

Generous Produce Farmers Honored at Produce Month Event



Participants in the special event recognizing food bank produce donations by western PA growers (l to r): State Rep. Dan Miller; Jane Clement-Smith with Feeding Pennsylvania, Erin Molchany with the Governor's Office; William Troxell with the Vegetable Mktg. and Res. Program; Sec. of Agriculture Russell Redding; Jonathan Dillner of Dillner Family Farms; and Lisa Scales with Greater Pittsburgh Community Food Bank.

August is Pennsylvania Produce Month and there's no better time to not only call attention to the face of hunger in the commonwealth, but also to thank those who help fight food insecurity by giving back.

A special event was held on Wednesday, Aug. 9, at the Mt. Lebanon Lion's Club Farmers' Market housed at the Mt. Lebanon United Lutheran Church in Pittsburgh to do just that. Sponsored by Feeding Pennsylvania, the Greater Pittsburgh Community Food Bank, Pennsylvania Department of Agriculture and the Pennsylvania Vegetable Marketing and Research Program, the event featured Jonathan Dillner from Dillner Family Farm who has been working with the Greater Pittsburgh Community Food Bank since 2004.

"You can't have a charitable food system without a food system that is charitable," noted Pennsylvania Department of Agriculture Secretary Russell Redding.

The goals for this event were to highlight the scope of need in Pennsylvania and honor those making a difference. Jane Clements-Smith, Feeding Pennsylvania's executive director, explained that Feeding Pennsylvania's mission is to increase awareness around hunger and food insecurity across the commonwealth while also increasing access to healthy and nutritious food for all Pennsylvanians in need.

"Our food banks serve nearly two million food insecure individuals annually, half a million of whom are children," she added. "The face of hunger in Pennsylvania includes the working families deciding between paying bills and buying food, the seniors deciding between buying medication and having a meal and the children sitting in classrooms around the commonwealth who cannot concentrate because their stomachs are growling."

Local farmers' generosity validates food banks' missions to source fresh, local foods for community members in need. Every donation counts: the Greater Pittsburgh Community Food Bank notes farms have donated more than 100,000 pounds of produce.

Lisa Scales, president and CEO of the Greater Pittsburgh Community Food Bank, was also present at the event. She noted that the following farmers in western Pennsylvania have been generous contributors to the Greater Pittsburgh Community Food Bank:

- Apple Castle LLC, 66,121 pounds
- Brenckle's Organic Farm & Greenhouse, 10,589 pounds
- Dawson's Orchards, Inc., 160,553 pounds
- Dillner Family Farms, LLC, 28,085 pounds
- Greenawalt Farms, 17,404 pounds
- Harvest Valley Farms, 35,707 pounds
- Hills of Home Farms, Inc., 98,550 pounds
- Laurel Vista Farms, 42,265 pounds
- Trax Farms, 38,360 pounds
- Triple B Farms, 30,562 pounds
- Wexford Farms, 187,440 pounds

The Dillner Family Farm is an example of generosity at work. It welcomes volunteers to glean produce from the fields and participates in the Neighborhood Assistance Program. This means the Food Bank can offer the farm tax credits to facilitate donations of nutritious food. In 2016, the Dillner Family Farm donated 34,459 pounds of food to the Greater Pittsburgh Community Food Bank—the equivalent to 28,715 meals for those in need.

"It's incredibly gratifying to see dozens of volunteers arrive at our farm to glean food," said farm manager Jonathan Dillner.

The event included recognition for farmers and community helpers. Charity starts there; without their donations and support, there is nothing to give to those in need. Secretary Redding honored them with tokens of appreciation.

William Troxell, Pennsylvania Vegetable Marketing and Research Program executive secretary, noted that 2017 marks 12 years the organization has celebrated August as Pennsylvania Produce Month.

(continued on page 2)

NEWS



Pennsylvania Vegetable Growers Association

An association of
commercial vegetable,
potato and berry growers.

President

David Miller '20

York

First Vice President

Jonathan Strite '19

Harrisburg

Second Vice President

Brian Campbell '18

Berwick

Secretary-Treasurer

William Reynolds '19

Waynesboro

Past President

Robert Shenot '19

Wexford

Directors

Christopher Harner '20

State College

Barron Hetherington '19

Ringtown

Alan Kemmerer

Berwick

David King '19

Bakerstown

Kenneth Martin '20

New Berlin

Eric Oesterling '18

New Alexandri

Michael Orzolek '18

State College

Christopher Powell '20

Strasburg

Rita Resick

Somerset

John Shenk '20

Lititz

Jeffrey Stoltzfus '20

Atglen

Thomas Strzelecki '18

Wapwalopen

Randy Treichler '18

Three Springs

Mark Troyer '18

Waterford

Timothy Weiser '19

York Springs

Executive Secretary

William Troxell

Richfield

In Memory Stanley Brown

PVGA member and well-known fruit grower and farm marketer Stanley Brown passed away on August 12 at his home. Born in 1933 in York, he was the son of the late Earl and Margaret Brown who moved their family from the city of York to begin a new life on a small orchard in Loganville in 1948. Stan learned the art of fruit growing along with his father as they developed the business and expanded their fruit acreage over the years.

After attending college and serving in the Army, Stan returned to the family orchard. Over the years, the small roadside fruit stand on the farm became quite successful. In the 1980's, Stan and his wife Nona began making fruit baskets in their basement. This venture was also successful and soon outgrew the basement. A new and larger farm market was built on a hill on the farm to accommodate both fresh fruit sales as well as the fruit basket business. This new market continued the growth of the business and frequent additions were made to it to accommodate the successful bakery, gift and lunch bar portions of the market. Besides production of all varieties of fruit, the Browns also grew pumpkins and a few other vegetables for their market which has become one of premier retail farm markets in Pennsylvania.

While Stan enjoyed caring for his orchard and greeting customers in the market, he also found time to be involved in numerous agricultural and community organizations besides PVGA, including: the State Horticultural Association of Pennsylvania (where he was past president and life member), York County Farm and Natural Lands Trust, Penn State Extension Association, 4-H Endowment Board, York County Agriculture Business Council, York County Community Foundation's Agricultural Advisory Committee, York County Chamber of Commerce, Jacobus Lion's Club, Jacobus Lions Ambulance Club and the Loganville Volunteer Fire Company (where he served 20 years as Fire Chief and Assistant Fire Chief). He also received numerous awards over the years including the Pennsylvania Master Farmer and the State Horticultural Association's Grower of the Year awards.

In addition to his wife Nona, Stan is also survived by his daughter Linda, son David and daughter-in-law Brenda, plus seven grandchildren and three great-grandchildren as well as his brothers Richard and Roger Brown. He was preceded in death by his son Scott.

Information from the *York Daily Record and York Dispatch*.

Generous Produce Farmers... (continued from page 1)

"More than 3,500 growers across the state produce vegetables on over 49,000 acres—and August is the peak of our season," Troxell added. "The abundant supply of Pennsylvania vegetables during August affords our growers an opportunity to give some of their surplus supplies of fresh, nutritious and delicious Pennsylvania vegetables back to the community—in particular, to those who are in need. We are incredibly proud of their efforts."



(continued on page 10)

The **Pennsylvania Vegetable Growers News** is the official monthly publication of the Pennsylvania Vegetable Growers Association, Inc., 815 Middle Road, Richfield, PA 17086-9205
phone and fax - 717-694-3596, email - pvga@pvga.org website - www.pvga.org

Our Mission:

The Pennsylvania Vegetable Growers Association serves Pennsylvania's commercial vegetable, potato and berry growers through education, research, advocacy and promotion.

Our Vision:

The Pennsylvania Vegetable Growers Association will be the driving force in ensuring the future viability of the commercial vegetable, potato and berry industries in Pennsylvania.

Inquiries about membership, this publication or advertising rates should be directed to William Troxell, Executive Secretary, at the above addresses.

PVGA's Brian Campbell Named Master Farmer

John Vogel



Even as a 10-year-old, Brian Campbell was a farmers' market entrepreneur. Raising sweet corn on his father's beef farm, he began selling it at a local farmers market on Saturdays. As a 12-year-old, he began picking strawberries and sweet corn for another farmer.

By 14, he had his own "Farmer Moofy's" roadside stand near Bloomsburg, named

after a cartoon cow character. The name stuck. To his customers, Campbell was Farmer Moofy.

Campbell was "on a roll" early in life — destined to be an enterprising food crop marketer. Even while going to college, he continued marketing produce during summers at Farmer Moofy's. After graduating, he rented a 250-acre neighboring farm, raising vegetables for the stand, plus grain and pumpkins.

In the late 1990s, Campbell began marketing pumpkins to Walmart and Giant. Over the next 10 years, he added broccoli, cauliflower and lettuces to Farmer Moofy's produce stand — and to his growing direct-market vegetable mix.

Today's state of the business - Campbell has purchased four farms since 2005. Today, Brian Campbell Family Farms includes close to 2,000 acres of owned and rented land, with nearly 900 acres of corn and soybeans. His vegetable processing and packaging plant/headquarters and high-tunnel greenhouses are a beehive of activity. High tunnels are used to start transplants, and grow tomatoes and cucumbers. During prime growing season, you'd find him in the fields working alongside more than 50 H2A harvesters.

This fall, he's scheduled to truck 250 to 300 trailer-loads of pumpkins to retail distribution centers. Using the farm's own

trucks to make deliveries reduces transport costs, he notes.

This grower sees the federal Food Safety Modification Act as a positive. "We meet our customers' food safety requirements. We hired an office manager, food safety manager and developed a safety manual to help with daily requirement." But he sees it as all part of staying competitive.

Research and education is a year-round passion for this farmer. "I'm always studying ways to improve management practices and make my operation more environmentally friendly."

That mindset led to working with Penn State entomologists in on-farm research of native bee populations and testing innovative practices to improve crop pollination. After discovering high populations of native pollinators, he switched, for instance, to no-till pumpkins instead of disking. "Some bees nest and overwinter in the ground. That led me to look at other practices I can use to support native pollinators," he adds.

Planting floral species habitat on field edges was one such practice. Allowing cover crops such as hairy vetch to flower before using a roller-crimper was another. It has already reduced the need and cost of renting honeybees.



Meet the real 'Farmer Moofy'

Location: Berwick, Columbia County, Pa.

Family: Campbell and wife Erika have three children: Alexandra, Evan and Brooke.

Education: Ag science degree at Penn State University.

Leadership roles: Campbell has been president of Pennsylvania Vegetable Growers Association and chairman of PVGA's Leadership and Recognition Committee, chairperson of Columbia County Farm Bureau Young Farmer & Rancher committee, a director of the Columbia County Conservation District and president of the Columbia County Crop Management Association.

Notable: His teen-years' vegetable farm stand business grew into a produce business that also markets to major retail chains. In 2001, he received Pennsylvania Farm Bureau's Young Farmer and Rancher Achievement Award.

*Mr. Vogel is editor of the **American Agriculturalist**. Reprinted with permission from the **American Agriculturalist**, a Farm Progress publication, August 8, 2017.*



FRUIT OF HIS LABORS: Most fresh vegetables head to market in Brian Campbell Family Farms packaging.

NEWS

State News Briefs

Council Urges House Action on Ag Budgets

The Pennsylvania State Council of Farm Organizations (PSCFO) urges the PA House of Representatives to take action on legislation which would allow already approved funds to go to agricultural programs at Pennsylvania State University and money going to the University of Pennsylvania's School of Veterinary Medicine.

According to PSCFO which represents almost seventy agricultural and commodity groups, this legislation is called "non-preferred" and enables funding to some of PA's universities. Monies for Penn State School of Agricultural Sciences (agriculture research and extension programs) was already approved during the State Budget process which resulted in spending levels for state programs in the fiscal year beginning July 1, 2017. The "non-preferred" legislation enables this already approved money to go to those programs. In addition, Penn State faces another problem in that federal matching funds cannot flow to the College of Agricultural Sciences until PA General Assembly passes this enabling legislation. The University of Pennsylvania's School of Veterinary Medicine will lose \$30 million in state funding if "non-preferred" legislation is not passed.

"We ask that the House consider voting for these "non-preferred" bills separately from the divisive revenue-related issues now causing the budget impasse" said PSCFO President Jeff Nogan.

From the Pennsylvania State Council of Farm Organizations.

Bill to Ease Construction Rules for Roadside Stands Clears Senate

The state Senate has approved a bill that would exempt seasonal farm stands from the burden of complying with regulations that govern construction of permanent buildings.

House Bill 176, sponsored by Rep. Tina Pickett of Bradford County, passed the state House in June. Because changes were made in the Senate, the House must vote again to OK the amendments.

Some municipalities have required that even seasonal farm stands meet the requirements of the Uniform Construction Code. The bill would exempt from those rules farm stands that are 1,000 square feet or smaller and open on at least 25 percent of the perimeter when in use.

A related bill that would exempt maple sugar houses from such codes cleared the House and awaits action by the Senate Labor and Industry Committee.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Wolf Touts His Administration's Support for Agriculture

Speaking to a capacity crowd at AG Progress Days, Governor Tom Wolf called PA Agriculture one of the Commonwealth's most important economic and environmental resources. In the speech, he said that since 2015, PA Department of Agriculture operational funding has been increased by 23%, that two million additional dollars were allocated for avian influenza planning and response, and that farmland preservation funding had increased by 45% compared to fiscal year 2014-15. In addition, three million dollars were allocated to distribute fresh farm products to the needy through

food banks. The Governor charted an ambitious 10-year strategic plan for PA Agriculture on increasing PA's competitiveness and developing the workforce to meet PA's future needs.

From the AG ONE Newsletter, Penna. State Council of Farm Organizations, Issue 2017.12, August 23, 2017.

Rural Bridge Projects Kick into High Gear

A joint effort between PennDOT and private companies to slash the backlog of rural Pennsylvania bridges that need to be replaced is off to a strong start.

At the start of July, crews had completed 217 of the 558 bridge-replacement jobs that have been bundled together as part of a first of its kind public-private partnership. The project is kicking into full swing this year with another 81 bridges under construction now. Planning work began in 2015.

"Typically, it would take us eight to 12 years to complete this number of bridges," said Michael Bonini, of PennDOT's Public Private Partnerships Office.

But these aren't typical PennDOT bridge projects. The replacements are being handled as a single, \$899 million project. And rather than PennDOT taking the lead each step of the way and bidding out each piece of the project, a group of private companies – Plenary Walsh Keystone Partners – is responsible for designing, constructing and then maintaining all of the bridges.

That cuts much of the red tape that usually accompanies bridge work. And it frees the schedule from PennDOT's budget constraints because the private group is fronting all the costs. The state will then pay the contractors back over 25 years through payments for maintaining the spans.

There are also some cost savings. Because many of the new bridges will have similar designs, the contractor can take advantage of economies of scale when buying material and doing engineering work. The average price tag per bridge is about \$1.6 million. A similar bridge project that follows the typical PennDOT process would cost about \$2 million.

All the bridges are expected to be completed by the end of 2018. The work so far has been spread around the state, Bonini said. Ultimately, just about every region will get a new bridge. Typically, the bridges are closed during construction. But those same factors that reduce costs also speed up construction time. So the new bridge usually reopens in about 10 weeks.

The focus has been on replacing structurally deficient bridges on state roads in rural areas. The new bridges give farms and rural businesses confidence that their operations won't be hampered by weight restrictions or bridge closures in the future.

"We see it as an opportunity to hopefully enhance the economic development of a particular area or region," Bonini said.

For more information about the project, construction schedules or details on which bridges have been (or are due to be) replaced, visit parapidbridges.com.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Funding for Rural Broadband Supported

Pennsylvania Farm Bureau has joined state agencies' request for changes to federal rules that would ensure money that was set aside to expand broadband internet in rural Pennsylvania remains available for that purpose.

(continued on page 6)



Double Nickel 55[®]
BIOFUNGICIDE

Cueva[®]
LIQUID COPPER
FUNGICIDE
CONCENTRATE

GEAR UP.

Cueva and Double Nickel.

Two fungicide/bactericides engineered to work better, together.

This is a powerful protection-packed two-some. Together they offer fungal and bacterial control of the most difficult to control foliar diseases. This duo works as a synchronized machine to help keep your crops clean of bacterial spot and speck, powdery and downy mildews, *Botrytis* gray mold and early and late blight.

Cueva is a liquid copper fungicide concentrate that features as low as 1/5th to 1/10th the metallic copper of most other products. And **Double Nickel** biofungicide boasts a highly potent CFU count with multiple modes of action for greater efficacy and control. Both are MRL exempt with 4 hr. REI and 0 hr. PHI and OMRI listed.



CERTIS USA
The
Biopesticide
Company

NEWS

21st “Are You Crazy” Retail Farm Market Bus Tour Hits the Road in September

Join Penn State Extension for the 21st Annual “Are You Crazy?” Retail Farm Market Bus Tour of the Hudson Valley region of New York on September 19, 2017. This tour is for retail farm market professionals and is held at the height of the season to enable participants to learn from their regional farm market peers during their best and most robust season.

The 2017 event will include behind the scenes tours and information directly from farm market owners including unique display and merchandising ideas and information on market expansion and farm transition. The September tour will visit five unique farms on this one day trip. Our rolling classroom environment enables market owners and managers to share lessons

State News Briefs *(continued from page 4)*

The state Public Utility Commission and Department of Community and Economic Development are asking the Federal Communications Commission to modify its system for how funding for rural broadband expansion is distributed. Under the current setup, Pennsylvania could lose out on close to \$140 million over six years due to unexpected circumstances.

PFB, in a letter to the FCC supporting the state agencies' request, emphasized that access to information is critical to the success and well-being of farmers, businesses and residents in rural areas and that technology infrastructure in some parts of the state is insufficient to meet current and future needs.

Pennsylvania Farm Bureau is putting its support behind a bill in the state Legislature that would help rural communities keep pace with urban areas in affordable and reliable phone and broadband service. Senate Bill 740, sponsored by state Sen. Ryan Aument of Lancaster County, was referred to the Senate Consumer Protection and Professional Licensure Committee for consideration. The measure would extend the life of the state's Universal Service Fund through at least 2021. That fund supports telecommunication services in rural areas, which tend to be the most costly areas to provide service to. PFB believes that the fund plays a critical role in ensuring that phone and broadband service is available and affordable to rural residents and that it is needed now more than ever due to decreased support from federal programs.

*From the **Pennsylvania Agricultural Alliance Issues Update**, Penna. Farm Bureau, August 2017, and the **Farm Bureau Express**, Penna. Farm Bureau, August 25, 2017.*

Agricultural Scholarships Available

It is not too early to look at scholarships for the 2018-19 college year. Just updated, www.scholarships.com has a list of at least 100 agriculture-specific scholarships. Some are state-specific but many should be considered as active leads for any current or enrolling student. Details: <https://www.scholarships.com/financial-aid/college-scholarships/scholarships-by-major/agriculture-scholarships/>

Don't forget that children and grandchildren of PVGA members preparing for a production agricultural career are eligible for \$1,000 Rudolph Grob Memorial Scholarships from PVGA. Visit the PVGA website at www.pvga.org or call 717-694-3596.

The First Nation Development Institute is now accepting applications for five \$1,000 scholarships to Native American college students majoring in agriculture and related fields such as agribusiness, agriscience, animal husbandry, horticulture, irriga-

tion, food safety, etc. Deadline for applications is September 28, 2017. Details: www.firstnations.org/grantmaking/scholarship.

*From the **AG ONE Newsletter**, Penna. State Council of Farm Organizations, Issue 2017.12, August 23, 2017.*

learned, season highlights and discuss pertinent topics as we travel between tour locations.

The tour bus will leave promptly at 8:00 am from the Lehigh County Agriculture Center, 4184 Dorney Park Rd, Allentown and return at 8:00 pm. The cost is \$50 per person which includes lunch and dinner. This tour is sponsored by the Risk Management Agency of the USDA and PVGA.

More details are available by calling PVGA at 717-694-3596 or on the PVGA website at www.pvga.org. To register for the Are You Crazy Retail Farm Market bus tour call 610-391-9840 or go to <http://extension.psu.edu/business/farm/events>. Registration deadline is September 15, 2017.

More details are available by calling PVGA at 717-694-3596 or on the PVGA website at www.pvga.org. To register for the Are You Crazy Retail Farm Market bus tour call 610-391-9840 or go to <http://extension.psu.edu/business/farm/events>. Registration deadline is September 15, 2017.

Pennsylvania's College Agriculture Programs

In addition to the Big Three (Penn State University, Delaware Valley University and University of Pennsylvania), there are other Pennsylvania colleges and universities offering agricultural studies. (www.american-school-search.com/colleges/agriculture/pennsylvania)

- Temple University has three agriculture majors. Chatham University (Pittsburgh) has two majors as does Pennsylvania College of Technology (Williamsport).

- Degree programs: Wilson College (Chambersburg) and Arcadia University (Glenside)

- Associate degrees: Bidwell Training Center (Pittsburgh) and Harcum College (Bryn Mawr); A specialized program is offered by PA Institute of Taxidermy (Ebensburg)

- Dickinson College (Carlisle) has multidisciplinary programs including agriculture as well as a working organic farm,

- Community and regional colleges: Westmoreland County Community College (Youngwood), Schuylkill Technology Center (Frackville), Harrisburg Area Community College, Community College of Allegheny County (Pittsburgh), Lancaster County Career and Technology Center (Willow Street)

*From the **AG ONE Newsletter**, Penna. State Council of Farm Organizations, Issue 2017.12, August 23, 2017.*

PEAT MOSS & GROWING MIXES



Jeffrey P. Bishop
Jeff Bishop Sales LLC.

888-632-8808

lambertpeatmoss@aol.com • www.lambertpeatmoss.com

Save time, save money, save the planet.



This is the “Bio360 Biodegradable & Compostable Mulch Film”. “Bio360 Biodegradable and Compostable Mulch Film” made of Mater-Bi, completely disappears without a trace and without leaving any toxic residue. It also saves both time and money because you don’t have to remove it. What’s more, you’ll be helping the planet. It also promotes rapid root growth and eliminates weeds. So it’s a win-win situation! Ask one of our representatives how much you can save using this revolutionary new product.

Nolt’s Produce Supplies
717-656-9764 - Leola, PA
noltsproucesupplies.net

For other regions, contact us
1-844-4BIO360 (1-844-424-6360)



BIO  **360**
Biodegradable | Compostable Mulch Film

NEWS

National News Briefs

New Form I-9 Must be Used as of September 18

Pennsylvania Farm Bureau is sponsoring an educational webinar Sept. 6 to learn about changes to the new Form I-9 that must be used beginning Sept. 18.

Participants will receive an overview of recent changes and new resources available to assist with employment eligibility verification process. The presentation will review basics about the form — including step-by-step instructions and rules for retention and storage — but even the most seasoned business professionals will walk away with something new.

Employers must use Form I-9 to verify the identity and work eligibility for all employees they hire. The forms are a prominent part of government labor inspections and compliance visits.

U.S. Citizenship and Immigration Services published a new Form I-9 last month. Employers will still be allowed to use the current form (dated 11/14/16) until Sept. 18, at which point the new forms (dated 07/17/17) must be used. Changes include minor wording tweaks and the inclusion of Consular Report of Birth Abroad as one of the documents that can be accepted to establish employment authorization.

The PFB webinar begins at noon and will last approximately 1 ½ hours. To participate, go to <https://uscisconnect.connect-solutions.com/pafarm/> to access the online materials and join the conference call by dialing 866.928.2008 and entering the code 716533.

For more information about the changes to Form I-9, visit www.uscis.gov/i-9-central/whats-new.

WOTUS Comment Period Extended to Sept. 27

Published in the Federal Register August 22 for President Trump's plan to void recent revisions to the Waters of the US (WOTUS), the comment period has been extended until September 27. As of August 22, there were 35,748 comments received. Given the importance of this issue to the Agricultural Community, additional individual or business comments showing WOTUS' impact would be helpful to Federal policymakers. Link to comment submission: <https://www.regulations.gov/comment?D=EPA-HQ-OW-2017-0203-0001>

From the AG ONE Newsletter, Penna. State Council of Farm Organizations, Issue 2017.12, August 23, 2017.

Agriculture Spending Bills Advance in Congress

Appropriations Committees in each chamber of Congress have approved their respective versions of the Agriculture, Rural Development, Food and Drug Administration and Related Agencies Appropriations Bill for the 2018 fiscal year.

The measure is one of a dozen bills that allow the federal government to spend money in various areas. Each version can now be considered for a vote by the full chamber.

The Senate plan calls for \$145.4 billion in discretionary and mandatory spending. That's a \$7.9 billion cut from 2017 levels but \$4.85 billion more than President Donald Trump had proposed. The House version calls for \$144.9 billion in total spending, \$8.5 billion below 2017 levels but \$4.6 billion more than the president's budget request.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Farm Bureau Encouraged by Statement on Tax Reform

A joint statement by congressional leaders and officials with President Donald Trump's administration has Farm Bureau

encouraged that the tax reforms farmers have long sought could soon be in the spotlight. The statement stressed the importance of tax reform and outline several priorities, including several that are important to farmers. Farm Bureau has advocated for comprehensive and permanent tax reform that reduces effective tax rates for both businesses and families while maintaining provisions that allow farmers to compensate for the unpredictability of their trade. American Farm Bureau Federation President Zippy Duvall said the organization looks forward to working with Congress. "Fixing our tax system now is crucial to creating economic opportunities for farmers, ranchers and other family-owned businesses," Duvall said. "This is especially important as farmers continue to face down tough economic challenges. This move sets the stage for Congress to put tax reform on its agenda. Not only will reform strengthen our economy, but by addressing key issues like overall tax rates, capital gains taxes and enhanced expensing, it will be good for farms and other businesses."

From Farm Bureau Express, Penna. Farm Bureau, August 11, 2017.

Farm Bill Recommendations Sent to Lawmakers

The American Farm Bureau Federation Board of Directors has suggested recommendations for Congress to review and consider as they develop the 2018 Farm Bill.

The recommendations, sent in a letter to the House and Senate Agriculture Committee chairs and ranking members, were developed and voted upon by the Board based on its interpretation of current Farm Bureau policy developed through the grassroots process as well as research conducted by the Farm Bill Working Group, made up of state Farm Bureau staff.

Among Farm Bureau's goals for the 2018 Farm Bill are protecting current farm bill spending, keeping nutrition and farm programs together and ensuring that risk management tools, including crop insurance and Title I commodity programs, are top funding priorities. The Board also outlined specific recommendations across several areas, including making improvements to the Dairy Margin Protection Program to ensure it operates as the safety net it was intended to be.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Workforce-Training Bill Clears U.S. House

A bill that authorizes career and technical education programs — including those that train workers for some agriculture-related careers — has cleared the U.S. House.

The Strengthening Career and Technical Education for the 21st Century Act is sponsored by U.S. Rep. Glenn "G.T." Thompson (R-Centre County). It now heads to the Senate for consideration.

"High school career and technical education programs are vital for developing talent and leadership, especially needed in farming and agricultural services, and also with regards to building economic futures in rural communities," said RJ Karney, American Farm Bureau Federation Director of Congressional Relations. "It's going to help focus job training, which will really benefit rural America to sustain jobs, all of which are necessary to sustain a skilled workforce."

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

(continued on page 10)



ROBERT MARVEL PLASTIC MULCH, LLC

Plastic Mulch Film

Embossed, Smooth and Biodegradable.

Equipment

Plastic Mulch Layers
Plastic Mulch Lifters,
and Planters.

Drip Irrigation

Carrying A Full Line Of
Drip Irrigation Tapes,
Filters,
Pressure Regulators,
Fittings, In-Line Drip
Tube and More.

Greenhouse Cover

Woven Greenhouse
Covers,
Tufflite IV - 6 mil.,
Tufflite IR - 6 mil.

Floating Row Covers

Earlier Harvest,
Insect Protection and
Frost Protection.
Also Available in Custom
Made Sizes To Fit Your
Fields.

Avian Control™

The Most Effective Liquid
Bird Repellent Available.

www.robertmarvel.com

1-800-478-2214

We accept Visa, Mastercard and Discover

NEWS

National News Briefs (continued from page 8)**House Passes Ozone Standards Bill**

The U.S. House has passed a bill that would extend the phase-in of Environmental Protection Agency standards for ground-level ozone. The Ozone Standards Implementation Act, sponsored by Rep. Pete Olson (R-Texas), now heads to the Senate for consideration.

The proposed phase-in would delay the implementation of ozone rules set in 2015 to allow states to implement standards set in 2008 first. The bill would also extend the mandated review cycle to 10 years from five years.

American Farm Bureau Federation supports the changes and believes they would help farmers and states avoid the costly process of implementing both sets of standards at once while enabling planned initiatives to reduce ozone levels to go into effect.

"This reform will allow for environmental improvements to occur while bringing more certainty to regulators and the regulated community," AFBF President Zippy Duvall said.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Supreme Court to Hear Arguments on Which Court May Decide WOTUS Case

The U.S. Supreme Court has scheduled Oct. 11 to hear arguments on a technical issue which could affect farmers' future legal paths when challenging the U.S. Environmental Protection Agency's regulation of land use.

At issue is whether a person challenging EPA's regulation under the Clean Water Act may do so in one of 94 federal district courts — which normally handle and decide cases first — or is limited to bringing a lawsuit at one of the 13 federal appellate courts. This issue was raised in the legal challenge by Farm Bureau and others over the Waters of the U.S. (WOTUS) rule.

The Supreme Court's decision on the jurisdiction issue will not affect the current lawsuit challenging WOTUS or the recent announcement that President Donald Trump's administration is considering rescinding the rule. But it could potentially make it more difficult and costly for farmers and landowners to challenge federal water quality regulation and regulatory actions going forward.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Pa. Congressmen Stress NAFTA's Importance to Agriculture

Nearly four dozen members of Congress signed on to a letter to federal officials highlighting the importance of the North American Free Trade Agreement (NAFTA) to agriculture and asking that the farming community's interests be prioritized as the pact is renegotiated.

The effort was led by two members of the Pennsylvania delegation — Reps. Lloyd Smucker (R-Lancaster County) and Mike Kelly (R-Butler County) — as well as Rep. Ron Kind (D-Wisconsin).

The letter applauds the decision to renegotiate NAFTA, saying it offers an opportunity to help U.S. farmers stay competitive and address barriers to selling U.S. agricultural products to neighboring nations. But it also stresses the need for the renegotiation to preserve the benefits farmers have seen from NAFTA.

Other Pennsylvania lawmakers who signed on were Reps. Ryan Costello (R-Chester County), Scott Perry (R-York County), Dwight Evans (D-Philadelphia), Glenn "G.T." Thompson (R-Centre County), Pat Meehan (R-Delaware County), Tom Marino (R-Lycoming County), and Keith Rothfus (R-Allegheny County).

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Farm Bureau to Partner with FFA, 4-H on Shared Goals

American Farm Bureau Federation has signed memoranda of understanding with the national FFA and 4-H organizations detailing plans for Farm Bureau and the youth groups to work together to accomplish common goals, including developing future agriculture leaders.

Farm Bureau and FFA will collaborate to grow leaders by promoting agriculture education and connecting youth with a broad range of careers in agriculture; build community by making some AFBF programs available to students and strengthen connections between state and county Farm Bureaus and state and county FFA chapters; and strengthen agriculture by collaborating on policy and advocacy and making AFBF materials and training available to FFA officers.

Farm Bureau and 4-H will help build one another's brand awareness and engagement by promoting one another on websites, blogs, social media, newsletter and other materials and by collaborating on events.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, August 2017.

Generous Produce Farmers...

(continued from page 1)

The greater Pittsburgh area is just one example of what's happening throughout Pennsylvania. Many other growers across the state generously support their local food banks with donations of their surplus produce throughout the season.

The Vegetable Marketing and Research Program celebrated Produce Month otherwise with several press releases sent to media across the state as well as a social media campaign — all designed to raise the public awareness of Pennsylvania's peak season for local vegetables. The Program's website at www.paveggies.org provided growers with colorful graphics they could use in their email and Facebook communications with their customers. The Program also provided posters and price cards to farm markets, farmer's market vendors and supermarkets to help them participate in the celebration as well.



NEWS

Dr. Foolad Awarded Grant to Bring Tomato Varieties to Market



Majid Foolad, center, professor of plant genetics at Penn State's College of Agricultural Sciences, among the tomato plants used in his breeding program, with graduate students Mengyuan "Maggie" Jia, left, doctoral degree student in plant biology/plant science, and Jonathan Bonfiglio, right, master's degree student in plant science. Photo credit: Penn State Univ. <http://news.psu.edu>

Dr. Majid Foolad, Penn State's tomato breeder has won a \$75,000 Research Applications for Innovation, or RAIN, grant to bring his varieties to market.

The College of Agricultural Sciences awards the grants through its Entrepreneurship and Innovation Program.

"We have invested a lot already in the program to develop

new tomato varieties," said Majid Foolad, professor of plant genetics in the college.

Foolad has successfully bred and commercialized tomatoes with disease resistance that are rich in lycopene, which may reduce risk of cancer, heart disease and age-related disorders. He has collaborated with plant breeders at Johnny's Selected Seeds on a new, high-lycopene tomato variety to be released this fall.

Foolad developed hundreds of new tomato breeding lines that are suited to the climate in Pennsylvania and the Northeast and that resist the blight diseases that can wipe out a tomato crop in five to seven days.

"The final and most important step in a breeding program is to market the new varieties," he said. "It's a great help to get funding from the college to expand upon that and commercialize our tomato varieties."

College of Agricultural Sciences faculty with promising discoveries compete annually for RAIN grants. The RAIN program aims to spur solutions and economic development in central Pennsylvania with awards of \$50,000 grants, each matched with \$25,000 from the Penn State Research Foundation.

"I am excited about the opportunities that the RAIN grant program has provided to our entrepreneurial faculty," said Gary Thompson, associate dean for research and graduate education. "This is just one step in the many required to take an innovative idea originating in the laboratory to a product ready for the marketplace — but this step comes at a crucial time in the process."

(continued on page 17)

ProducePackaging.com[®]
for all your produce packaging needs

1-800-644-8729
Kurt Zuhlke & Assoc., Inc.
 P.O. Box 609, Bangor, PA 18013



Over 45 Years In The Industry

For over 45 years, Kurt Zuhlke & Assoc., Inc. has been a part of the many innovative packaging concepts utilized by the produce industry.



High Quality Products And Services

Our packaging is designed to protect produce, provide excellent visibility to the consumer, reduce shrinkage and enhance the product. We also offer professional labeling design and application.



From Farmers To Repackers

Whether you are ordering a case or a truck load, you can rest assured that we have the ability and capacity to service your orders quickly.



GENERAL

On the Road—La Esperanza, Intibucá, Honduras

Elsa Sanchez

Recently I spent a week in Honduras as part of a team of researchers working on gender issues in agriculture.

We're specifically looking at the role of growing horticultural crops in improving the quality of life for financially disadvantaged women, children, and families. Growing horticultural crops addresses these issues in many ways including making vegetables more accessible which can improve food security, diets and nutrition. Additionally, surplus fruits and vegetables can also be sold to generate income. During the trip we visited with several women at AMIR (Asociación de Mujeres Intibucanas Renovadas – Association of Renewed Intibucan Women). AMIR is a producer group that serves Lenca women through promotion, organization, and training. Lenca are the largest group of indigenous people in Honduras.

One of the training programs offered by AMIR is focused on food security with the idea of promoting farming fruits and vegetables. In 2000, they also built a processing plant where



Mosaic on the AMIR Building. Photo: E. Sánchez, Penn State

peach, blackberry, and potato wines and strawberry, guava, and blackberry jellies and candies are currently made. High quality fruit from AMIR-member farms can be sold to AMIR to be used in the processing plant. We visited a model farm that was started by a wife and her husband after participating in AMIR's Food Security training program. Mountains dominate this area in Honduras—it's absolutely beautiful. The drive to the farm required the use of a 4-wheel-drive vehicle and roads can become impassable during the rainy season. From the road, we stopped by a narrow dirt path and walked to the house and farm. The family had a horse



Walking on the path to the farm. Photo: Paige Castellanos.



A neighbor's maize and potato farm as viewed from the model farm to show the mountainous terrain. Photo: E. Sánchez, Penn State

which is used to carry produce to the road where it can be transported to market.

Once at the farm, we met with the husband. He explained that before the training program at AMIR, he and his wife didn't think that their land was suitable for growing fruits and vegetables. AMIR provided them with funds to buy some peach trees. In return, the family agreed to buy peach trees for another family in a "pay it forward" or "pasa cadena" model. Some of the harvested fruit are eaten by the family and they are also able to sell fruit at a direct market and to AMIR which is then used in the processing plant. We asked if "organic" or "pesticide-free" were used as marketing tools. We were told that while customers were not willing to pay a premium for these labels, products with these labels are the first to sell at market, which is a benefit.



One of about 20 peach trees on the farm. Training through AMIR demonstrated how to prune the trees. Photo: E. Sánchez, Penn State

New guava plants had been recently transplanted to expand the farm. We also saw passionfruit, citrus, and chayote. Other vegetables had been started, but the chickens the family has ate them before they could be harvested.

(continued on page 12)

On the Road... (continued from page 11)

Training sessions are held on this model farm to show others what is possible on their own land. Prior to starting the farm, the family depended on income from work that the husband did as a day-laborer. This farm has been so successful that it is now provides the family's sole source of income.

*Dr. Sanchez is with the Department of Plant Science at Penn State Univ. From **Vegetable, Small Fruit and Mushroom Production News**, Penn State Extension, extension.psu.edu/plants/vegetable-fruit/news/2017 August 1, 2017.*



Newly planted guava. Photo: E. Sánchez, Penn State



A citrus bush near sugar cane plants. Sugar cane is grown as a live barrier to help minimize erosion. Photo: E. Sánchez, Penn State



Chayote supported on a bush. Taro on the bottom left. Photo: E. Sánchez, Penn State

NEED A TUNE UP?

We'll guide you through a free 1-hour farm business self assessment to check all the moving parts of your operation.

KITCHEN TABLE CONSULTANTS



Helping passionate farmers and food artisans build lasting, profitable, locally-focused businesses.

WWW.KITCHENTABLECONSULTANTS.COM

(267) 275-1198



AgBiz Masters

A Learning Series for Young & Beginning Farmers

AgBizMasters.com

MANAGE YOUR BUSINESS FOR THE FUTURE.

Are you a young or beginning farmer? Are you interested in honing your business and financial management skills? If so, AgBiz Masters is for you.

8 YEARS
=
1,000
YOUNG & BEGINNING FARMERS REACHED



NEXT CLASS

Nov. 2017
to
March 2018

1 YEAR ONE

- Megatrends of Agriculture
- Strategic Business Planning
- Preparing for Your Lender
- Constructing a Balance Sheet
- Constructing an Income Statement and Cash Flow Projection

SUPPORTED BY
25+
PARTNER ORGANIZATIONS



PROGRAM TAKEAWAYS

- ✓ Networking
- ✓ Recordkeeping
- ✓ Balance Sheet
- ✓ Understanding a Lender
- ✓ Connections
- ✓ Business Plan
- ✓ Financial Management
- ✓ Transitions
- ✓ Growing the Farm

2 YEAR TWO

- Understanding Lending Decisions
- Farm Business Management Factors and Benchmarks
- Growth and Transition Management
- Personal Financial Management
- Communications, Ethics and Leadership



AGBIZ MASTERS
BUCKS

AgBiz Masters

A Learning Series for Young & Beginning Farmers

Use these AgBiz Masters bucks towards your registration fee for the 2017-2018 program year!

The registration deadline is **October 31, 2017**. Details on how to redeem the bucks are included on the back.

Only one \$25 AgBiz Masters bucks can be used towards a registration.

If you have additional AgBiz Masters bucks, share them with friends or family members who could also benefit from the program!

AgBizMasters.com



WHAT'S INVOLVED IN AGBIZ MASTERS?

AgBiz Masters is an educational learning series that runs November through March, covering a variety of business and financial management topics for young and beginning farmers. The program's blended learning approach includes on-demand, eLearning modules and activities, and face-to-face regional workshops.

Online modules take about one to two hours to complete and include online discussion forums, exams and assignments to relate the topics to your personal farming situation. Materials are accessed via the web at your

convenience. Text modules and exams are available for participants without internet access.

A regional kick-off meeting and two face-to-face workshops are held to supplement the online learning and allow discussions and feedback among participants and industry facilitators. Workshops are held in 13-15 locations across Pennsylvania, Maryland and other states. Farm tours are also hosted across the AgBiz Masters area to expose participants to different facets of agriculture.

REGISTRATION FOR AGBIZ MASTERS IS EASY!

1. Complete the AgBiz Masters registration form or register online at AgBizMasters.com.
2. Submit your registration and \$225 payment (made payable to AgChoice Farm Credit) by **October 31, 2017** to:
AgBiz Masters
300 Winding Creek Blvd.
Mechanicsburg, PA 17050
717.796.9830 (fax)
kwilson@agchoice.com

REGISTRATION DETAILS

Register today for AgBiz Masters to help secure a strong future for your farm operation! The registration fee for one year of AgBiz Masters is \$225 and must be received prior to the October 31 registration deadline.

Please note that your \$225 fee covers one or two people per registration per year. You may be eligible for additional scholarship reimbursements to help cover the registration cost.

For more information on what scholarships you may qualify for, please visit AgBizMasters.com.

Participation in AgBiz Masters earns you up to eight (8) SmartStart credits each year from AgChoice Farm Credit and may qualify you for a reduced interest rate on a new AgChoice loan! Learn more about SmartStart at agchoice.com/farms/smartstart.

TO LEARN MORE

To learn more about this program or to request a registration form, please contact Kayla Wilson at 717.796.9372 ext. 6027 or kwilson@agchoice.com.

TO REDEEM THESE AGBIZ MASTERS BUCKS, FOLLOW THE STEPS BELOW.

1. Register for AgBiz Masters by enrolling online at AgBizMasters.com or complete a hard copy of the registration form. (To request a hard copy be sent to you, call 717.796.9372 ext. 6027.)
2. If you submit your registration through AgBizMasters.com, below are options on how you may pay the registration fee.
 - a. Pay through the PayPal link listed on the registration form. Select the option for the \$200 registration fee with \$25 in AgBiz Masters bucks (the normal registration fee is \$225). Then, mail your \$25 AgBiz Masters bucks to the address listed below.
 - b. Mail a check for \$200 (made payable to AgChoice Farm Credit) and your \$25 AgBiz Masters bucks to the address listed below.
3. If you complete a hard copy of the registration form, mail a check for \$200 (made payable to AgChoice Farm Credit) and your \$25 AgBiz Masters bucks to the address listed below:
 Kayla Wilson
 AgChoice Farm Credit
 300 Winding Creek Blvd.
 Mechanicsburg, PA 17050

If you have any questions about the AgBiz Masters program or redeeming AgBiz Masters bucks, please contact Kayla Wilson at 717.796.9372 ext. 6027 or email kwilson@agchoice.com.

INFORMATION ON THE PERSON REDEEMING THESE AGBIZ MASTERS BUCKS:

Participant name(s): _____

Street address: _____

City: _____

State: _____ Zip code: _____

Email: _____

Phone number: _____

Where did you get the bucks? _____

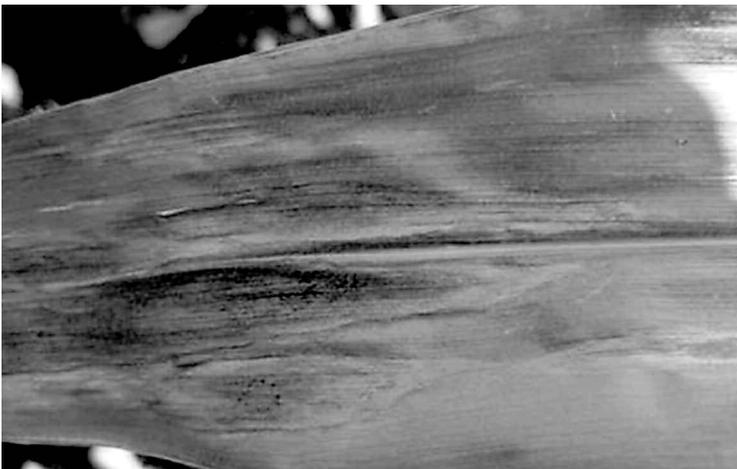
VEGETABLE PRODUCTION

Increasing Concern About Northern Corn Leaf Blight in Pennsylvania

Beth Gugino

There are an increasing number of reports and general concern about Northern corn leaf blight given the wet weather and losses from previous seasons.

Northern corn leaf blight symptoms are usually first observed on the lower leaves and the spread up the plant. The lesions are initially small, elliptical and gray-green in color. As the disease progresses the lesions will expand to 1 to 6 inches long, become tan in color and are not restricted by the leaf veins. Eventually, the lesions will coalesce and cover the entire leaf. Under humid conditions, the lesions will produce dark gray spores on the lower leaf surface giving them a dusty appearance. A new lesion can produce spores in as little as one week under favorable conditions. The spores are then disseminated by rain splash to the leaves of nearby plants or they can be carried in the wind longer distances during storms. The greatest losses from NCLB occur when severe necrosis develops on the upper 2/3 of crop canopy by silking. The reduction in photosynthesis due to the necrosis results in reduced ear fill and when symptoms develop on the husks they appear older and are less marketable.



Elongated tan lesions characteristic of Northern Corn Leaf Blight on corn. Photo credit: Allison Robertson, Iowa State University

The crop should be scouted regularly, focusing on the lower leaves where symptoms develop first. Protectant fungicides like chlorothalonil can be applied when there are reports of NCLB in the area but symptoms have not been observed in the field. Good coverage is critical. NCLB specific fungicides include those in FRAC group 11 (strobilurins; e.g. Quadris and Headline) and FRAC group 3 (triazoles; e.g. Tilt). There are also a number of products that contain both FRAC groups (11 + 3; e.g. Quilt and Stratego). Rotate between these FRAC codes and tank mix with a broadspectrum protectant for resistance management when symptoms are first observed in the field will help manage NCLB. PHIs vary between the products so read

the labels carefully when the crop is near harvest. Also depending on the label, NCLB might be referred to as Helminthosporium leaf blight which is collectively refers to both Northern corn leaf blight and Southern corn leaf blight. Fungicides are most effective at mitigating yield loss when applied preventatively at early silking.

Dr. Gugino is with the Department of Plant Pathology and Environmental Microbiology at Penn State Univ. From Vegetable, Small Fruit and Mushroom Production News, Penn State Extension, extension.psu.edu/plants/vegetable-fruit/news/2017 August 17, 2017.

CROPCARE

Reduce Labor!



The Plastic Mulch Lifter-Wrapper

(PR2500) combines the lifting and wrapping of plastic mulch into ONE EASY PASS.



The Picking Assistant

(PA1600) is a motorized field hand designed to boost your planting productivity and reduce sore backs!

See these machines in action at:

CropCareEquipment.com

CropCareEquipment.com | Lititz, PA
Manufactured by PBZ LLC, a Paul B. Zimmerman, Inc. company

Please contact your local CropCare® dealer with any questions.

Cedar Grove Farm Store
Shippensburg, PA....717-532-7571

Martin's Repair Shop LLC
Ephrata, PA.....717-733-3015

Late Blight Has Arrived in Pennsylvania

Beth Gugino

In addition to the reports from Chester, Indiana and Cumberland Co., late blight is now also suspected in Lehigh Co. on tomato. A sample has been sent to the Plant Disease Clinic for confirmation. The evening/night temperatures and dew periods have been especially favorable for late blight so please continue scouting - the season is not over just yet!



Severe foliar late blight symptoms on tomato. (Photo: Beth K. Gugino)

Dr. Foolad Awarded...

(continued from page 11)

Since 2013, the Entrepreneurship and Innovation Program at the College of Agricultural Sciences has awarded more than \$1 million in RAIN grants to 16 projects showing commercial progress.

RAIN funding helps researchers overcome hurdles to commercialize their discoveries. The money can be used to complete trials and experiments that demonstrate a new product or process will work — known as “proof of concept” — and validate a discovery’s economic viability and market potential.

From Penn State Ag Sciences News <http://news.psu.edu>.

PVGA and the Pennsylvania Vegetable Marketing and Research Program have supported Dr. Foolad’s tomato breeding research over the past 22 years with over \$230,000. Additional funding has come from the Pennsylvania Department of Agriculture and other sources.



If you suspect late blight on your farm, please contact your local Penn State Extension Office or let Beth Gugino know via email at bkgugino@psu.edu or by phone at 814-865-7328. We are interested in collecting samples so we can better understand how the pathogen population is changing both within and across growing seasons. Also for the information regarding where the latest confirmed outbreaks have been reported and to receive email or text alerts about when late blight has been confirmed with a personally defined radius from your location visit <http://usablight.org>.



INTRODUCING PALRING *WOVEN* GREENHOUSE COVERS

PALRING 175 UV, AF&IR SHINY

- 7-year industry-leading warranty.
- Woven greenhouse cover for all types of cultivation.
- Extra strength makes it hail and tear-resistant – long lasting.
- UV package of additives assures superior performance and long life.
- IR additives keep foliar temperature higher in the greenhouse during cold nights.
- Anti-drip directs condensation to the cover’s edges, reducing the incidence of fungus and disease.
- Shiny finish for increased direct sunlight.
- Can be sewn to insect net and fitted with eyelets.
- Backed by 20 years of manufacturing and engineering experience.

PALRING 146 UV, AF&IR SHINY ALL THE BENEFITS OF PALRING 175 PLUS...

- 7-year industry-leading warranty as a bottom layer under Palring 175.
- 4 year warranty when used as a single layer.



ROBERT MARVEL PLASTIC MULCH, LLC

www.robertmarvel.com

1-800-478-2214



VEGETABLE PRODUCTION

Fall Weed Management Advice

Richard Bonanno

At the end of the season when weeds are towering above your heads, or at least above your pumpkin crop, it can seem like the end of the road and nothing is left to be done. Not so! There are three main activities that need to be completed now for good year-round weed management—fall field scouting, preventing weed seed production, and controlling perennial weeds.

End of Year Weed Scouting. It is worthwhile to take the time to check fields for weed problems at this time of year. A quick scouting can identify problems that will be expensive to solve if they get out of control and can provide clues that will help in designing a weed management program for next year. Mapping weedy spots, and keeping some kind of permanent record of weed surveys, can help you evaluate your weed management over the years. Make a map of each field and fill in the following information:

How many? If weeds are very dense, they may be having an impact on yields. This is especially true if these weeds emerged early in the season, when competition is greatest.

If weeds were actively growing during the period of greatest crop growth, consider changing the weed management program.

Which weeds? Identifying weeds can help identify potential problems before they get out of hand, and can help you decide if you need to modify your weed control program. Weeds like yellow nutsedge, field bindweed, and quackgrass are spreading perennials which have underground parts that enable them to spread throughout whole fields. Because these weeds can be very damaging, and are very difficult to control, they are worth “nipping in the bud”. In addition, keep an eye out for annual weeds that are new to a field or are increasing in numbers. Some weeds can be very difficult to control in some or all of the crops in your rotation. Galinsoga, for example, is hard to control in cole crops, peppers, and squash. Nightshades are difficult to control in tomatoes for growers who rely on herbicides for control because they are in the same family as tomatoes. Velvetleaf is hard to control in sweet corn.

Where are the weeds? Weeds in the rows or planting holes are much more damaging to crop yields than between-row weeds. Weeds in rows may be an indication that cultivation equipment needs adjustment, or cultivation needs to be done earlier.

What worked? It is also useful to look at the whole field and evaluate the effectiveness of your weed control efforts. If some weeds are generally escaping, identify them. They may point to weaknesses in your herbicide or cultivation program. If mostly grasses, or mostly broadleaves are escaping, it may require an adjustment of either

the rates or the timing of grass or broadleaf herbicides. You may also find the [Mid-Atlantic Commercial Vegetable Production Recommendations] useful. This manual contains a chart listing the effectiveness of vegetable herbicides on most of the common weeds in [the Mid-Atlantic]. Use this guide to find an herbicide labeled for your crop that might give better control than the one which was used.

Preventing Weed Seed Production. Annual weeds produce incredible amounts of seeds. Annual grasses normally produce 3,000 to 5,000 seeds per plant, small seeded annual weeds such as pigweed and lambsquarters can produce 100,000 to 250,000 seeds per plant, and larger seeded broadleaf weeds such as velvetleaf and smartweed can produce 5,000 or more seeds per plant. Perennial weeds can also produce seeds, in addition to surviving through other storage structures like rhizomes or tubers. Once fields are harvested, they should be tilled or disked as soon as possible to prevent seeds from

(continued on page 19)

**SEE VIDEOS OF SPRAYERS IN ACTION ON UPDATED WEBSITE!
NEW HYDRAULIC FOLD SPRAYER FEATURES
AIRBAG BOOM SUSPENSION!**



200, 300 & 400 Gal. Manual Fold • 300 & 400 Gal. Hyd. Fold

Ask us about the advantages of the front mount boom.

PENNS CREEK MFG.

1340 Broadway Rd., Winfield, PA 17889

570-837-1197

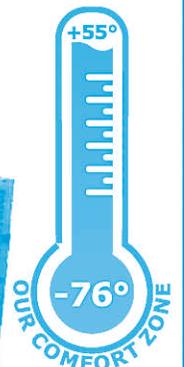
www.pennscreekwelding.com

BUILDERS OF DEPENDABLE ECONOMICAL VEGETABLE SPRAYERS



Authority in Refrigeration for Food Processing and Agricultural Industry

- THRU-THE-WALL
- ROOF-MOUNTED
- PORTABLE
- HYDROCOOLERS
- CUSTOM DESIGNS
- BLAST FREEZERS
- CHILLERS
- GREENHOUSE COOLERS



Made in North America

1.866.748.7786 ONE PIECE DESIGN FREE COOLING



VEGETABLE PRODUCTION

Fall Weed... (continued from page 18)

maturing. Be especially concerned with weeds that are new to a field or are in abundant supply. If time is short, one alternative is to mow the weeds. This will remove the primary seed stalk but will also encourage lateral branching. Eventually, however, these branches will produce seeds and must be destroyed. For some weeds, like Galinsoga, seed maturation may continue after mowing or pulling—these plants should be removed from the field if possible.

Perennial weed management. The best time to control perennial weeds is in the Fall. All perennial weeds have storage structures (tap roots or rhizomes) below ground that enable these plants to survive the winter and regenerate themselves the following year. Fall tillage of perennial weeds will kill top growth and fragment the storage organs but will not kill the weed. Frequent tillage will, over a long period of time, control perennial weeds but, in most cases, this is not practical.

Perhaps the best control technique for perennial weeds is an application of glyphosate (Roundup) before the plant goes dormant. Perennial broadleaf weeds such as bindweed or dandelion should be sprayed while they are still actively growing which is usually before a hard frost. Perennial grasses, such as quackgrass, can be sprayed as late as mid-November. Use 10 to 20 gallons of water per acre when spraying Roundup. Two quarts of the herbicide will provide much better control at 10 gallons of water per acre than at 40 gallons of water per acre. Spraying on a mild afternoon following a cold or cool morning is best to encourage translocation of the herbicide to the below-ground storage structures. Disking or tilling two weeks after application will also improve control of the weeds.

Many growers fight perennial weeds such as quackgrass in corn fields year after year because their primary goal in the fall is to plant a cover crop. This is usually followed by a spring application of Roundup which provides top kill but does not kill the whole weed. Applying Roundup at the proper time is the only way to achieve good control. Delaying the seeding of a cover crop may be a necessary evil in the fight against perennial weeds.

In conclusion, remember to scout and map your fields, prevent weed seed production, and apply Roundup at the right time to control perennial weeds.

We recently discovered this online resource, USDA-ARS Integrated Weed Management Resource Center, <http://integratedweedmanagement.org/> and they had this to say about fall weed management:

When the Time Comes to Hand Pull Weeds Prolific weeds like horseweed (aka maretail) and pigweeds [also grasses, lambsquarters, galinsoga...] are beginning to flower and will drop hundreds of thousands of seeds per plant in the coming weeks. Those seeds will stay in the soil and cause increased weed problems in future years. At this point, what can you do?

While the best time to manage these prolific weeds is prior to planting, some stubborn plants can remain in and around fields through the late-season. Potential reasons for this include 1) ineffective herbicide control, 2) herbicide resistance, 3) small stands persisting on field edges, roads, and by buildings, 4) plants that are cut off during small grain harvest that recover, branch out, and push on to produce seeds.

(continued on page 20)



WEBINAR | SEPTEMBER 25 | 4-5PM

- Overview of tools offered in upcoming, hands-on workshop
- Understanding specific barriers
- Preparing for workshop application
- Register for webinar at <https://papreferred.wufoo.com/forms/wholesaling-webinar/>

FARM TO INSTITUTION WHOLESALING

PRESENTED BY PA PREFERRED™ AND PA DEPARTMENT OF AGRICULTURE

WORKSHOP | DECEMBER 6 | HARRISBURG, PA

- Work in a hands-on setting to assess your farm's finances and marketing strategies
- Gain the tools to assess whether farm-to-school wholesale is a fit for your business
- Interact with subject matter experts who'll share personal experiences with farm to school programs

Contact elaine@kitchentableconsultants.com or call 267.281.3514 for more details.

VEGETABLE PRODUCTION

Fall Weed... (continued from page 19)

At this point in the season, a grower's first reaction to escaped weeds may be to reach for herbicides. However, growers cannot simply rely on herbicides to control large plants (over 6 inches) which are typically able to survive or outgrow herbicide damage. This is where the integration of manual removal may come into play to avoid spreading thousands or millions of seeds.

Options for managing mature weeds: Growers aiming to eliminate individual mature weeds have several 7 options, all with pros and cons that the grower must weigh.

First, they may be manually pulled using a hoe, weed hook, or by hand. Pulled plants should be moved out of the field to prevent regrowth and seed drop. While certainly time-consuming, physically removing the plants is the most definite way to ensure they cannot contribute to the weed seed bank, and this can save lots of money in the long run.

A second option for late-season management is to mow the area of the field that contains a severe infestation. If the weeds have not yet produced seeds, this should substantially decrease the quantity of dropped seeds. The grower would need to weigh the cost of terminating the crop where the infestation exists, but should keep in mind that preventing this weed infestation now can save a substantial amount of money on weed control next year.

Third, when faced with a severe mature infestation that has produced seeds, a grower may choose to not only mow the affected section of the field, but also burn the mowed weeds in piles or windrows. Burning this

weedy plant matter at sufficiently high temperatures kills the weed seeds. Temperatures of 800 to 900 degrees F are required to kill most weed seeds. In order to achieve this temperature range, it is important to form the plant matter in windrows or piles and then wait for it to dry, in order to create the density and dryness needed.

Windrows may also be formed at harvest-time and then burned – this technique is referred to as “narrow windrow burning.” It is becoming widely adopted in Australia, and is being tested by Virginia Tech and the University of Arkansas for use in US cropping systems.

While late-season control measures are labor-intensive, eliminating escaped weeds is an important measure for preventing seed dispersal and new infestations especially in no-till fields. Just a few plants can produce enough to infest an entire field in a couple of seasons. Manual removal this year could save significant money, time, and labor in future years.—Re-published from the USDA-ARS Integrated Weed Management Resource Center, <http://integratedweedmanagement.org/index.php/2017/08/11/when-the-time-comes-tohand-pull-weeds/> —Rich Bonanno, UMass Extension Weed Specialist

*Dr. Bonanno was formerly the Univ. of Massachusetts Extension Weed Specialist. From **Vegetable Notes for Vegetable Farmers in Massachusetts**, Univ. of Mass. Extension, Vol. 29, No. 20, August 24, 2017.*

Be Prepared When The Weeds Start To Grow



← Hillside Cultivator Model CS

The best cultivator for strawberries and between plastic mulch.

The best cultivator for in row weed removal. →

Eco Weeder



Hillside Cultivator Co. LLC

911 Disston View Dr., Lititz, PA 17543
717-626-6194 www.hillsidecultivator.com

HEALTHY PREDATORS, PARASITES ON PATROL

Use Biocontrol To Stamp Out:

- Aphids
- Whiteflies
- Fungus Gnats
- Spider Mites
- Thrips

References available in your area.

“I was REALLY pleased! I didn't see aphids [on the tomatoes] during the whole growing season.”

Vernon Weaver
McAlisterville, PA

Hearty Beneficials **GUARANTEED**
Call 315.497.2063



IPM Laboratories, Inc.

ipminfo@ipmlabs.com

Since 1981

www.ipmlabs.com

Frequent Heavy Rains = Lots of Vegetable Disease Problems

Gerald Brust

I do not have to tell you that these frequent and heavy rains we have been having over the last 2-3 weeks have really increased the amount of foliar and, at times, soil diseases in our vegetable crops. In cucurbits foliar diseases such as *Alternaria*, gummy stem blight and an odd one *Cercospora* (Fig. 1 and 2) have been found causing moderate to severe defoliation in some fields that are heavy with fruit. The large fruit load puts a strain on the plant and when conditions are right (wet weather and warm temperatures) the fungal and bacterial diseases will flourish. *Phytophthora sp* also has been a problem in some cucurbit fields as this organism moves best by swimming in water and a very wet or temporarily flooded field is just what it needs to move around and infect the crop causing a 'melt down' of the plant.

Even when a grower has been diligent about applying their foliar fungicides and copper protectant sprays, we are still going to see plants become infected with foliar pathogens under the kinds of weather conditions we have had. One of these problem pathogens is *Xanthomonas campestris* pv. *vesicatoria*, which is the causal agent of bacterial spot in tomato (Fig. 3). However it is not that straight forward as there are at least 4 different species and four different races of this pest that can cause bacterial leaf spot. Preliminary work at North Carolina State University has shown that their bacterial leaf spot in many of their tomato fields has resistance to copper sprays. Based on what I have seen in some of our tomato fields I am sure we have similar problems. However, even if your bacterial spot is not resistant it still is going to spread and get worse in fields where it was already present after all the frequent rains that we have had. I know you have heard us in Extension say this before and repeatedly, but growers need to be sure to follow good sanitation and cultural practices in their vegetable fields, which will allow for better disease management.

Some good cultural controls include: Using pathogen-free seed and disease-free transplants –including hot water treatments that can be used to kill bacteria on and in seed. Good sanitation practices including cleaning all equipment used in

(continued on page 27)

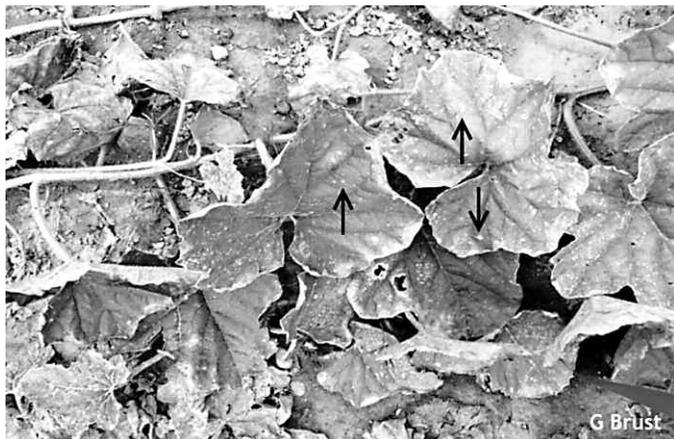


Figure 1. *Alternaria* (larger tan/brown spots) and *Cercospora* leaf spots (arrows) on cantaloupe leaves.

TEW MANUFACTURING CORP.

Fruit & Vegetable Cleaning & Sizing Equipment

Quality Latex & Poly Sponge
Drying Donuts

Tuff Foam® Protective Padding

Brushes, Bearings, Sizing Chains

Scrubber Rubber Plain & Fabric Back

Conveyor Belts

FOR MORE INFORMATION CALL

1-800-380-5839

TEW MFG. CORP.

585-586-6120

P.O. BOX 87

FAX: 585-586-6083

PENFIELD, NY 14526

www.tewmfg.com

Refrigerated and Ventilated Cooling Systems for Fruit and Vegetable Storages

- COMMERCIAL REFRIGERATION
- DESIGN, SALES AND SERVICE
- SERVING AGRICULTURE FOR OVER 60 YEARS

Free Consultation and Quote

Call Mike Mager at 585-343-2678

ARCTIC
REFRIGERATION CO. OF BATAVIA

26 Cedar Street, Batavia, NY 14020

www.arcticrefrigeration.com

VEGETABLE PRODUCTION

Fruit Cracking in Tomato

Gordon Johnson

Heavy rain over the last two weeks has resulted in increased fruit cracking in field tomatoes causing extensive losses of marketable fruit.

Cracks in the skin of tomato fruit that expose the internal fruit tissue can appear in several forms.

Tomato cracking occurs when the skin of the fruit does not expand at the same rate as the fruit interior. Cracking is most common after heavy rain events, but can also occur with irregular irrigation.

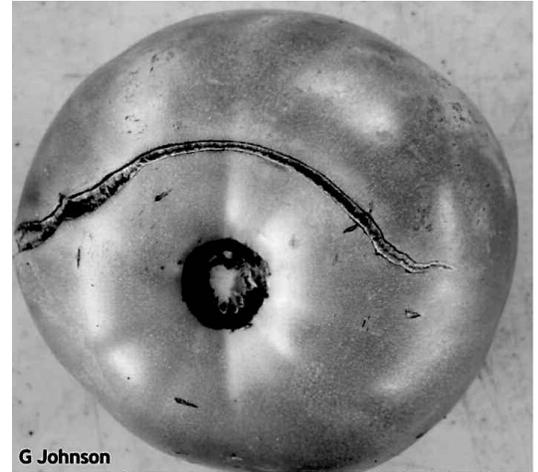
Fruit cracking is most prevalent when there is a rapid uptake of water into fruit during ripening when the fruit is accumulating solids. The combined pressure of accumulated water and solutes can split fruits in tomato varieties with low skin elasticity. In addition, during heavy rain events, water can enter the fruit at the stem scar or through minute cracks in the skin shoulder, again causing extra pressure and larger cracks.

Elevated fruit temperatures, often caused by loss of leaf cover, can increase the susceptibility of fruit to cracking as can exposure to high light levels. High humidity around fruit can also increase cracking.

Varieties that are most susceptible to cracking have low skin elasticity during ripening and skin/underlying skin tissue that is thin. Larger fruits tend to be most susceptible; however, many cherry tomatoes are also prone to cracking.

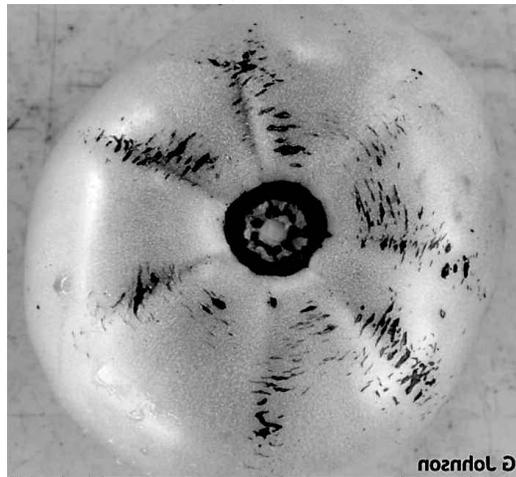
Management of tomato skin cracking starts with selecting crack resistant varieties. Maintain even soil moisture to avoid sudden influx of water into the fruit (but do not over-irrigate). Maintain good fruit cover to keep fruits from overheating and manage fruit load by not over-pruning.

High tunnels and rain shelters are good tools to reduce fruit cracking by controlling plant wetness and soil moisture.



Irregular cracks can also appear starting at the fruit shoulder.

G Johnson



Rain checking appears as small cracks arranged concentrically across the shoulders of fruits.

G Johnson



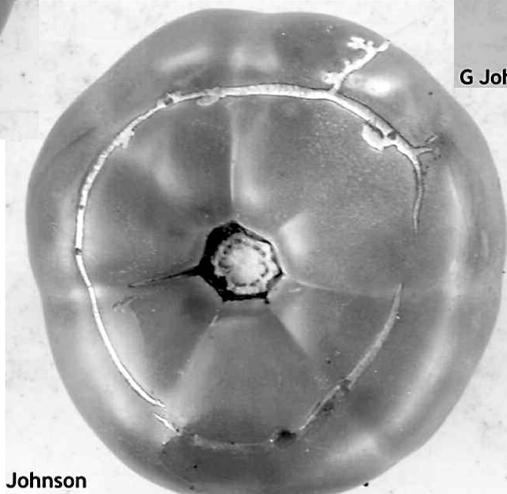
Radial cracks start at the stem end and extend lengthwise down the fruit. Deep radial cracks render fruit unmarketable and increase the likelihood of fruit rot. In cherry tomatoes the split can go the length of the fruit.

G Johnson



G Johnson

In severe cases you can see multiple types of cracking on the same fruit.



Concentric cracks circle the tomato around the shoulder of the fruit.

Johnson

*Dr. Johnson is the Extension Vegetable & Fruit Specialist at the Univ. of Delaware. From the **Weekly Crop Update**, Univ. of Delaware Extension, Vol. 25, Issue 21, August 18, 2017.*

Phytophthora Fruit Rot in Watermelon

Kate Everts

Weather conditions continue to be very favorable for the development of *Phytophthora* fruit rot on watermelons. Conditions that favor *Phytophthora* fruit rot are rainfall amounts that lead to saturated fields for several hours. When soil is saturated for 5 to 6 hours, the disease progress is greatly increased. Optimum temperature for the disease is 82°F, however higher temperatures won't stop the progress of the disease.



Phytophthora fruit rot on watermelon

The first step in management of *Phytophthora* fruit rot is to implement good cultural disease management practices such as removing infected debris and diseased fruit from fields, using raised beds, and improving soil drainage through tillage or creating ditches. *Phytophthora* blight has a wide host range, so avoid susceptible host plants in the field rotation (snap and lima bean, cucurbits, eggplants and tomatoes).

Several research trials have been conducted on *Phytophthora* fruit rot by Dr. S. Kousik in South Carolina to evaluate efficacy of fungicides. He found that Orondis, Revus, Presidio and Zampro were the products that were most often included in the best treatment programs. For example, in 2015, foliar sprays of Zampro alternated with Orondis, and Revus

alternated with Presidio reduced fruit rot by about 80% compared to non-sprayed plots. Note that although 80% reduction in fruit rot sounds great, 12% of fruit were still diseased. Other trials have only achieved 60 or 75% fruit rot reduction with the best treatments. Therefore, even in treated fields many fruit won't be harvestable.

In an earlier trial conducted before Orondis was available, a good program for *Phytophthora* fruit rot was Actigard plus Prophtye plus Kocide applied and alternated with an application that includes Zampro, Revus or Presidio. Zampro, Revus and Presidio applied before harvest reduced post-harvest rot.



"Felt-like" *Phytophthora* sporulation on cantaloupe fruit.

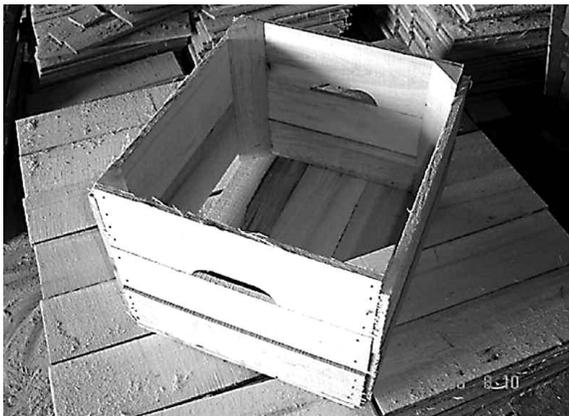
Watermelon fruit are susceptible to *Phytophthora* fruit rot at all growth stages. Therefore sprays targeted for *Phytophthora* fruit rot should begin when fruit are approximately orange to grapefruit size.

Dr. Everts is Vegetable Pathologist, University of Delaware and University of Maryland. From the Weekly Crop Update, Univ. of Delaware Extension, Vol. 25, Issue 19, August 4, 2017.



Saylor's Farm Products

*We Also Make Watercaps
For Earlier Tomatoes*



Manufacturers of Agricultural Containers.
www.saylorfarm.com



Saylor's Farm Products

17319 Route 68, Sligo, PA 16255
Phone 814-745-2306
john@saylorfarm.com

Your Source for . . .

HIGH TUNNELS



**Call Ryan Richard @ 302.853.5563
or Email rrichard@rimol.com**

VEGETABLE PRODUCTION

Postharvest Handling and Storage Basics

Chris Callahan

Harvested vegetables are living things that carry on the process of respiration and other biological and chemical processes even after they have been picked. How produce is handled after harvest will directly affect quality characteristics such as appearance, flavor, texture and nutritional value. Attention to postharvest quality can increase repeat sales and support higher prices.

Control of postharvest quality essentially comes down to limiting respiration rate (lowering temperature), controlling water loss (maintaining proper relative humidity), minimizing physical damage to the product (harvesting and handling with care), and avoiding contamination (handling, washing and storing appropriately).

Limiting Respiration

Respiration is a temperature-dependent biochemical process that converts carbon in plant tissue (mainly sugars) to carbon dioxide (CO₂) and water (H₂O) while producing some heat. Rates of respiration vary by the crop (see Gross 2014, Table p. 7 and pp. 68-75, reference below), and should be taken into account when sizing cooling equipment. Fortunately, we can significantly reduce respiration, and therefore maintain high product quality, by reducing product temperature (precooling) and keeping it low (holding or storage cooling). This concept is known as establishing the “cold chain”- a chain of reduced temperature that connects the field to the consumer, ensuring the highest quality produce possible by minimizing respiration.

From the moment of harvest, product quality will deteriorate. Intentional pre-cooling of produce directly after harvest helps quickly reduce the rate of respiration and initiates the cold chain. Examples of pre-cooling include scheduling harvest activities at cooler times of day, shading harvested product in the field prior to transport, forced air cooling through the packed product with refrigeration, hydrocooling with cool water, and vacuum cooling via evaporation. Once cooled to storage temperature, reliable, refrigerated storage is necessary to maintain high quality.

It is important to note that not all crops can be cooled to the same temperature without resulting in cold or freeze injury and some crops are sensitive to the method of cooling. Crops have different susceptibility to chilling or freeze injury depending on their physiology. Good guidance is available (see Gross 2014, pp. 62-67) and is summarized in Table 16 of the New England Vegetable Management Guide <http://nevegetable.org>. Common pre-cooling methods are also noted in Table 16. Additionally, a computer-based crop storage planner is available for determining appropriate grouping of your crops and estimating overall respiration load (see Callahan 2016). Chilling injury is also an important consideration when considering particularly sensitive fall-harvested crops and the possibility of lower nighttime temperatures, e.g. winter squash. Notes on chilling injury guidance for these crops are provided in the appropriate crop chapter of the NE Vegetable Management Guide and in the references noted above.

Controlling Water Loss

The control of water loss requires careful attention to relative humidity (RH) of the air surrounding stored product in addition to temperature. RH is a measure of the amount of water vapor in air compared to the maximum amount that can be saturated in that air at a given temperature. Most, but not all, crops

are ideally stored at higher RH to prevent water evaporation into the air leading to water loss. The loss of water reduces the weight of the crop and also can lead to lower quality and poor appearance.

Some crops, such as onions, garlic and winter squash, are purposefully “cured” or dried resulting in drier outer skin and cured harvest wounds to allow for long term storage. Because this results in a paper-like layer, these crops are generally stored at lower RH to prevent development of postharvest disease such as molds and fungi on this outer skin. Other than these examples, most crops are best stored at 90-95% RH with specific guidance provided in Table 16, in the crop storage planner noted above, and in the literature (see Gross 2014).

Minimizing Physical Damage

Generally speaking, produce crops live a very gentle life until harvested. Starting with harvest, produce is moved and handled for the first time and, typically, many times after. With each movement there is a risk of physical damage. Even if the damage is not obvious, it can result in bruising or other damage that becomes evident later and can lead to postharvest disease and infiltration by pathogens, which are encouraged by damaged cell tissue. Even during harvest, crops can suffer “harvester blight.” For the majority of crops, gentle handling, crates with smooth and clean surfaces, and conveyance with elastic and soft belts and rollers is recommended.

Avoiding Contamination

Sorting and culling are also important practices at this stage. As the saying goes, “one bad apple can ruin the bunch”. Sorting allows for different sizes and grades of product to be stored and sold separately and culling can separate damaged or lower quality product from the main lot for sale, rescue donation or compost depending on the defect. The removal of obviously damaged product from the lot helps minimize cross contamination with postharvest pathogens to a larger portion of the population.

Produce can be rinsed to remove soil and debris, and often a sanitizer is added to the rinse water to prevent cross-contamination of plant and human pathogens from one item of produce to another in the same batch (see the following references: LaBorde, Samuels and Stivers 2016, Bihn et al. 2014).

Once packed and ready for storage or transport, care should be taken to avoid contamination of product with other contaminants such as foreign matter and unintentional water such as condensate from refrigeration systems.

References

- Gross, Kenneth C., Chien Yi Wang, and Mikal Saltveit, eds. 2016. *The Commercial Storage of Fruits, Vegetables, and Florist and Nursery Stocks*. Agriculture Handbook 66, U.S. Department of Agriculture, Agricultural Research Service, Washington, DC. Available at <https://www.ars.usda.gov/ARSDocFiles/oc/np/CommercialStorage/CommercialStorage.pdf>. Confirmed by download June 12, 2017.
- Callahan, Christopher W. 2016. *Crop Storage Planning Tool*. UVM Extension. Available online. <http://blog.uvm.edu/cwcallah/2016/01/21/new-crop-storage-planning-tool/>. Confirmed by download June 13, 2017.

(continued on page 27)

POTATO PRODUCTION

On the Road—Potato Planting at Huntsinger Farm Inc.

Elsa Sanchez and Thomas Butzler

Huntsinger Farm Inc. in Hegins, Pennsylvania specializes in potato production, packing, and wholesale marketing.



The farm started as about 55 acres in 1921 by Elvin Huntsinger and has grown to 350 acres today. We visited with Kris Rutko, Jared Maurer and Adam Wolfgang to see potatoes being planted.

Huntsinger's developed a production system based on a 4-year rotation. The rotation works like this: in the first year potatoes are grown, once they are harvested winter rye is planted. In the spring of the second year the rye is underseeded with timothy and the rye is harvested for grain. Timothy is grown as part of the Pheasants Forever program. It's followed in the third year by sudan grass. The rotation returns to potatoes in the fourth year. In 2017 about 95 acres of potatoes were planted.

Potato planting started mid-April and finished mid-June. Field preparation begins in the fall before planting by plowing. Rye is then seeded to help prevent erosion over the winter. In the spring the rye is terminated with a herbicide. Beds about 3.5 to 4 feet across and 8 to 10 inches high are then pulled.



Three to 4 feet wide beds being made in a 60 feet wide planting strip. Photo: Bill Lamont



The destoner has been used on the 3 beds on the right. Note strips of timothy on either side of the planting strip. Photo: Bill Lamont



The destoner is dropping stones between beds. Photo: Bill Lamont



Close-up of rocks exiting the destoner. Photo: Tom Butzler

The soil type on the farm is red shale, meaning there are a lot of rocks in the soil. Rocks can interfere with potato quality by resulting in misshapen tubers, and also slow harvest by clogging machinery. After beds are pulled, a destoner is used. It places stones between beds in the field. This is a slow step with the tractor running at 1.5 miles per hour. In the fall rocks are chain picked. All this results in higher quality tubers.

Next potato seed pieces are planted. Seed potatoes are prepared by cutting them into 1.5 to 2 ounce pieces, treating them with a fungicide, and storing them at 40°F for at least 2 weeks. Seed pieces are set 6 inches deep using about 8 inch in-row spacing in two rows per bed spaced 40 inches apart. Each planting strip is 60 feet wide and contains 18 rows. Strip size was chosen for efficiency to accommodate liming, spraying, irrigating, and planting. At the same time seed pieces are set and each bed is formed into 2 rows, fertilizer, insecticides and fungicides are applied.

Hilling is not done on the farm. Instead seed pieces are planted about 6 inches deep (compared to about 4 inches when hilling is done). Rows shrink over the growing season, but because of planting depth, tubers are kept buried and not exposed to sunlight.

Granular fertilizer is used exclusively. At planting it is placed 2 to 3 inches below seed pieces to avoid fertilizer burn. When plants are 6 to 8 inches tall, about 1 to 1.5 months after planting, additional fertilizer is side-dressed. Soil test analysis is important to monitor the fertilizer program. Soil tests are collect-

(continued on page 26)

POTATO PRODUCTION

On the Road—Potato... (continued from page 25)



Close-up of stones between beds. Photo: Bill Lamont



Seed potatoes ready to be planted. Photo: Tom Butzler



During planting, beds are formed into 2 rows and fertilizer, insecticide, and fungicide is soil incorporated. Photo: Bill Lamont



Kris Rutko showing newly planted potato seed pieces spaced about 8 inches apart. Photo: Bill Lamont

ed in September and results are used to determine lime, potassium, phosphorus, calcium, and magnesium needs.

Colorado potato beetles, aphids and leaf hoppers are the main insect pests and late blight the main disease which can be present. Formal scouting occurs once a week and everyone who works in the fields is trained to keep an eye out for these problems. Kris has a network including Extension folks (He said, "I call Bill"), chemical companies, independent consultants, and internet resources to help make informed management decisions.

Weeds are managed with herbicides. After planting there is a 2 to 3 week window of time when a pre-emergent herbicide is applied. Timing during that window is dependent on the weather. When rain is predicted, an herbicide will likely be applied beforehand so the rain can move it into the soil. Irrigation is used to supply the plants 1 acre-inch of water each week. In a dry year, this means running a solid-set overhead irrigation system twice a week for about 6 hours. Soil moisture is monitored by hand.

Kris has been with Huntsinger's for over 20 years and has seen a lot of changes in potato farming. Potato quality has improved with the use of the destoner and soil health has improved with the use of the 4-year rotation system. The production system also makes use of strips and drive roads that have been planted in grass which helps with soil erosion.

Harvest will start in mid-August and generally lasts until the end of September.

Thank you to Huntsinger Farms Inc. (www.huntsinger-farms.net/) and especially Kris and Jared for allowing us to visit and spending time talking with us about potato production.

Dr. Sanchez is with the Department of Plant Science at Penn State Univ. and Mr. Butzler is with Penn Extension in Clinton Co. From **Vegetable, Small Fruit and Mushroom Production News**, Penn State Extension, extension.psu.edu/plants/vegetable-fruit/news/2017 June 20, 2017.

Postharvest Handling... (continued from page 24)

Bihn, E., Schermann, M. A., Wszelaki, A. L., Wall, G. L., and Amundson, S. K. 2014. On-Farm Decision Tree Project: Postharvest Water. National Good Agricultural Practices Program. Available online. <https://gaps.cornell.edu/educational-materials/decision-trees/postharvest-water>. Confirmed by download June 19, 2017.

LaBorde, L., Samuels, R. and Stivers, L. 2016. Video Series: Using Sanitizers in Washwater. Available online. <http://extension.psu.edu/food/safety/farm/gaps/video-series-washwater-sanitation>. Confirmed by download June 18, 2017.

Mr. Callahan is an Agricultural Engineer, Univ. of Vermont Extension. Excerpted from **2018-2019 New England Vegetable Management Guide** and reprinted in the **Vegetable Notes for Vegetable Farmers in Massachusetts**, Univ. of Mass. Extension, Vol. 29, No. 18, August 10, 2017.

Frequent Heavy Rains...

(continued from page 21)

diseased fields, sanitation of equipment can be done safely and effectively using a power washer and a commercial sanitizer. Keep fields free from volunteers plants, weeds, and cull piles. Avoid working in fields when bacterial diseases are present and the fields are wet. Bury or remove crop debris at the end of the season and rotate with a non-host crop for at least 2-3 years.



Figure 2. Gummy stem blight on a watermelon leaf



Figure 3. Bacterial spot on tomato leaf

Dr. Brust is the IPM Vegetable Specialist, University of Maryland. From the **Weekly Crop Update**, Univ. of Delaware Extension, Vol. 25, Issue 21, August 18, 2017.

Equipment

FOR SALE – ATLAS 30' X 60' HIGH TUNNEL with new wooden doors on both ends of the tunnel. Located in Westmoreland County near their fairgrounds. Asking \$6,000.00 for structure including doors. Contact Mike at mdu1@psu.edu or call 814-359-8154.

REMEMBER

Classified Ads are Free for

PVGA Members for Non-Commercial Sales

Strawberry Plants
Over 20 Leading Varieties • Fall Dug
State Inspected - Grown on Fumigated Sand
Asparagus Crowns
Leading Varieties • Male Hybrids • Superior Root Systems

Krohne
Plant Farms, Inc. 

Over 20 Years Experience
All Available In Our Free
Illustrated Price List
Krohne Plant Farms
65295 CR 342, Hartford, MI 49057
Ph: (269) 424-5423
Fax: (269) 424-3126
www.krohneplantfarms.com

e-mail: info@krohneplantfarms.com

Since 1932

80 YEARS

The
**Best
Berry
Plants**

- Strawberries, raspberries, blueberries, blackberries, asparagus and more!
- Where the pros go for plans and plants.
- Call for a free catalog and plasticulture guide!

41 River Road
South Deerfield
Massachusetts 01373

NOURSE

www.noursefarms.com 413.665.2658

Pennsylvania Vegetable Growers Association

815 Middle Road
Richfield, Pennsylvania 17086-9205
717-694-3596
pvga@pvga.org
www.pvga.org

PRESORTED
STANDARD
U.S. POSTAGE
PAID
MIDDLEBURG PA 17842
PERMIT NO. 26

Address Service Requested

The advertisement features a central image of a rolled-up US dollar bill standing upright in a mound of dark brown soil. The background is a blurred field of similar soil mounds under a clear blue sky. The text is overlaid on the right side of the image.

KelPlant[®] 1-0-1

Exclusive Seaweed Extract Solution
With Humic Acid & Fulvic Acid To Boost
Root Growth Beyond Expectations.

Experience The Profitable Difference!

PLANT FOOD COMPANY, INC.

Connect with our team today for more information. **Let's Grow Together!**

Mike Giovanelli: (609) 548-2555
mikeg@plantfoodco.com

Philip String: (609) 377-1062
pstring@plantfoodco.com

www.plantfoodfarm.com | Toll Free: 800-562-1291