: (585) 343-3040

Monroe County CCE
Rochester, NY
Phone: (585) 461-1000

Niagara County CCE
Lockport, NY
Phone: (716) 433-8839

Onondaga County CCE
Syracuse, NY
Phone: (315) 424-9485

Ontario County CCE
Canandaigua, NY
Phone: (585) 394-3977

Orleans County CCE
Albion, NY
Phone: (585) 798-4265

Seneca County CCE
Waterloo, NY
Phone: (315) 539-9251

Wayne County CCE
Newark, NY
Phone: (315) 331-8415

Yates County CCE
Penn Yan, NY
Phone: (315) 536-5123

CVP Region Berry Program

Deborah Breth, Lake Ontario Fruit Program Team Leader
Monroe, Niagara, Onondaga, Orleans, Oswego & Wayne Co.
Phone: (585) 798-4265 x36
Email: dib1@cornell.edu
Website: <http://lof.cce.cornell.edu>

Cathy Heidenreich, Berry Extension Support Specialist
Allegheny/Cattaraugus, Erie, Genesee, Ontario, Seneca & Yates Co.
Phone: (315) 787-2367
Email: mcm4@cornell.edu
Website: www.fruit.cornell.edu/berry.html

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*

Office: (518) 272-4210 ext 125
Cell: (518) 859-6213
Email: cdb13@cornell.edu
Address: 61 State Street
Troy, NY 12180



Laura McDermott,
Extension Specialist

*Small fruits, leafy greens,
labor, high tunnels, and
food safety*

Office: (518) 746-2562
Cell: (518) 791-5038
Email: lmg4@cornell.edu
Address: 415 Lower Main Street
Hudson Falls, NY 12839



Crystal Stewart,
Extension Specialist

*Small and beginning farms,
organic, root crops,
brassicas, and garlic*

Cell: (518) 775-0018
Email: cls263@cornell.edu
Address: 141 Fonclair Terrace
Johnstown, NY 12095

CDVSFP Administration

Mark Giles, Regional Ag Team Leader
Cornell University
Phone: (607) 255-6619
Email: fmg4@cornell.edu

Steve Reiners, Co-Team Leader
Cornell University
Phone: (315) 787-2311
Email: sr43@cornell.edu

County CCE Offices

Albany County CCE

William Rice Jr. Extension Center
24 Martin Road
Voohreesville, NY
Phone: (518) 765-3500

Columbia County CCE

Education Center, 479 Rte. 66
Hudson, NY 12534
Phone: (518) 828-3346

Fulton & Montgomery Counties CCE

50 E. Main Street
Canajoharie, NY 13317
Phone: (518) 673-5525

Greene County CCE

Agroforestry Resource Center
6055 Route 23
Acra, NY 12405
Phone: (518) 622-9820

Rensselaer County CCE

61 State Street
Troy, NY 12180
Phone: (518) 272-4210

Saratoga County CCE

50 West High Street
Ballston Spa, NY 12020
Phone: (518) 885-8995

Schenectady County CCE

Schaffer Heights
107 Nott Terrace, Suite 301
Schenectady, NY 12308
Phone: (518) 372-1622

Schoharie County CCE

Extension Center
173 S. Grand Street
Cobleskill, NY 12043
Phone: (518) 234-4303

Warren County CCE

377 Schroon River Road
Warrensburg, NY 12885
Phone: (518) 623-3291

Washington County CCE

415 Lower Main Street
Hudson Falls, NY 12839
Phone: (518) 746-2560

Advisory Members

Albany: Tim Albright and Tim Stanton
Columbia: John Altobelli, Bryan Samascott,
Jody Bolluyt (organic)
Fulton: Eric and Stephanie Grey
Greene: Pete Kavakos, Jr. and Jim Story
Montgomery: Jim Hoffman and Ken
Fruehstorfer (organic)
Rensselaer: Larry Eckhardt and David
Mesick
Schenectady: Al Lansing and Keith
Buhrmaster
Saratoga: Cyndi Pastore and Craig DeVoe
Schoharie: Bob and Linda Cross, and Jake
Hooper
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...

February 6, 13, 20, 27 - Pesticide Training & Recertification Classes, page 14.

February 7, 14, 21 - DEC Core Recertification Classes, page 14.

February 8 - Farm Market Management & Regulations: What Every Farm Vendor Should Know, page 10.

February 10 - Greater Capital District Farmers Direct Marketing Conference - Farmer to Consumer, page 10.

February 14 - High Tunnel Winter Growing & Seeding Meeting, page 10.

February 22 - Farm Market Merchandising, page 11.

February 25 - CSA School, page 11.

February 27 - Niagara Winter Produce Meeting, page 11.

February 29 - Capital District Vegetable & Small Fruit Program Annual Winter Meeting, page 11.

March 5 - Winter High Tunnel Pest Management Meeting, page 12.

March 7 - Tomato Seed Treatment Workshop, page 12.

March 7 - Solar & Wind Power for the Farm, page 12.

March 8 - Greenhouse IPM In-depth, page 12.

March 12 - Vegetable Production, Pest Management & Marketing Meeting, page 13.

March 13 - Greenhouse Intensive IPM Meeting, page 13.

March 14-15 or March 28-29, GAPs Food Safety Workshops: Develop Your Own Food Safety Plan, page 13.

March 15 - Pesticide Recertification Day, page 14.

March 19 - 2012 NYS Dry Bean Meeting, page 13.

March 19 - Organic Sprayer Calibration Workshop, page 13.

March 20 - Multi-Farm Marketing, page 13.

March 20 - Sweet Potato School, page 13.

March 20 & 22 - Pesticide Certification Core Exam Prep (and Exam) & Core Recertification Credits Meetings, page 14.

March 26 or 27 - Garlic School, page 14.

Plus MANY more meetings, pages 10-14.

Thank You to Our Sponsors

See their full advertisements on the pages listed

- **AgraQuest** - page 17
- **Bejo Seeds Inc** - page 17
- **BioWorks Inc** - page 17
- **Crop Production Services** - page 15
- **Dubois Agrinovation Inc** - page 6
- **DuPont Crop Protection** - page 9
- **Growmark FS** - page 17
- **Harris Seeds** - page 15
- **Helena Chemical Company** - page 16
- **NY Farm Bureau** - page 7
- **Siegers Seed Company** - page 5
- **Stokes Seeds** - page 9