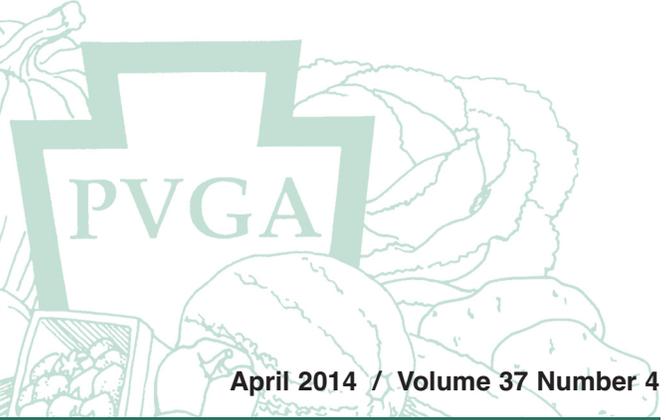


NEWS

for the commercial vegetable, potato and berry grower



April 2014 / Volume 37 Number 4

Highlights from 2014 Farm Show

The Pennsylvania State Farm Show, the largest indoor agricultural exposition in the country and Pennsylvania's version of a state fair, is certainly THE showcase for Pennsylvania Agriculture. While the Farm Show continues to be the premier state livestock show, especially for students, it has evolved over the years from an agricultural trade show where farmers could check out the latest new equipment to a consumer educational event where non-farm families have the opportunity to see farm animals and some equipment up-close-and-personal.

PennAg Industries and other state farm organizations have done an outstanding job of letting consumers see how modern agriculture raises crops and animals with its extensive Today's Agriculture exhibit in the center of the Weis Exposition Hall.

The Farm Show has PVGA erect a fresh produce display each year – this year's display was set up by Roberta Bogash with help from her husband Steve Bogash, Rob Amsterdam, Ryan Pyle and Cheryl Troxell.

The butter sculpture is another Farm Show tradition showcasing the state's dairy industry. This year's edition celebrated 60 years of Farm Show milk shakes served by the Pennsylvania Dairymen's Association.

Surveys of people attending the Farm Show indicate that one of the prime attractions is the food – sold by the state's agricultural commodity organizations in the Food Court. For over 30 years PVGA has been selling vegetable soup and other vegetable and berry food items at its booth to raise money for vegetable and berry research at Penn State. This year the Association's booth featured new banners and signs to draw customers. The PVGA food booth is staffed by hundreds of vol-

unteers who made the \$40,000 in profits possible. See pages 14 and 15 for the Honor Roll of volunteers and more pictures from this year's Farm Show. If you don't already volunteer at the Farm Show, please consider helping out next year.



Fresh Vegetable Display at the 2014 Farm Show



New Banners and Signs for the PVGA Farm Show Booth

NEWS



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Vegetable Growers
Association**

*An association of
commercial vegetable,
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Game Commission Approves Hunting Seasons, Baiting

The Pennsylvania Board of Game Commissioners approved the hunting and trapping seasons and bag limits for the 2014-15 license year at their April meeting. The commissioners also set the number of antlerless deer licenses to be allocated and approved baiting deer in southeastern Pennsylvania.

The Board voted to allocate 779,500 antlerless deer licenses statewide. They cut the allocations in 18 of the 23 Wildlife Management Units (WMU) and increased the allocation in only one WMU. Allocations by WMU are as follows, with the allocation from the previous license year appearing in parentheses: WMU 1A 47,000 (49,000); WMU 1B 30,000 (31,000); WMU 2A 46,000 (49,000); WMU 2B 60,000 (62,000); WMU 2C 38,000 (43,000); WMU 2D 61,000 (61,000); WMU 2E 21,000 (22,000); WMU 2F 27,000 (29,000); WMU 2G 22,000 (28,000); WMU 2H 5,500 (6,000); WMU 3A 18,000 (23,000); WMU 3B 33,000 (39,000); WMU 3C 32,000 (35,000); WMU 3D 25,000 (32,000); WMU 4A 28,000 (28,000); WMU 4B 26,000 (24,000); WMU 4C 25,000 (27,000); WMU 4D 33,000 (35,000); WMU 4E 21,000 (26,000); WMU 5A 19,000 (19,000); WMU 5B 49,000 (50,000); WMU 5C 95,000 (103,000); and WMU 5D 18,000 (18,000).

The Board adopted a slate of deer seasons for 2014-15 that establishes the split, five-day antlered deer season (Dec. 1-5) and seven-day concurrent season (Dec. 6-13) in 14 Wildlife Management Units. The list includes WMUs 2A, 2C, 2D, 2E, 2F, 2G, 2H, 3B, 3C, 4A 4B, 4C, 4D and 4E. The package also retains the two-week (Dec. 1-13) concurrent, antlered and antlerless deer season in WMUs 1A, 1B, 2B, 3A, 3D, 5A, 5B, 5C and 5D.

The split format is new for WMUs 4A and 4C, and commissioners said changing the format is aimed at increasing deer numbers in those WMUs.

Hunters with Deer Management Assistance Program (DMAP) antlerless deer permits may use the permits on the lands for which they were issued during any established deer season, and will continue to be permitted to harvest antlerless deer from Dec. 1-13 in WMUs 2A, 2C, 2D, 2E, 2F, 2G, 2H, 3B, 3C, 4A, 4B, 4C, 4D and 4E. Fees for DMAP permits are \$10.70 for residents and \$35.70 for nonresidents.

DMAP permits also may be transferred to Mentored Hunting Program participants.

The board retained the antler restrictions in place for adult and senior license holders since the 2011-12 seasons. It remains the "three-up" on one side, not counting a brow tine, provision for the western Wildlife Management Units of 1A, 1B, 2A, 2B and 2D, and the three points on one side in all other WMUs. Those exempt from these antler restrictions are junior license holders, disabled hunters with a permit to use a vehicle as a blind and resident active duty military on leave.

The commissioners also gave specific approval to creating a permit that will allow private-property owners in the southeastern Pennsylvania special regulations area limited opportunities to use bait while deer hunting.

Baiting already is allowed in the special regulations area on properties enrolled in the agency's Deer Depredation Program, commonly called the "Red Tag" program.

Through the use of permitted baiting, commissioners hope to achieve higher deer harvests in an area where there's high potential for human-deer conflicts, and where hunting access is extremely limited.

Baiting will be limited to shelled corn and protein pellet supplements, not to exceed five gallons per site, and distributed through automatic mechanical feeders set to dispense bait up to three times a day during legal hunting hours.

There will be no cost for the permit, commissioners said. And a landowner or authorized land agent can apply for a permit.

The provisions are set to become effective in July.

Rich Palmer, who heads the Game Commission's Bureau of Wildlife Protection, said the permit applies only to deer hunting and that a general prohibition on baiting other wildlife remains in place in the special regulations area and elsewhere statewide, unless specifically excepted.

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.

National News Briefs

United Members and Key Lawmakers Meet on Top Industry Priorities

Discussing industry priorities including immigration reform, FSMA rulemaking, nutrition policy and Farm Bill implementation, members of the United Fresh Produce Association's Government Relations Council had several meetings with key lawmakers recently on Capitol Hill. In the Senate, council members met with Sens. Debbie Stabenow (chairwoman, Agriculture Committee), Saxby Chambliss, Mike Crapo and Lindsay Graham. In the House of Representatives, council members talked with Reps. Frank Lucas (chairman, Agriculture Committee), Jeff Denham, Sam Farr, Bob Goodlatte (chairman, Judiciary Committee), Steve Southerland and David Valadao. FSMA rulemaking, immigration reform, Farm Bill implementation and water management were among the priority issues discussed with the lawmakers.

The next evening, House Speaker John Boehner met with United's Government Relations Council members for candid discussions about the prospects for passing immigration reform in the House and the agenda for the remainder of 2014.

"Having that quality face time with our key members of Congress is critically important," said Robert Guenther, senior vice president of public policy. "We appreciate the time that our council members and lawmakers took to make these meetings a success."

A series of briefings filled the agenda on Wednesday as the council heard updates on United's government relations priorities for the coming year, strategies for Farm Bill implementation, FSMA rulemaking timelines for the years ahead, nutrition programs that include SNAP incentives and school meals, immigration reform strategies, US foreign trade initiatives and other priorities.

From Inside United, United Fresh Produce Ass'n. April 10, 2014.

United Fresh Voices Support for Introduction of School Food Modernization Act

The United Fresh Produce Association today issued a statement by President & CEO Tom Stenzel in support of the introduction of the *School Food Modernization Act* in the Senate by Sens. Susan Collins (R-ME) and Heidi Heitkamp (D-ND).

"We applaud Sens. Collins and Heitkamp for their bipartisan leadership to help schools upgrade their cafeteria equipment and infrastructure. Students across the country are excited about new fresh produce choices in salad bars, breakfast and lunch options, and even fresh vending. But, many schools need larger walk-in refrigerators, portable salad bars, shelving, and electrical infrastructure upgrades to meet the needs of their students for fresh, high-quality school meals and snacks. We strongly support the School Food Modernization Act to provide both loan and grant assistance programs to schools, as well as a similar bill HR 1783 in the House introduced by Reps. Tom Latham and Mike McIntyre in 2013."

Increasing children's access to fresh fruit and vegetable consumption throughout the school day is a top priority for the country in reaching public health goals. The new nutrition standards for school lunch and breakfast, as well as Smart Snacks in Schools, are a key step in tackling childhood obesity to prevent the onset of chronic disease and reducing health care costs. School salad bars and the Fresh Fruit and Vegetable Program are helping to transform schools across the country to

support children's health and lifelong food preferences for fresh, healthy foods.

United Fresh continues to be a leading advocate for both public and private sector investments in school cafeteria equipment. The United Fresh Foundation is a founding partner of the Let's Move Salad Bars to Schools initiative, which has raised funds to donate salad bars to more than 3,400 schools nationwide.

From Inside United, United Fresh Produce Ass'n., April 3, 2014.

United Fresh Submits Comments on FSMA Draft Animal Feed Rule

Earlier this week, the United Fresh Produce Association provided comments to FDA for its proposed rule covering food for animals under the Food Safety Modernization Act (FSMA). United's comments for the proposed rule, *Current Good Manufacturing Practice and Hazard Analysis and Risk-Based Preventive Controls for Food for Animals*, focused on the potential impact on fresh produce handling operations that grow, handle or ship produce to animal feed manufacturers, usually in the form of culls and waste.

In comments to FDA, United cited the rule's exemption of farms and other facilities that hold or transport only raw agricultural commodities:

"We support this exemption, and strongly recommend that this exemption extend to all operations that handle and ship only culls and waste of raw, intact fresh produce, consistent with our [previous] comments to the Produce Safety and Preventive Controls for Human Food proposed rules, including operations of any size that handle fresh fruits and vegetables ..."

United's comments to FDA also include recommended exemptions for other types of facilities that produce or handle produce culls or waste intended for animal feed. The entire comments document can be viewed on United's website at www.UnitedFresh.org/FSMA

From Inside United, United Fresh Produce Ass'n., April 3, 2014.

United Fresh Foundation to Host Fresh Produce Pavilion at 2014 School Nutrition Convention

The United Fresh Foundation will host the first Fresh Produce Pavilion at the upcoming School Nutrition Association Annual Convention in Boston, July 14-16, establishing a destination area on the trade show floor focused exclusively on promoting fresh fruits and vegetables.

The new pavilion will include exhibits by many United Fresh member companies and an educational learning area for school foodservice directors. The Foundation's learning area is co-sponsored by PRO*ACT, which is bringing a number of produce distribution experts to serve as consultants for schools to answer all their produce-related questions, share guidance and tips for writing produce RFPs, and talk about the wide variety of fresh and fresh-cut fruits and vegetables that are ideal for school foodservice. The learning area will display salad bars for school meals and snacking options to comply with the new "Smart Snacks in Schools" standards that go into effect next school year.

"Our goal with this pavilion is help schools maximize their success in serving a variety of fresh fruits and vegetables," said

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United Fresh CEO Tom Stenzel. "We're committed to helping school foodservice directors understand the ins and outs of purchasing produce, as well as making sure they're aware of the many fresh and fresh-cut produce items that that can appeal to the next generation of produce consumers," he said.

"We appreciate PRO*ACT's assistance in staffing the learning area, where school foodservice directors will be able to consult with experts outside of their own procurement process. This provides a low-pressure learning opportunity when buyers are not negotiating with their own vendors, but instead are learning from distributors who are not actually competing for their business," Stenzel said.

The 1,600 sq. ft. Fresh Produce Pavilion will feature 12 booths from member companies, in addition to the education learning area. Current exhibitors include:

- Chiquita Brands
- Grimmway Farms
- HMC Farms
- Mushroom Council
- National Watermelon Promotion Board
- NatureSeal
- Pear Bureau Northwest
- PRO*ACT
- Ready Pac Foods

From *Inside United*, *United Fresh Produce Ass'n.*, April 24, 2014.

Farm Bureau Lays Out Agriculture Priorities in Next Budget

Following the release of President Obama's proposed budget for 2015, the American Farm Bureau Federation has laid out its priority for funding to Congress.

Obama's budget for Fiscal Year 2015 would cut about \$1 billion from spending at the Agriculture Department. However, the department would focus spending on rural development, including the expansion of broadband internet access. Recently, Farm Bureau sent a letter to the House and Senate Appropriations Subcommittees on Agriculture laying out our spending priorities for the next fiscal year.

Farm Bureau is asking Congress to emphasize funding on the Renewable Energy for American Programs (REAP), which offers grants and guaranteed loans for agriculture producers purchasing renewable energy systems. In addition, Farm Bureau encouraged lawmakers to focus on programs that promote conservation, animal health, expand export markets and make a larger number of crop protection tools available.

In a letter to lawmakers, Farm Bureau identified several programs for priority funding. They include:

- A \$2 million increase to the Animal and Plant Health Inspection Services (APHIS) for voluntary Animal Disease Traceability, offset by a decrease in avian influenza programs. Additional funding is necessary to assist producers dealing with porcine epidemic diarrhea virus.

- Supporting \$4.8 million for the Veterinary Medicine Loan Repayment Program and \$10 million in funding for the Veterinary Services Grant, which helps large animal vets become established in rural areas.

- Funding for conservation programs that prioritize working lands over retirement-type programs.

- Continuing funding for the Value-Added Agricultural Producer Grants and related entrepreneur programs aimed at new business ventures.

- Maintain the Rural Utilities Services program, which expand rural broadband and telecommunications services.

- Maintaining funding for Ag in the Classroom programs.

From *Pennsylvania Agricultural Alliance Issues Update*, *Penna. Farm Bureau*, April 2014.

EPA, Army Corps Release Waters of the United States Rule

The Environmental Protection Agency and the U.S. Army Corps of Engineers announced a proposed rule that has the potential to greatly expand the types of land that EPA may control by regulation under the Clean Water Act.

The proposed regulation is another in a series of moves to expand EPA's direct influence over land use decisions normally left to state and local governments. Pennsylvania Farm Bureau is reviewing the 370-page rule to offer comments. At the same time, Farm Bureau will engage Congressional leaders on the potential harm this proposed rule may have on agriculture. The proposed rule attempts to interpret the areas of land that federal agencies would consider to be part of "navigable waters" subject to federal regulation.

In a news release, EPA officials said land areas to be regulated under the proposed rule includes "seasonal and rain dependent streams," suggesting areas with zero or negligible water flow will be federally regulated as part of "navigable waters." The courts and Congress have recognized the term "navigable" significantly limits EPA's authority under the Clean Water Act, and have rejected proposed interpretations of EPA authority that virtually ignores this term. Farm Bureau fears the EPA is trying to expand their reach beyond limits already placed by the courts and Congress.

From *Pennsylvania Agricultural Alliance Issues Update*, *Penna. Farm Bureau*, April 2014.

New Farm Bill Offers Program for Young Farmers

The 2014 Farm Bill has a number of programs aimed at helping new and young farmers establish their business, or expand current operations.

- The bill also provides incentives to young farmers to help them purchase crop insurance, and places an effort on helping returning military veterans break into the agriculture industry.

- The U.S. Department of Agriculture recently published details for programs aimed at beginning and young farmers. Here are some highlights:

- Increases funding, to \$100 million through 2014-2018, for the Beginning Farmer and Rancher Development Program.

- Establishes a Military Veterans Agriculture Liaison to connect returning veterans with beginning farmer training programs.

- When it comes to crop insurance, the Farm Bill defines a beginning farmer as one who has no more than five years of experience. That designation improves beginning farmers' access to crop insurance by providing a 10 percentage point reduction in insurance premiums and exempting new farmers from paying the \$300 administrative fee for catastrophic level policies.

- Funds training, education, outreach and technical assistance for new farmers. Priority is given to partnerships that including non-governmental and community-based organizations.

(continued on page 6)



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NEWS

National News Briefs *(continued from page 4)*

Increases the maximum conservation loan to 90 percent, from 75 percent, of the total amount for producers under the Conservation Loan and Loan Guarantee Program.

Makes permanent the USDA microloan program for new farmers.

Increases—to \$63 million—the amount of money available to beginning farmers that want to expand or add value-added agriculture products.

To learn more about these programs visit: www.ers.usda.gov and search for the 2014 Farm Act.

From **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, April 2014.

Tax Changes Could Impact Farmers

Federal lawmakers are making tentative moves towards reforming the nation's tax code.

How those reforms will ultimately impact farmers remains to be seen, but early proposals could lower tax rates for individuals and corporations.

Recently, Rep. Dave Camp, a Michigan Republican who chairs the House Ways and Means Committee, released a tax reform proposal. His proposal, which has not been drafted into law, would lower both the top corporate income tax rate and the top individual tax rate to 25 percent from the current 35 percent for corporations and 39.6 for individuals. However, some deductions would go away in the reform proposal, including the ability to immediately deduct soil and conservation expenses.

"Farmers are being asked to give up some deductions," said Pat Wolff, tax specialist for the American Farm Bureau Federation. "The question is does the lower tax rate make up for it? At the end of the day, are you paying more or less in taxes?"

Under the proposal floated by Camp, farmers would be allowed to continue using cash accounting principles. Most other small businesses would need to utilize the accrual method.

"Cash accounting allows farmers to count income when they receive it and count deductions when they write the check," Wolff said. "We lobbied long and hard to keep cash accounting."

Camp's proposal would also eliminate the current 20 percent capital gains tax rate. Instead, a portion of capital gains would be taxed at the ordinary income tax rates. For example, a person in the 35 percent income tax bracket would pay a 21 percent tax on capital gains.

However, there are some portions of the new proposal that could be problematic for farmers. The Section 179 deduction limit would be permanently set at \$250,000. Farm Bureau supports reinstating the 2013 level of \$500,000 with a \$2 million phase out level.

Farmers use Section 179 to immediately expense the cost of equipment and related purchases instead of deducting them over a multiple-year period. Also, the five-year carry-back operating loss deduction for farmers would be replaced by a two-year carry back, similar to the rules for all other businesses. Additionally, Camp's proposal would eliminate the ability of farmers to deduct soil and water conservation expenses and erosion prevention. Farmers would also be prevented from taking immediate deduction for fertilizer, lime and other materials used as soil conditions. Instead, farmers would have to deduct those items over time.

Farm Bureau is continuing to review Camp's proposal.

From **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, April 2014.

Farm Bureau Asks OSHA to Withdraw Proposed Reporting Rules

While farmers strive to keep an injury-free workplace and encourage overall safety, new proposed federal rules could add undue burdens to agriculture operations and would do little to actually reduce injuries.

The Occupational Safety and Health Administration has proposed several new rules for employer requirements when documenting injuries. Pennsylvania Farm Bureau and the American Farm Bureau Federation have submitted comments outlying serious concerns with the new regulations.

For instance, the proposed rules do not factor in seasonal fluctuations of employee numbers in some farm businesses. Depending on the time of year, farms would fall under different reporting requirements because of the number of employees. Under the new rule, employers would have to publically release sensitive information, which could be misused or taken out of context. For instance, OSHA would be allowed to obtain and release to the public detailed information about specific workplace injuries including the company local and incident-specific data. Many factors outside of an employer's control factor into workplace accidents, Farm Bureau said in comments.

Also, the data released by OSHA would not have any context—such as history of incidents at a business, or comparisons against similar sized companies. OSHA's rules are also suggesting the agency is taking the presumption that all injuries are preventable, suggesting that workplace mishaps are the fault of employers.

"By making such information publicly accessible in the manner contemplated under the rule, OSHA invites those with an incentive to target and harm agricultural and other businesses the opportunity to purposefully mischaracterize and misuse this data," Farm Bureau said.

OSHA's reporting requirements will also require the release of confidential details about businesses are their employees—including the number of people working at a location and hours worked. Those rules fly in the face of court rulings that suggest such data is private, and can provide competing companies with an edge. The issue of privacy is also particularly concerning for farmers, who in most cases live where they work.

From **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, April 2014.

Changes Coming to Farm Loan Program

As part of the 2014 Farm Bill, changes have been made to loans offered by the Farm Services Agency. The Farm Bill will expand lending opportunities for farmers, including increasing in loan amounts and new programs for beginning farmers. Some changes include: elimination of loan term limits for guaranteed operating loans; changes in the definition of beginning farmer; using average farm size for the county as a loan qualifier, instead of median farm size; increase in the maximum loan amount for Direct Farm Ownership to \$300,000 and increase of the guarantee amount on Conservation Loans to 80 percent. For more information, contact your local FSA office.

From **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, April 2014.

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NEWS

National News Briefs (continued from page 6)**Shaffer Testifies Before Congress on Water Quality Trading**

PFB President Carl T. Shaffer recently testified before the House Committee on Transportation and Infrastructure Subcommittee on Water Resources and Environment on water quality trading.

Farm Bureau, in general, is supportive of trading programs, and market-based solutions that help improve the environment. Pennsylvania has a trading program in place, and farmers are generating credits, but the system lacks a market demand, Shaffer said in testimony.

Trading and offset programs are, and should remain, the jurisdiction of state governments, Shaffer said. Effective trading programs will not occur if the federal Environmental Protection Agency, or state governments, impose too many barriers.

"The Clean Water Act leaves the task of controlling water pollution largely to the states, but EPA has pressured states to adopt standards and criteria based on nutrient levels found in perfect waters. This is unrealistic," Shaffer said. "Even worse, EPA now wants to move the goal posts for Pennsylvania's existing trading program – making it more difficult to generate nutrient credits."

Trading programs assume that all participants have information about the effectiveness of their nutrient reduction options, and can also easily obtain information about prices and quantities. However, complex rules and procedures can often result in poor participation, Shaffer said.

"The concept of trading has the potential to be a useful tool. As a concept, trading can make reaching nutrient water quality standards more affordable and attainable," Shaffer said. "However in practice, trading is not always so simple. Regulatory and cost barriers can hinder the implementation of successful trading."

From Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, April 2014.

House Passes Energy Security Bill

The U.S. House of Representatives has passed a Farm Bureau supported bill that would create a more reasonable path for electricity generation, and limit the Environmental Protection Agency's directive aimed at reducing greenhouse gases.

The Electricity Security and Affordability Act would require the EPA adhere to the Clean Air Act when it creates its greenhouse gas regulations. It would limit EPA's scope of authorized greenhouse gas mandates to commercially available technologies, and protect a diversity of energy sources.

EPA recently unveiled a proposed rule applying to new power plants mandating technology that is not commercially available, effectively banning new coal-fired power plants, Farm Bureau said.

"It's hard to think of a sector of the economy that won't be hurt by EPA's approach," said Andrew Walmsley, energy specialist at the American Farm Bureau Federation. "It's going to cost more to grow food, transport it, and ultimately to buy it. Heating expenses, which are already top of mind for many in this record-cold

winter, will skyrocket. Those are two basic necessities that more and more Americans are going to be struggling to pay for."

The bill would establish separate standards for coal and gas, with coal standards broken into subcategories for types. It would also prohibit the EPA from mandating the use of carbon capture technology and sequestration until the technology has been used by at least six different power plants in the U.S.

From Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, April 2014.

USDA Expands Farm Storage Loan Program

The U.S. Department of Agriculture is expanding the Farm Storage and Facility Loan program to include 22 new categories of eligible equipment. These new categories include equipment for fruit and vegetable producers and makes it easier for farmers to finance the equipment they need for expansion. The program is aimed at small and mid-sized farms.

Types of eligible projects include sorting bins, wash stations, grain bins, cold storage facilities and other food-safety equipment. Also, loans up to \$100,000 can be secured by only a promissory note. To learn more about the loan program contact your local Farm Service Agency office.

From Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, April 2014.

State News Briefs**State Council of Farm Organizations Meets**

The Pennsylvania State Council of Farm Organizations (PSCFO) held their Annual Meeting and Cornucopia reception for state legislators on Monday, March 31. At the Annual Meeting, the Council re-elected Brian Snyder (PA Association for Sustainable Agriculture) as President, Eugene Richard (Mushroom Farmers of PA) as Vice President, and Jeff Nogan (PA Cattlemen's Association) as Secretary-Treasurer. For the Board of Directors, Gregg Robertson (PA Landscape & Nursery Association) was re-elected to a second term. Two new Board

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members elected were: Carl Meiss (PA State Grange) and Hannah Smith- Brubaker (PA Farmers' Union).

Briefings from PDA confirmed that the FDA proposed Food Safety Rule under the Food Safety Modernization Act would be re-drafted by the Federal agency in great part because of advocacy by PDA, National Association of State Departments of Agriculture and farm groups such as PA Vegetable Growers Association, PA Farm Bureau, PA Association for Sustainable Agriculture, and PSCFO. There is a separate animal feed regulation also being considered by FDA and PennAg briefed the Board and Council on what it seeks to do. One issue is that a farm is defined as a facility which means that the Food and drug Administration would have authority to inspect and impose sanctions on almost every PA farm.

After the Annual Meeting, the Cornucopia Taste of PA Reception drew a record number of exhibitors from farm groups and a record number of approximately 100 legislators. PVGA served salsa and chips as well as four-bean salad prepared by Furmano Foods of Northumberland and chow-chow provided by Wos-Wit Pennsylvania Dutch Foods of Tamaqua. The Pennsylvania Cooperative Potato Growers provided baked potatoes.

Adapted from AG ONE Newsletter, Penna. State Council of Farm Organizations, Issue 2014-4, April 21, 2014.

Labor Hampering Growers' Ability to Tap Into Markets

Jay Hoover's produce farm in Snyder County enjoyed a great growing year. But he never had enough hands to help at harvest.

"Last year was the first year that we had serious trouble finding enough workers," said Hoover, a third-generation grower. "We never could get the amount of help we needed."

Hoover's story is a familiar refrain among fruit and vegetable growers across the country. While markets are growing for fresh produce, growers are facing challenges finding enough skilled laborers to help with the planting and harvesting.

A new report produced by the Partnership for a New American Economy and the Agriculture Coalition for Immigration Reform—of which the American Farm Bureau Federation is a member—found that while produce consumption is growing, American farmers are losing market share to foreign competition. The report, "No Longer Home Grown: How Labor Shortages are Increasing America's Reliance on Imported Fresh Produce and Slowing U.S. Economic Growth" found the demand of consumers and production is out of sync. While fresh produce consumption is increasing, production levels by American farmers have not kept pace.

Had U.S. farmers been able to maintain the domestic market share they held from 1998-2000, the result would have been a \$4.9 billion increase in farm income, and nearly 90,000 more jobs in 2012 alone, the report found.

"On the issue of farm labor, we have a growing amount of evidence that all points in the same direction: Farmers and consumers both need responsible immigration reform," said American Farm Bureau Federation President Bob Stallman.

Farmers have pointed to the inadequacy of the current national immigration system as one of the largest impediments to their business. Congress has so far been unable to come to

(continued on page 10)

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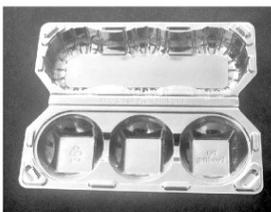
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NEWS

State News Briefs *(continued from page 9)*

agreement on comprehensive immigration reform this term. Last year, the Senate passed an immigration bill that would have made it easier for farmers to secure foreign workers. However, the bill stalled in the House of Representatives.

For Hoover, who grows vegetables for supermarkets like Weis and Giant, labor is his chief business concern.

"It is the deciding factor in how we grow our business," he said. "If we can't get the workers, there is no sense in planting."

Hoover relies on a broker to help secure labor before the start of the planting season. Hoover pays by the hour and uses seasonable labor from planting to harvest. Hoover has been unable to secure local workers. The farm grows a number of labor intensive crops, like cucumbers and summer squash, which need daily attention and must be harvested by hand. As he looks to the start of another planting season, Hoover hopes he does not have another repeat of last year's struggle to find workers.

From Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, April 2014.

Vehicle Code Bill Gets Senate Approval

Members of the Pennsylvania Senate have approved a bill that would exempt farm trucks with biennial certificates of exemption and drivers of these trucks from complying with federal commercial trucking standards. The bill is part of a larger legislative effort by Pennsylvania Farm Bureau to address issues with the state Vehicle Code not previously resolved. Senate Bill 1301, introduced by Sen. Elder Vogel, restores exemptions to registration-exempt farm trucks and drivers that were in place prior to 2010. However, those exemptions were removed after the federal Department of Transportation threatened to withhold federal funds from states that granted greater leniency to drivers of agricultural vehicles than allowed federal regulations. Federal law has since changed, giving states greater flexibility. Farm Bureau is also working with House lawmakers to exempt drivers of farm-registered trucks from federal commercial driver's license requirements when a truck is driven in Pennsylvania, or within a 150-mile radius of a farm and exempting the transportation of products during harvest from requiring tarps-as long as the vehicle is kept at speeds below 45 mph.

From Farm Bureau Express, Penna. Farm Bureau, April 11, 2014.

Organic, Conventional Growers Learning to Coexist

When John Painter became organically-certified at his Tioga County farm, he knew there would be changes. His crop system would differ from his neighbors. Seed stock would vary. He'd have to find other ways to combat weeds and other pests, rather than following the methods of other nearby farmers.

But he never questioned whether organic and conventional farms could coexist next-door to each other.

"I think we can farm together," he said. "It is a lifestyle choice and it is a market choice."

A committee of farm organizations and groups has been exploring this issue of coexistence, at the request of the U.S. Department of Agriculture. The committee, which is chaired by Russell Redding, dean of agricultural and envi-

ronmental sciences at Delaware Valley College, has made recommendations to the USDA on ways to minimize problems and devise solutions to issues that can arise, including cross-contamination from genetically-modified organisms (GMOs).

A final report by the Advisory Committee on Biotechnology & 21st Century Agriculture (AC21), examined areas for further research, including mitigation techniques that could minimize GMO cross-contamination, develop standards for joint coexistence plans and the possibility of eliminating crop insurance surcharges for organic crops.

During a recent public comment period on the recommendations, several activists groups tried to paint a picture of a gulf between conventional and organic growers, said Bob Stallman, president of the American Farm Bureau Federation.

"We are disappointed by the implication from activists groups opposed to modern farming practices that there is widespread disagreement when it comes to coexistence and agriculture biotechnology," he said. "Frankly, that assertion does not hold up to scrutiny."

Organic farmers have to establish setbacks on fields adjacent to conventional growers to minimize the impact of seed drifting, Painter said. On some fields, the rolling topography, or the presence of a fencerow can help, but the most important factor is good neighbor relations, he said.

"Be respectful of your neighbor, and they will be respectful of you," he said.

Jim Shenk, who grows both conventional and organic crops, said the organic certification process requires growers maintain a 25-foot buffer on fields, and carefully document planting and pollinating times. Hay grown in that buffer zone cannot be sold organically, and harvesting equipment must be cleaned before switching between conventional and organic fields, Shenk said. But the tradeoff for the increased work is a higher price for grain, he said.

"It is a lot more complicated to farm organically," he said. "But at the end of the day, the profit you generate makes it worth it."

(continued on page 11)

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State News Briefs (continued from page 10)

Among the recommendations from the advisory committee is the need to gather case studies that bring a greater understanding to the challenges faced by producers. The group also suggested that seed growers provide educational and marketing material on stewardship tools and farmer-to-farmer communications.

From Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, April 2014.

PDA Hires PA Preferred Coordinator

Zachary Gihorski, a native of Port Norris, N.J., has been named PA Preferred coordinator for the Pennsylvania Department of Agriculture. In the role, he will lead the state's official branding program for agricultural products made or grown in Pennsylvania.

"PA Preferred represents the diversity of Pennsylvania's agriculture industry," said Agriculture Secretary George Greig. "Zach's agriculture background, paired with his understanding of local food systems and consumer education, will make him an asset as the program grows in size and scope to support its members and raise public awareness about the range of products made here in Pennsylvania."

Gihorski previously served as Community Liaison with Delaware Valley College in Doylestown, Bucks County, where he developed outreach programs to boost community awareness of agriculture and involvement in local food systems.

A 2012 graduate of Del Val with a degree in agriculture education, Gihorski student taught at W.B. Saul High School in Philadelphia, the nation's largest agricultural high school. He helped launch Del Val's Hope of the Harvest, a charitable gar-

den initiative that produced more than 50,000 pounds of food for undernourished members of the greater Philadelphia area. He was honored with Del Val's Founders Award for being the school's most outstanding student leader.

Gihorski earned the National Agricultural Communication Award through the National Young Farmer Education Association and serves as a judge at livestock shows and as a presenter at the New Jersey Livestock Symposium at Rutgers University.

He grew up on a livestock farm and was a member of 4-H and FFA.

"I welcome the opportunity to promote Pennsylvania farmers and businesses through the PA Preferred program," said Gihorski. "I am passionate about those who help feed the world and am ready to tell the story about how they are making a difference in Pennsylvania by producing quality products, boosting the economy and creating jobs."

PA Preferred identifies agricultural products made or grown in Pennsylvania to consumers and major retail, wholesale and distribution chains interested in supporting local farmers and businesses.

Source is Pennsylvania Department of Agriculture
From Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, April 2014.

Ag Census Shows Growth in Farm Sales, Decline in Farm Numbers

Preliminary data from the 2012 Ag Census paints a mixed picture for Pennsylvania.

(continued on page 12)

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NEWS

State News Briefs (continued from page 11)

Pennsylvania's market value of agriculture products was \$7.4 billion in 2012, a 27 percent increase over 2007 numbers. But at the same time, both the number of farms and the amount of farmland in Pennsylvania decreased over a five-year period.

The U.S. Department of Agriculture is expected to release a more complete look at agriculture in Pennsylvania in May.

The five-year Census of Agriculture is used as a benchmark tool and helps government agencies, agribusinesses and trade organizations when looking at potential investments, said King Whetstone, regional director of the Nation Agriculture Statistic Service.

"When we look at the data for our state, we can all use it as a snapshot in time to see how Pennsylvania agriculture is changing over time and how it compared to the rest of the country," he said.

Here's a look at some of the preliminary data:

There is 7.7 million acres of farmland in Pennsylvania, a reduction from 7.8 million acres in 2007.

The number of farms in Pennsylvania is 59,302, a reduction from 63,163 in 2007.

The average age of a Pennsylvania farmer was 56 years in 2012, an increase from 55 years in 2007.

Nationally, the amount of farmland declined by less than one percent—from 922 million acres to 915 million acres. This is the lowest drop in farmland since 1950.

While farmers are growing older, they are also becoming more diverse. Nationally the average age of a farmer is 58 years. Farms operated by women and minorities is increasing.

The national value of agriculture products is \$394.6 billion, a 33 percent increase from 2007.

From **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, April 2014.

Turnpike Vendors Wanted

The Pennsylvania Turnpike is looking for farmers to participate in the Turnpike Plaza Farmers Market program. Farm markets will be held at the Allentown Service Plaza, Sideling Hill Service Plaza and the New Stanton Service plaza. Markets are open from April 1 to Nov. 30.

"Our turnpike farmers markets help encourage travelers to eat fresh, healthy snacks while they're on the road," said Agriculture Secretary George Greig.

Markets will be open at 10 a.m. on Saturday's, Mondays and holiday weekends, and at 11 a.m. on Fridays and Sundays. They will close at dusk. In order to participate at least half of gross sales must be from products grown or produced in Pennsylvania. Farmers who are interested in participating can call Samantha Snyder at samasnyder@pa.gov or call 717-787-1429.

From **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, April 2014.

Senate Passes Local Income Tax Filing Bill

The Pennsylvania Senate approved a Farm Bureau-supported bill that would simplify periodic payments of estimated tax filings for local income taxes. The bill has been sent over to the House of Representatives for consideration. Currently farmers can use a simpler alternative schedule for payments and filing of income tax returns on their state and federal taxes, but no allowance is made for local income taxes. Senate Bill 491, introduced by Sen. Mike Folmer, would extend those provisions for the filing of local taxes. Current state and federal income tax laws have "safe harbor" provisions allowing taxpayers to meet their estimated tax obligations through quarterly payments based on income tax liability from the previous year, instead of the current year. There are no "safe harbor" allowances for local income taxes. Pennsylvania Farm Bureau is working with the House to pass the bill and make the income tax allowances consistent.

From **Farm Bureau Express**, Penna. Farm Bureau, April 11,
2014.

**In Memory
Doris Trax**

Doris Trax of Finleyville, the wife of Robert C. Trax, PVGA Life Member and former director and president of the Association, passed away on March 25. Besides helping in the family business, Trax Farms, she was an accomplished seamstress and enjoyed ice skating, snow skiing and tole painting. Besides her husband, she is survived by her four children Bonnie Spoto, Judy Ross, Peggy Coffield and Robert Trax, 11 grandchildren and eight great-grandchildren. Memorial contributions can be made to Peters Creek Baptist Church, 630 Library Road, South Park, PA 15129.

Information from **Pittsburgh Post-Gazette**, March 27, 2014.

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Farm Success Through Successful Employees at Spiral Path Farm

Tianna DuPont

At Penn State Extension's recent "Farm Success" workshop Mike and Terra Brownback from Spiral Path Farm discussed their systems and styles for working with employees to improve their farms' profitability.

Harvest efficiency starts with uniform transplant production or good direct seeded stands, and proper in-row spacing. The efficiency of harvest depends on a weed-free, uniform, healthy cropping system, free of pests and disease grown at the most opportune

Spiral Path Farm is a certified organic farm located in Perry County. The farm consists of 255 diverse acres including 80 acres of produce with the balance in hay-fields, woods, buildings and greenhouses. The farm markets through Community Supported Agriculture (CSA), farm markets and wholesale. In 2013, their CSA has grown to 2,300 members. They ship wholesale organic produce and attend two farmers markets in the Metro Washington DC area. In the peak season (April -December) they have 25 employees and five family members seeding, planting, tending crops, harvesting, packing, and shipping produce. Both sons, Will and Lucas, are



involved in the farm operation as well as Will's wife Deirde part-time and their sixteen year old granddaughter Ivory in the summers. In 2012 and 2013 they increased their harvest season with the addition of nine greenhouses where they farm four acres under cover.

At Spiral Path employees are critical to the farm's success and profitability. For example, Terra explained how employee expenses impact the bottom line. At Spiral Path labor is 25-35% of gross farm expenses. Terra cautioned that this will not be the same for every farm, but for them, if labor is too much over 35% it will not be a profitable year. Terra broke down labor expenses by task: 36% harvest, 16% field, 4% greenhouse, 6% sales and office, 12% delivery, and 26% packhouse. "All parts are just as important," Terra reminded us, "But it is useful to separate out and analyze labor categories because, at the peak of the season there is never enough hours in the day." Mike and Terra put systems in place to maximize labor efficiency, concentrating on categories where many of the labor hours are spent.

(continued on page 16)

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Farm Show Volunteer Honor Roll

Following is the list of farms and individuals who volunteered time to staff the Farm Show Food Booth this year. We apologize for any names that might be omitted. Asterisks (*) indicate the number of days persons helped (if more than one).



Art King and Dave Adams



Becky and Phil Floyd



Ken Dearolf



Bob Pollock



Eric Oesterling



Steve Lutz

Dave Adams
 Robert Amsterdam & Susan Richards
 B & R Farms
 Robin & Boots**** Hetherington
 Blair Hetherington
 Morgan Hetherington
 Kevin Bond
 Barefoot Farm
 David and Laura Hartzell
 Sherry
 Myriah Hartzell
 Robert Baronner
 Timothy Beard
 John Berry**
 Craig & Natalie Bishop
 Steven & Roberta Bogash
 Brian Campbell Farms
 Brian Campbell
 Orlando Camacho-Segunedo
 Tyler Johnson
 Jerry Newhart
 Roller Santiago
 Brook Lawn Farm
 James & Romaine Erb
 Diana Erb
 Tim Brown
 Francis & Jennifer Broyan
 Burger Farms
 Leonard Burger Jr.
 Lenny Burger III
 Rudy Hoda
 Rudy Hoda Jr.
 Mark & Stacey Butcher
 Urbane & Janet Byler
 Duane Charles
 Kevin & Sharon Charles
 Charney Farms
 Ed Charney
 Marissa Charney
 Rebecca Charney
 Adam Balint
 Copenhaver Farms
 Ronald & Brenda Copenhaver
 Dawson Copenhaver
 Detrick Copenhaver
 Jessie & Martha Copenhaver
 D & E Farms
 Dave Erlemeier
 Rob Erlemeier**
 Sarah Erlemeier
 Dan Schantz Farm & Greenhouse
 John Carl
 Angela Djerf
 Nick & Cassie Feudale
 Danielle Hartley
 Kevin & Lis Hensch
 Cathy Thomas
 Clyde & Peggy Dearolf
 Kenneth Dearolf**
 Donald & Marion Deckman
 Ken & Pat Deitch**
 Larry Dixon
 Kaitlin Dye
 Ted Dymond**
 Fred W. Eckel Sons Farms
 Keith Eckel
 Robert & Rachel Lunger
 Nic Ellis
 John Esslinger
 Kathy Evans
 Earl Ferry
 Philip & Becky Floyd**
 Foxleigh Farm
 Carville Mace
 Carville Mace, Jr.
 Dennis & Becky Frey
 Furmano Farms
 Don Bergey**
 Don & Susan Geise
 Scott Hoffman
 Jim & Phyllis Kohl
 Ken & Dawn Martin
 Mike Masser
 Steve Reinard
 Mike Stroup
 Gene & Carol Gangwish
 Stephen & Gayle Ganser
 Graceland Farm Market
 Jack Grace*****
 Nancy Grace*****
 Jackie Grace*****
 Gray's Apple Ridge Orchard
 David & Pam Gray
 Jeff Waltermeyer
 Earl & Edith Groff
 Hardings Farm Market
 Steven Harding
 Stephanie Harding
 Kayla Hart
 Harvest Valley Farms
 Arthur King**
 Kaylene Callen**
 Caleb Costango**
 Abby Merhaut**
 Bryan & Julene Harnish
 Harvest View Farm
 Kenneth & Cathy Metrick
 Amy Metrick
 Laura Metrick
 Help From Above Farms
 Mark Stanley
 Andy Stanley
 Daniel McClintock
 Greg Heigel
 Walt & Rachel Heisey
 Glenn Hetherington
 Wilmer & Edna Hoover
 Barton Horst
 Sean & Toni Huie
 Hunter Insurance Associates
 William Hunter***
 Anna Hunter***
 John Johnson
 Michael Kahl
 Kegel's Produce
 Ben Birchfield
 Andrea Faust
 John Groft
 Carl Gundrum
 Phil Havrilla

NEWS

Lee Salsbury
 Alan Massenburg
 Klinger Farms
 Lois Klinger**
 Rick Klinger**
 Greg & Annette Kratzer
 David Kreider**
 Lloyd & Mary Lois Kreider
 Theodore & Mary Kulp
 Roger Lauer
 Kathy Lichtenwalner
 Long Shot Farm
 Tina Weyant
 Samantha Weyant
 Steve & Carol Lutz**
 Mast Farms
 Ernest Mast
 Dawson Mast
 McPherson Greenhouses
 Michael McPherson**
 Robert McPherson**
 Eugene Strouse**
 Neil & Audrey Merkel
 Miller Plant Farm
 David Miller
 Brent Clever
 Joan Flickinger
 Rich Johnson
 Dustyn Miller
 Steve Slyder
 Steph Sciortino**
 Lynne Shaive
 Greg Watson**
 Jeffrey Mizer***
 Barrie Moser***
 Moyers Produce
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 Ken & Kim Moyer
 New Morning Farm
 James Crawford
 Maria Memone
 Caitlan Zlatos
 Mark Oakley
 Robert Oberheim
 Eric Oesterling*
 Pallman Farms
 Brian & Jane Pallman
 Doug Pallman
 Ashten Carpenter
 Kevin Kelly
 Paulus Farm Market
 James Paulus ***
 Daniel Crouse
 Penn Valley Farm
 Robert Keller
 Mark & Kristen Keller
 Stephanie Keller
 Walter & Robin Peregrin
 Robert Pollock**
 Ernest Pyle
 Ryan Pyle
 Fred Ranck
 William Rankin**
 Reiff's Farm Market
 Ed Reiff

Nathan Reiff
 Leon Ressler
 William*** & Lois Reynolds
 Richfield Mennonite Church
 Cindy Hoffman
 Twila Knouse
 Jeff** & Anita Maneval
 Wade & Eleanor Snyder
 Fred Kauffman
 Richmond Produce
 Harold Burkholder
 Irene Burkholder
 Lauren Burkholder
 Mary Ann Burkholder
 Merlin Burkholder
 Tony Ridall
 Risser-Marvel Farm Market
 Greg Fory *****
 Dustin Fory
 Rutt Farm
 Jay & Marian Rutt
 Melanie Oberholtzer
 Steve Sample*****
 Whitney*** & Corina Scott**
 Marlin Sensenig
 Jack Shafer
 John Shenk
 Shenot Farms
 Rob Shenot**
 Leah Zerbs**
 Tim Shultz
 Thomas Shuman**
 Heather Skorinko
 David Sokoloski*****
 Allen Sollenberger**
 James & Lonnie Stauffer
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 Dale Charles
 James Charles
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 Dale Whitenight
 Brian Whitenight
 Donald Wise
 Cindy Yingling



Nancy Grace, Urbane Byler, Kevin and Sharon Charles



Mark Stanley



John Carl



Lois Klinger and Rick Klinger



Whitney Scott, Art King and Kaylene Callen



Carl Lutz

GENERAL

Farm Success Through... (continued from page 13)**Making employee jobs more efficient/effective**

Mike and Terra work hard to create systems. Systems allow them to farm intensively, their employees to work efficiently, and create environmental benefits on the farm. For example, they have a modified transplanting system for crops like lacinto kale which limits galanzoga weed pressure and allows them to plant a living cover of clover beneath their fall brassicas. Brownback modified his waterwheel transplanter with a pair of shanks on the front. The crew plants crops into the trench the transplanter makes. The transplants don't need irrigation immediately because the waterwheel has provided sufficient moisture for the small plants to get started. Without moisture, the weeds are stressed. Then, Mike shallow cultivates multiple times to fill in the trench and wipe out the germinating galanzoga weeds. At last cultivation, he walks on crimson clover seed and starts overhead irrigation to get the clover up. By October, there is a nice carpet of crimson clover underneath the kale which facilitates harvest and makes sure there is a cover crop for the fall.

Opportunities to improve harvest efficiency

In addition to using a systems approach to enhance labor efficiency, Mike emphasized how important it is for the harvest leader to be one step ahead of the harvest crew. She needs to know what needs to be harvested, how much from which field, and have the supplies (baskets, bins, ties) all ready to go when the crew gets there. For example if you have 12 workers at \$10 per hour, that is \$120 per hour or \$2.00 per minute. That is why farmers get grouchy "paying people to stand around," Mike quipped. To avoid this frustration their harvest manager comes in an hour before the crew to prepare for the day.

The ease and efficiency of harvest is directly related to the quality of the crop. "Most workers are motivated by working in a beautiful crop, and the opposite is also true," Mike reminded us. "You want your workers to get that high you get when you are picking a good product. They won't get that high if there are up to their knees in weeds."

Mike also emphasized how helpful a small amount of mechanization can be to make the tasks as efficient and pleasant as possible for the crew. At Spiral Path, they use conveyors and large bins that then can be managed by forklifts to limit the lifting that workers have to do in the field.

Pack-house Labor Efficiency

Pack-house efficiency at Spiral Path starts with pre-planning, Mike and Terra explained. The CSA list is provided to field and Packhouse at the end of the prior week, which allows managers to pre-plan work flow to increase labor efficiency. Wholesale orders come in 1-5 days in advance. Harvest is set up so that greens, and other items that need to be pre-cooled, come in early in the day. After product is brought to temperature, each vegetable is at a station so, as the 2,000 CSA boxes progress down the conveyor, one person is making sure one item goes into the box.

Extending the Season

Recently, Terra and Mike put in nine high tunnels on the farm, covering four acres. This was important to them because, it not only extends the period of cash flow, but also allows them to keep five to six year round employees. It is hard to find good employees, and when you do, you want to keep them. "We feel responsible for our employees," Terra told us. Season extension gives nine more weeks of employment for the crew on the farm.

Mike and Terra use a systems approach on their farm. Their efforts to keep their employees productive and happy are obvious when their employees return year after year. One employee has been with them fourteen years. "We were particularly proud when our first employee bought a house," Terra told us. Mike and Terra's respect for their employees and their efforts to make their labor as effective and rewarding as possible, reap success on their farm.

*Ms. DuPont is with Penn State Extension in Northampton and Lehigh Counties. From the **Vegetable, Small Fruit and Mushroom Production News**, Penn State Extension, <http://extension.psu.edu/plants/vegetable-fruit/news/2014>, February 27, 2014.*

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Weed Control for Crops Commonly Grown on Plastic Mulch

Bradley Majek

Plastic mulch, usually used with trickle irrigation, has many horticultural benefits for summer vegetable crops, and black plastic controls most annual weeds. Mulch does not solve all the weed problems in the field, and creates new challenges for the grower.

Clear plastic is used to obtain the greatest advantage in earliness, but weed control under clear plastic can be difficult and challenging. Although black plastic controls many weeds, yellow nutsedge can pierce black plastic and thrives in the mulched and trickle irrigated environment.



Yellow nutsedge pokes through black plastic mulch and thrives under mulch and trickle irrigation.

Nutsedge pokes through black plastic in the absence of light and day/night temperature changes which signal the weed to stop growing upward and to grow leaves. Fields with heavy nutsedge infestations should be avoided, if possible, when choosing fields for crops to be grown on plastic mulch.

The "green" IRT plastic mulches allow the wavelength of that signals yellow nutsedge to stop growing upward and to grow leaves to pass through the mulch, so the weed does not

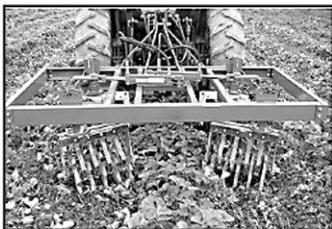
puncture the plastic. The mulch also filters out the the wavelengths of light needed for photosynthesis, so the weed dies, usually in about a month, when the nutrient runs out of stored carbohydrates. The plastic "puffs up" for a few weeks as the weed tries to grow, then lays back down when the weed dies. Weed control at the planting holes can always be an issue, even when using the green IRT mulch.

Growers new to the use of plastic often try to adapt weed control practices used in conventionally tilled fields to plastic mulch with less than satisfactory results. Preplant incorporation of a residual herbicide prior to bedding and laying the plastic is NOT RECOMMENDED! Forming the beds afterward pulls treated soil from between the rows and piles it on top of treated soil in the row. This creates a bed with an unknown higher rate of herbicide than intended incorporated more deeply than intended, and increases the chance of causing injury to the crop.

Weed control under plastic mulch and between the rows of mulch must be considered separately. Apply herbicide to the soil surface under the mulch after bedding and before laying the plastic. Rely on condensation under the mulch to "activate" the herbicide. Fumigation injected through the trickle irrigation early preplant can provide excellent weed control unless the "wet edge" does not reach the sides of the mulch. Omitting the herbicide in fields scheduled for fumigation is NOT recommended.

(continued on page 18)

Be Prepared When The Weeds Start To Grow



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VEGETABLE PRODUCTION

Weed Control for Crops... (continued from page 17)

The soil strips between the rows of plastic mulch should be treated with herbicides applied in bands on each side of the plastic. The broadcast application of herbicides on the field after laying the plastic mulch is **NOT RECOMMENDED!** Some products, usually considered non-residual postemergence herbicides, including glyphosate products, become residual herbicides on plastic and do not wash off easily in the rain. Residual herbicides can wash into planting holes at rates far above recommended and intended application rates. The average planting hole two inches in diameter has an area of about 3 square inches. If herbicide residue from one square foot of plastic (144 square inches) washes into the hole the rate is 144 divided by 3, or about 48 times higher than the intended rate! Crop injury can be severe and replanting cannot fix the problem.

Build a sprayer shielded on all four sides to apply labeled residual herbicides plus Gramoxone Max and nonionic surfactant. The sprayer should treat both sides of one strip of plastic mulch at the same time. Do **NOT** try to treat the soil strip from one piece of plastic to the next in one pass unless they were laid



Shield a sprayer on all four sides with a soft non-absorbent material.

together with a multiple row mulch layer. No one can drive that straight. Treat from the vertical shoulders of the mulch to about two-thirds of the way across the soil strips. The rest of the soil will be treated when the next strip of mulch is sprayed. The small overlap in the middle of the soil strip is not important. Be sure the shields have "soft" bottom edges on the shields so they can touch the plastic without ripping it. This is important to prevent the spray from "bouncing off the edge of the plastic. Several layers of plastic (non-absorbing) burlap with the horizontal weave removed from the bottom few inches works well.

Residual and post emergence herbicides can be applied before and/or after planting, but do not use treated soil from between the rows to pack around plants when transplanting! Again, control of rate of residual herbicides is poor and crop injury may result.

Herbicide Recommendations for Under Plastic Mulch

Cucurbits (cucumbers, melons, squash) - Use Prefar before laying plastic mulch to aid in the control of weeds at the planting hole. Spray the full recommended rate on the soil surface after bedding, but before laying the mulch. Condensation from soil moisture will activate the herbicide. Irrigate before laying plastic only if dry conditions prevail.

Sandea has also been labeled for use under plastic mulch for cucumbers and certain melons including cantaloupes, honeydew melons, and Crenshaw melons **ONLY!** Watermelons are **NOT** included in the "under plastic mulch" label in New Jersey. Use Sandea to improve the control of annual broadleaf weeds and to suppress or control yellow nutsedge under the mulch. Consult the Commercial Production Recommendations for rates and additional information.

Tomato - Use Devrinol before laying plastic mulch to aid in

the control of weeds at the planting hole. Spray on the soil surface after bedding. Condensation from soil moisture will activate the herbicide. Irrigate before laying plastic only if dry conditions prevail. Add Metribuzin to improve annual broadleaf control or Sandea to improve annual broadleaf and yellow nutsedge control. Consult the Commercial Production Recommendations for rates and additional information.

Pepper - Use Devrinol or Prefar before laying plastic mulch to aid in the control of weeds at the planting hole. Spray on the soil surface after bedding. Condensation from soil moisture will activate the herbicide. Irrigate before laying plastic only if dry conditions prevail. Add Command to improve annual broadleaf control. Consult the Commercial Production Recommendations for rates and additional information.

Eggplant - Use Devrinol or Prefar before laying plastic mulch to aid in the control of weeds at the planting hole. Spray on the soil surface after bedding. Condensation from soil moisture will activate the herbicide. Irrigate before laying plastic only if dry conditions prevail. Consult the Commercial Production Recommendations for rates and additional information.

Consult the Commercial Vegetable Production Recommendations for herbicides recommendations and rates for use under and between plastic mulch for each crop.

*Dr. Majek is with Rutgers Coop. Extension. From the **Plant and Pest Advisory**, Rutgers Coop. Extension, <http://plant-pest-advisory.rutgers.edu>, April 18, 2014.*

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2014 Fungicide Registration Updates

Kate Everts

The 2014 version of the Commercial Vegetable Production Recommendations is available in print, for purchase, from your county extension educator. It is also available online at <http://extension.psu.edu/plants/vegetable-fruit/production-guides>.

A few new fungicides received registrations after the "Recommendations," went to print. These include:

Proline - Proline has received a supplemental label for cucurbit vegetables. Target diseases include Fusarium wilt (*Fusarium oxysporum*); gummy stem blight (*Didymella* spp.), southern blight (*Sclerotium roffsii*), and powdery mildew (*Sphaerotheca fuliginea* *Podosphaera xanthii*) (*Erysiphechioracearum*). Proline may be applied by either ground or chemigation application (including drip irrigation). Do not use in the transplant water or in the greenhouse.

We studied management of Fusarium wilt on watermelon with Proline at the UM LESREC Farm a few years ago. In our trials three applications through the drip were necessary for season long management. Unfortunately only one soil (drip) application is allowed on the label. Up to two additional foliar applications may also be applied.

Priaxor - Brassica leafy vegetables group, which includes broccoli, Chinese cabbage, collards, kale and mustard greens, received a label for Priaxor. Target diseases include Alternaria leaf spot, anthracnose, Cercospora leaf spot, Rhizoctonia blight and white rust.

Merivon - Bulb vegetables, which include garlic, leek, onion and shallot, received a supplemental label for Merivon. Target

disease include powdery mildew, purple blotch, *Stemphylium* leaf blight, and Botrytis.

Cucurbits (pumpkin, gourds, cantaloupe, watermelon, squash, etc.) also received a supplemental label for Merivon. Target diseases include Alternaria leaf blight, powdery mildew, anthracnose, Cercospora leaf spot, gummy stem blight, and Microdochium blight.

Leafy vegetables, including lettuce, spinach and Swiss chard, also received a supplemental label for Merivon. Target diseases include Alternaria leaf spot, anthracnose, powdery mildew, Septoria leaf spot, white rust, lettuce drop, and downy mildew.

Selected root vegetables including, beet, carrot, parsley, radish, and turnip, received a supplemental label for Merivon. Target diseases include Alternaria leaf spot and Cercospora leaf spot.

Read the labels carefully before use. These products should be used in ways that minimize resistance development.

Dr. Everts is the vegetable pathologist at the Univ. of Delaware and the Univ. of Maryland. From the Weekly Crop Update, Univ. of Delaware, <http://extension.edel.edu/weeklycropupdate/>, Vol. 22, Issue 2, April 2, 2014.

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VEGETABLE PRODUCTION

Wilting Vegetable Transplants

Gordon Johnson

It has been a difficult week for early transplanted crops (watermelons, tomatoes). Cool temperatures and high winds have made for unfavorable conditions and there have been reports of plants wilting after transplanting.

Why do transplants wilt after transplanting when there is adequate water in the root zone (transplants are well watered and water is applied during transplanting)? In the simplest terms, more water is lost from the plant leaves and stems than is taken up from the roots. Water is lost through the stomates in the leaves during transpiration and through the cuticle of the cells on the outside of the leaf. Plant cells lose turgor (internal water pressure) and become less rigid leading to typical wilt symptoms.

There are several potential causes for the disparity in water loss from foliage and water uptake from the transplant root ball. The first is related to root activity and function. In cold soils, roots of warm season adapted plants such as watermelons, cantaloupes, peppers, or tomatoes are physiologically less active. Normal functions are slowed, root tips stop growing and movement of water across the Casparian strip, which requires active transport, is slowed. This occurs where soil temperatures are below 60°F for most of the day under the plastic mulch.

Black plastic mulched beds do not heat up as much when days are cloudy, windy and temperatures are low (night temperatures in the 30s day temperatures in the 50s). Windy conditions increase heat transfer and loss from mulched beds. Plastic that is not tight or that has been laid over cloddy soil also does not transfer heat to the soil very well. Water will heat up much more slowly so excess water at transplanting can keep beds cooler longer (applied during transplanting and with the drip system). Large transplanting holes or holes that allow wind to get underneath the plastic will also keep beds cooler.

Of course, damage to the root during transplanting can also reduce root function and cause wilting. This is most common where root balls have not completely filled the cells of the trays and as the plant is pulled from the tray, some roots separate or the root ball falls apart. Watermelons and cantaloupes are most sensitive to root damage and poor handling during transplanting.

The second major cause for transplant wilting is related to the physiological state of the plant. It is recommended that transplants are well hardened off before going to the field. The hardening off process (reduced water and fertilizer, gradual exposure to outside conditions) prepares the plant physiologically to withstand the shock of transplanting. During the hardening off process, leaf cuticles thicken, stomata close partially, and photosynthesis slows. If plants are not properly hardened off they will have higher transpirational and cuticular water loss and will be much more subject to wilting after transplanting.

Often plants are shipped up from the South and they have not been exposed to colder temperatures during hardening off. They may be taken from growing houses too soon and not have full root balls. During shipping, they are in the dark and if they remain on trailers or shelves for too long, they will become acclimated to low light. When placed back in full sunlight, photosynthesis increases and stomates open, also leading to water loss and potential wilting.

Finally, environmental conditions will increase chances of wilt. We have already described how cold soils affect transplants. Wind is another major factor for water loss. Windy con-

ditions increases water loss from leaves. Wind blows away water vapor near the leaf surface, and increases water leaving the leaf through the stomata and leaf cuticle (diffusion of water from the leaf increases). In addition, in heavy wind, the boundary layer of water right on the leaf surface becomes smaller: the stronger the wind, the thinner the boundary layer surrounding leaves, the greater the water potential gradient from the inside to the outside of the leaf and therefore the greater the water loss from the leaf. Humidity also is important in this process. In low humidity conditions, water loss will be greater.

To reduce wilting in warm season transplants, wait until beds are maintaining temperatures above 60°F. Use wind-breaks and consider using row covers for early plantings in poor environmental conditions. Harden off plants well and transition plants shipped from southern areas in a staging area for a few days to get better acclimated to our weather conditions (additional hardening off).

*Dr. Johnson is the extension fruit and vegetable specialist at the Univ. of Delaware. From the **Weekly Crop Update**, Univ. of Delaware, <http://extension.edel.edu/weeklycropupdate/>, Vol. 22, Issue 5, April 25, 2014.*

Controlling White Mold

Andrew Wyenandt

White mold, or lettuce drop, caused by *Sclerotinia sclerotiorum*, has been reported. White mold can cause serious losses in lettuce and other susceptible crops if left uncontrolled.



White mold on lettuce. Notice the white fungal growth and black sclerotia developing on the base of the stem. The sclerotia can survive in the soil for up to 10 years.

The sclerotia of the fungus can survive for up to 10 years in the soil once fields become infested. Infected plants typically show symptoms soon after transplanting or as plants reach maturity when entire plants will wilt and collapse very quickly. In cool, wet soils the fungus will infect the host and produce the characteristic white fungal growth on stems of infected plants, eventually black sclerotia will develop. Control of white mold begins with preventative fungicide applications soon after transplanting.

For lettuce: Apply one of the following fungicides at transplanting and/or thinning (see labels for instruction): Cannonball
(continued on page 22)

VEGETABLE PRODUCTION

Be Mindful of Bees During Delayed Planting this Season

Andy Michel and Reed Johnson

Beekeepers in Ohio suffered substantial losses of colonies over the exceptionally long and cold winter of 2013-2014. Here in Wooster we lost more than half of our colonies and beekeepers around the state are reporting levels of winter kill in the 30-80% range. While the frigid temperatures played a substantial contributing role, losses were undoubtedly made worse by all of the problems facing bees today: parasites, diseases, pesticides, breeding problems, and a general lack of summer and fall forage.

Spring is the only reliably good season for bees in Ohio. Colonies that survived the winter and new colonies brought up from the Gulf Coast are in the process of harvesting nectar and pollen from spring-blooming trees and weeds — but little honey will be made. This spring bounty will be eaten by the bees themselves as they multiply and grow into large productive colonies that will be able to make a honey crop off of clover, black locust, alfalfa and possibly soybean in the coming months. Additionally, robust colonies are needed to pollinate the fruit trees soon and pumpkins, squash, and cucumbers later in the summer.

This spring build-up of honey bee colonies can be directly threatened by corn planting.

Insecticide seed treatments used on corn seed produce an insecticidal dust when they are planted. Depending on conditions, this insecticidal dust can settle on the flowering trees and weeds that bees are visiting.

Insecticidal dusts are terrible for honey bees because they do not immediately kill the bees visiting flowers. Rather than causing immediate death, the dust is packed up with the pollen

and brought back to the colony where it is can poison young and developing bees inside the colony.

In spring 2013 we sampled pollen from three bee yards in Madison, Union, and Clark Counties. During corn planting all colonies were bringing back pollen containing corn seed treatment insecticides, sometimes at levels that would be expected to cause bee death. While no obvious bee-kills were observed in our colonies in 2013, we believe that different conditions during planting could have led to a different outcome. In 2013 corn planting in central Ohio coincided with the start of bloom for fruit trees and hawthorns — extremely attractive flowers for bees — which likely drew bees away from the riskier and somewhat less attractive dandelions, mustards and purple deadnettle growing in corn fields and on field margins. In some years planting may happen before or after fruit tree bloom when bees are intensely interested in weeds growing in and near fields. This may have been the case in Ohio in 2012 when planting started early and a number of bee-kill incidents were reported.

From VegNet, Ohio State Univ. <http://vegnet.osu.edu>, Vol. 21, No. 7, April 23, 2014.



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VEGETABLE PRODUCTION

Spear Damage in Asparagus

Andrew Wyenandt

Spear damage in asparagus can be caused by diseases such as *Phytophthora* spear and crown rot and purple spot. However, other environmental factors during the spring can damage spears as they emerge from the soil.

Wind – Periods of heavy winds during emergence will cause spears to bend.

Winds can cause one side of the spear to dry out quicker than the other causing the spear to bend and point in the direction of the prevailing wind. An asparagus planting is suffering from wind damage if most of the bent spear heads in the bed are pointing in the same direction (Fig.1).



Fig. 1. Wind damage of asparagus spears. Notice how all spears are pointed in the same direction.

Stones/Rocky Soils – Asparagus grown in stony/rocky soils can suffer mechanical damage as spears emerge from the soil.

Stones can cause mechanical abrasions on spears damaging epidermal cell layers as spears emerge from the soil. Spears with mechanical injury such as this will become bent or contorted with severe bends and may also develop loops as the side of the spear that was undamaged continues to develop (Fig. 2).

Controlling White Mold

(continued from page 20)

(fludioxonil, 12) at 7.0 oz. 40WP/A; iprodione at 1.5 to 2.0 lb 50WP/A (2 applications per season allowed); Endura (boscalid, 7) at 8.0 to 11.0 oz. 70WP/A (suppression only, 2 applications only); Quadris (azoxystrobin, 11) at 0.40 to 0.80 fl oz./100 0 ft row 2.08F.

For cabbage and related crops: Apply Endura (boscalid, 7) at 6.0 to 9.0 oz 70WG/A (only 2 applications per season), or Fontelis (penthiopyrad, 7) at 16.0 to 30.0 fl oz. 1.67SC/A.

For organic growers, Contans (*Coniothyrium minitans*) is a biological control with an OMRI-approved label. *Coniothyrium minitans* is a fungus that will attack and destroy the sclerotia of white mold. To work effectively, Contans must be applied at 2 to 3 lbs/A to the soil up to 2 to 3 months prior to the crop.

For more information on the control of white for these and other susceptible crops such as beans, peas, carrots, leeks and tomatoes (Timber rot) please see the 2014 Commercial Vegetable Production Recommendations Guide.

Dr. Wyenandt is with Rutgers Coop. Extension. From the **Plant and Pest Advisory**, Rutgers Coop. Extension, <http://plant-pest-advisory.rutgers.edu>, April 23, 2014.

Other Causes – Spear damage can also result from feeding injury caused by cutworms, slugs and other insects. Insect feeding on one side of the spear will reduce the growth rate on the damaged side and causes spears to curve as the healthy side of the spear continues to develop.

Occasionally curved or misshapen spears are observed with no apparent mechanical injury, insect feeding or disease. This damage

may be due to unseen injury to the crown by cutting knives, crown rotting pathogens, or environmental stress such as overcutting (Fig.3).



Figure 2. Mechanical injury on asparagus. Wounding causes spears to bend because one side of the spear stops developing.

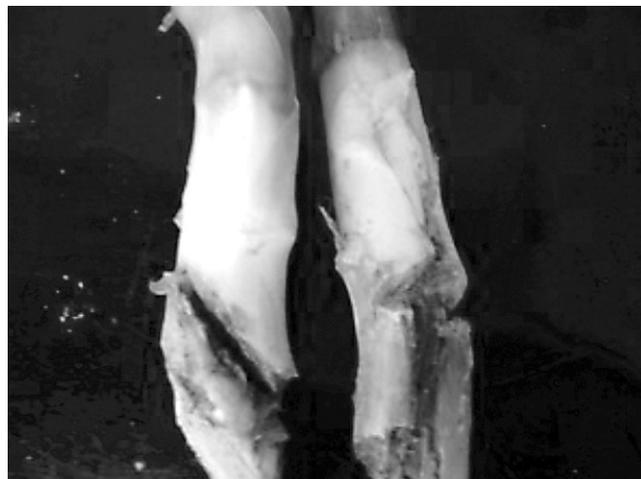


Figure 3. The 'nicking' of spears by a knife during the harvest of other spears in the crown will cause spears to develop poorly and allow "opportunistic" pathogens to invade the spear.

Dr. Wyenandt is with Rutgers Coop. Extension. From the **Plant and Pest Advisory**, Rutgers Coop. Extension, <http://plant-pest-advisory.rutgers.edu>, April 14, 2014.

Using Growing Degree Days to Schedule Sweet Corn Plantings

Gordon Johnson

To ensure a steady supply of sweet corn, the most accurate way to space plantings in the spring is by the use of growing degree days.

Growing Degree Days (GDD) are calculated as follows $GDD = ((\text{Maximum Temperature} + \text{Minimum Temperature})/2) - 50^{\circ}\text{F}$. So if the daytime temperature is 68 and the nighttime temperature is 48, you would add $68+48=116$ then divide $116/2 = 58$ and then subtract $58-50=8$ GDD. Negative numbers are not counted. You can find growing degree days already calculated for nearby weather stations at http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/degree_days/

To schedule sweet corn by growing degree days you will need the following information:

- 1.) How much corn you plant to sell per day and the amount of acres or row feet to plant to supply that amount
 - 2.) How many days you expect to harvest from that planting (1-4 days usually)
 - 3.) The GDDs required to harvest for the varieties of sweet corn that you grow (an alternative is your records of the first harvest for the varieties you use)
 - 4.) The average GDDs during the expected harvest period
 - 5.) GDDs during your planting season (calculate daily).
- Having your own maximum and minimum thermometer is the best way do this. Information from the nearest weather station is an acceptable alternative.

So, for example, you have determined that you need 200 dozen ears per day. This requires 2400 ears or about 3000 seeds accounting for germination losses and unmarketable

ears. At 24000 seeds per acre this is 0.125 or 1/8 acre and if you plan to harvest over three days this would be 0.375 or 3/8 acres to plant.

Historically, your records indicate that the specific variety you plant April 10 matures July 1. Or you can use historical GDD information and GDDs for that variety from your seed supplier to calculate first harvest (a 1300 GDD corn will mature on average between July 1 and July 4 when planted in early April in southern Delaware).

Average growing degree days in July for southern Delaware are 25 per day (from weather records). To have the corn you require every 3 days, you would multiply $3 \times 25 = 75$ growing degree days. Therefore, you would space your plantings in the spring 75 growing degree days apart. As you move into August, the growing degree days are similar but for September corn the growing degree days drop to 20 per day and plantings should be 60 GDD apart. This means that the first 20 plantings should be spaced 75 GDD's apart (April through early June) and after that you would space plantings 60 GDD apart (mid-June onward).

In summary: • Make the first planting as you normally do for your first intended harvest date.

- Estimate the time of harvest and calculate average GDD per day in the harvest period.
- Determine the number of days you plan to harvest the planting (three in our example).

(continued on page 27)

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VEGETABLE PRODUCTION

BERRY PRODUCTION

Soil Temperatures and Seedlings

Raymond Samulis

We recorded 56-58°F temperatures from soils in various Central Jersey commercial vegetable fields on April 15 –Tax Day– just before the recent multi-day cold front rolled in. The good news is 56-58°F was higher than I anticipated.

What do soil temperatures have to do with your early vegetable seedlings?

Mean spring soil temperatures determine early root growth and crop development.

By tracking spring soil temperatures from your fields you'll become a more profitable farmer.

Matching your earlier warming fields to tolerant seedlings of vegetables found in the table below is worthwhile.

When it is sunny or when the wind is howling, judging the suitability for planting is clear. However, field specific soil temperature differences are also critical for various seedlings. Farmers have well known "hot fields," that over many seasons have proven reliability for early planting. Likewise, most sweet corn seed companies provide relative ratings as to how well particular varieties tolerate emergence in colder soils. It pays to track your field soil temperatures. Ideally, a soil thermometer should be used but even a metal food thermometer is acceptable.

While it's best to measure soil temperatures in your own fields, there are online soil temperatures alternatives like Syngenta GreenCast at

www.greencastonline.com/tools/SoilTempMaps.aspx.

This site offers broad regional soil temperature maps, with a 5-day soil prediction forecast feature. This is useful data when weather conditions are less than favorable and only narrow planting windows exist.

These temperatures represent vegetable seedling survival tolerance, not necessarily best performance:

| Average Minimum Spring Soil Temperatures | Vegetable Seedlings Tolerating Minimum |
|--|--|
| 40°F | Beet, Cabbage, Potato, Spinach, Turnip |
| 45°F | Pea, Mustard, Leek |
| 50°F | Carrot, Lettuce, Onion, Sweet Corn |
| 60°F and above | Bean, Cucumber, Pumpkin, Squash |
| 70°F and above | Eggplant, Watermelon |

Mr. Samulis is with Rutgers Coop. Extension. From the **Plant and Pest Advisory**, Rutgers Coop. Extension, <http://plant-pest-advisory.rutgers.edu>, April 20, 2014.

Spring Weeds in Strawberries

Kathleen Demchak

It's easy for weeds to surprise you with the amount of competition they can provide in the springtime, especially when they've been protected under snow or plastic and row covers. Here's we'll discuss control of some of our common winter annual weed problems, and also two perennials.

Common chickweed (not to be confused with mouseear chickweed, a perennial) germinates mainly in the fall, though it will germinate anytime weather is cool and moisture is sufficient. It can even germinate and grow under the snow, which explains those "Where'd that come from?" moments in the spring. It also tolerates shade better than most weeds. As the plant grows, it roots at its nodes, thus potentially forming a large mat of a plant that can produce over 10,000 seeds. Seeds can survive in the soil for over 10 years. It flowers and sets seed in the spring and early summer, and the seed is capable of germinating immediately. The plant only needs 5 weeks of growing conditions to progress from emergence to seed set. Typically there is only one generation per year, but two are possible. Chickweed does not tolerate is drought, so it is rarely a problem in unirrigated row middles in the summer.

Shepherd's purse germinates in early fall, later summer, or early spring in the Northeast, and produces seed in late spring and early summer. Plants flower and produce seeds in late spring and early summer. Seeds are produced in heart-shaped pods, shaped like purses shepherd's used long ago. One plant can produce as many as 38,500 seeds, which remain viable in the soil for up to 35 years.

Henbit (not to be confused with purple deadnettle) is in the mint family, and also roots at its nodes. It has a similar germination and flowering pattern as common chickweed. One plant can produce 2000 seeds, and its seeds remain viable for 25 to 40 years. Its seedlings are easily controlled by tillage, but timing is critical.

Field pansy looks a lot like Johnny jump-ups, though the flowers are less showy. Seeds germinate in late summer and early fall, and the plant flowers in spring. A really healthy plant can produce 46,000 seeds. Yikes.

Dandelion is a pervasive problem because of its windblown seeds and its large taproot that allows the plant to resprout several times if broken off. The flowers can continue to mature seeds even once the plants are pulled. If dandelion plants are recently established, shallow tillage can be effective, but if the weeds are established, hand-pulling and tillage have little effect. Plants can be mowed or weed-whacked close to the ground before the dandelions bloom if in-between rows of plastic. 2,4-D at spring dormancy, or Roundup with a wick applicator as long as the 14-day PHI is observed, and the applicator doesn't touch any of the plants, are the best options. Chateau is an effective pre-emergence material.

Canada thistle has both vertical roots for food storage, and horizontal roots which allow it to spread. Shoots that emerge in the spring flower and produce wind-blown seed, while shoots that are produced in the fall make food for the winter. Mowing it or using a burndown herbicide in the spring is more effective than at other times of the year, as its food reserves are already low then. Frequent tillage, repeated as soon as the plants resprout, is also effective, but tillage used infrequently only multiplies it.

In matted-row plantings, they are most likely to be a problem where there is bare soil, so you'll have problems with them where the plants are weak or along edge of the row. In plasti-

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BERRY PRODUCTION

Spring Weeds... (continued from page 24)

culture plantings, they may be popping out of the planting holes, or appear between the rows of mulch and be especially problematic along the edges of the rows.

So, what can you do about these weeds in the spring? In matted-row plantings, much of the control of winter annuals can be accomplished simply from the use of straw mulch, as winter annuals are usually not especially good competitors. It's important when removing the mulch to only pull it back the minimum distance necessary to expose the strawberry plants, and possibly come back and tuck some back under the plants later, which will also keep the berries clean. If the mulch has been blown off over this windy weather, it's usually worth it to bring some straw out to fill in the gaps.

In plasticulture, the sole control method of weed control in planting holes is hand-pulling. If cultivating, cultivate shallowly to avoid bringing up more weed seeds. Do not apply any herbicides over plastic-mulched beds.

Here are some notes on herbicides, with their greatest utility being in matted-row plantings. Be sure to watch days-to-harvest limitations.

Chateau (flumioxazin) is a pre-emergent herbicide that has both pre-emergent activity and some burndown activity. This means that it can only be used when the plants are dormant in late fall or very early spring before the strawberry plants begin to grow again, or with a hooded sprayer between the rows if the plants have begun to grow. It can be tank-mixed with 2,4-D or Gramoxone to give better emerged weed control. It has good preemergent activity against all of the weeds mentioned here except for Canada thistle. The sprayer must be cleaned out according to label instructions in order to avoid damage to subsequent crops on which the sprayer is used.

Dacthal (DCPA) is an older pre-emergent material has short-lived efficacy against chickweed and henbit, but not any of the other weeds mentioned. It can be applied in spring prior to bloom, but won't have any activity against weeds that are already emerged.

Devrinol (napropamide) is useful in preventing grass seeds from germinating from straw mulch, and is best applied in fall before straw mulch is applied. It can be applied in the spring prior to bloom also, but it is a pre-emergent material, so it will only have effect on germinating weed seeds, not established seeds. Of the weeds mentioned, it is effective against germinating chickweed and dandelion, but only fair for the rest. It breaks down quickly in sunlight.

Prowl H₂O (pendimethalin) is a pre-emergent material that can be used between the rows of strawberries with a shielded

sprayer in both matted-row and plasticulture plantings. It has a 35-day PHI. Its efficacy can be reduced if heavy amounts of rain fall. It is weak against all of the species mentioned here.

Sinbar has a 110-day pre-harvest interval on strawberries, so it cannot be used in the spring.

Stinger (clopyralid) is a post-emergent material that is good against thistles, but not the other weeds mentioned here. It can be used as a spot-treatment for thistle patches and is best applied in two applications of 1/3 pint, the first at least 30 days before harvest in the spring and the second after harvest.

Formula 40 or Amine 4 (2,4-D) is a post-emergent material that is good against dandelion, but has little effect on the other weeds listed. It can be applied in early spring to dandelions that are poking through straw mulch.

Roundup or Touchdown (glyphosate) is best applied with a wick or sponge applicator to emerged weeds, and is effective against all of the weeds listed. Be sure not to get any of the material on the strawberry plants. If you do get any on the plants, they will yellow and grow small leaves that could be mistaken for a micronutrient deficiency or cyclamen mites. The damage often doesn't show up until a week or two after the application, so sometimes the connection to the Roundup application isn't made. It has a 14-day PHI.

Ms Demchak is with the Department of Plant Science. Penn State Univ. From the **Vegetable, Small Fruit and Mushroom Production News**, Penn State Extension, <http://extension.psu.edu/plants/vegetable-fruit/news/2014>, March 28, 2014.

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BERRY PRODUCTION

That's a Berry Good Question Spotted Wing Drosophila and Blueberry Varieties for Organic Production

Kathleen Demchak

One option for avoiding injury from spotted wing drosophila (SWD) is to plant earlier-maturing varieties. This article discusses some cultivars that might fit the bill.

Q: We were really hit hard with SWD on our organic blueberries...everything harvested after mid-August was affected. We're planting more blueberry plants in 2014, and I need to order now. Are there varieties or other considerations I should make in terms of managing SWD?

A: Note that the timing and extent of SWD infestations will vary depending on location and spray programs. However, for all growers considering planting blueberries (and actually, this applies to any mid to late summer berry crop), it makes sense to utilize varieties that ripen before SWD numbers soar. This way you can hopefully avoid SWD issues for at least a portion of the harvest period.

We were interested in different people's thoughts on early and early-midseason varieties, so we had a little conversation via email.

Dr. Eric Hanson (Michigan State University) had these top picks: Early season: Earliblue (not good for frost pockets), Reka, Duke, and Patriot. Early-mid season: Draper, Huron, Bluecrop (in order of fruiting) and possibly Blue Ribbon, a new introduction from Fall Creek.

Kathy Demchak added these thoughts: When we grew Reka, it was productive, but the berry size was really tiny on 2 of our 4 plants and overall, berry size tended to be smaller. Maybe that was just its tendency to overcrop and we should have pruned differently. Birds also seemed to prefer Reka, maybe because the berries were bite-size for a bird, or maybe they just liked the flavor better. Mark Ehlenfeldt recommended it for our blueberry school last year.

I personally found Duke to be too lacking in flavor, but feel pretty good about Patriot and Bluecrop. You'd need at least one or two SWD sprays to make it through harvest on Bluecrop. When we incubated Bluecrop berries from our research plots starting during the second week of harvest in 2013 (note that this is without any sprays), we found 0 SWD per berry on July 18, then 0.08 per berry on July 24, increasing to 0.98 per berry on July 31. This backs up what the grower mentioned – that anything from mid-August on was pretty well infested. The date when heavy infestation is noticed will likely be earlier the further South you go.

So then we floated the question past Mark Ehlenfeldt, USDA-ARS blueberry breeder, who was a wealth of information, which follows:

Breeders are always hesitant to give an unequivocal answer, because we know there is no perfect variety, and a lot depends on the locale and the grower. That being said, here are some useful thoughts (hopefully) followed by the descriptions. Expanded versions of the info in italics below can be found in the Mid-Atlantic Berry Guide.

Duke - For more northern climates like ours, Duke has the most proven productivity record. Duke's major down-side is its mild flavor. Duke's flavor improves after a day or two in storage, but will never be a "wow" berry. Nonetheless, there are people who like the mild flavor of Duke and its crispness. Berry Guide

comments: Duke is vigorous and blooms late, avoiding early frosts, but ripens relatively early. It starts producing quickly after planting. Harvest can be completed in two or three pickings. Duke is moderately resistant to anthracnose; has good resistance to mummy blight (primary shoot infection); and is moderately susceptible to mummy berry fruit infection. Stem blight problems have also been documented.

Draper - Draper is an offspring of Duke and is not as early ripening, but has better flavor. I haven't seen any fully-mature fields of Draper in New Jersey, but the young ones look pretty good and will probably have good productivity. Some of our disease screening studies have suggested Draper is susceptible to mummy berry blight, but field performance may be better than the screening results which were done with high levels of inoculum. Timing factors also come into play with blight infection, but I would still assume it's less resistant than Duke. (As a side note, we've had very little mummy berry in New Jersey for about the last 5 years, although this spring there was a bit of a rebound with the cool wet weather). There are easy cultural practices for organic growers to control mummy berry, as long as there isn't uncontrollable outside inoculum (i.e. wooded areas with mummy berry). Mid-Atlantic Berry Guide comments: Released in 2004 from the breeding program at Michigan State. Ripens slightly later than Duke, but with better flavor. Relatively susceptible to mummy berry blight.

Reka - I did mention Reka as a "best bet" as Kathy stated, and I stand by that recommendation. Reka does have a tendency to crop heavily and fruit size can be small as a result. Thus, it becomes a cultivar that needs to be managed more aggressively. Fruit area bit dark, and the flavor, to me, is just average, but it grows well in many places and has "average" to "better than average" disease resistances. Berry Guide comments: From New Zealand. Upright, very vigorous habit that has been very productive where grown. Berries are small and deep blue with a spicy flavor. Average resistance to anthracnose, relatively resistant to both phases of mummy berry.

Now for a few others:

Bluetta - I have occasionally seen really nice plots of Bluetta. The fruit was at a perfect stage of development and was firm, beautiful, and flavorful. It made me see why someone released it originally. Even now, I think it may be the earliest-ripening blueberry. Its downsides are included in the comments below. Mid-Atlantic Berry Guide comments: Bluetta - Bush is compact, low growing, and of medium vigor. Fruit is medium-sized, soft, and blue-black with fair flavor. Consistent production may be a problem. Moderately resistant to mummy berry disease; highly susceptible to anthracnose and red ringspot virus.

Hannah's Choice - Hannah's Choice is a variety with significant potential, and delicious fruit, but performs variably in different locales. A nice variety if it can be grown reliably. Mid-Atlantic Berry Guide comments: Fruit has superior firmness, sweetness, and flavor with peachy overtones. Large first-pick berries, with some size decrease in later picks. Relatively resistant to anthracnose; average resistance to both phases of mummy berry. Less productive in some areas than others.

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BERRY PRODUCTION

CLASSIFIEDS

That's a Berry Good Question*(continued from page 26)*

Sweetheart - Sweetheart is an early variety, with perhaps the best flavor in early-season fruit, but needs to develop a large plant before yielding ability is fully apparent. Many people will probably judge this plant too early and dismiss it. Even after it "sizes-up" it will need good management to keep fruit size up. It's too early to know if it performs equally well in all locales. Mid-Atlantic Berry Guide comments: A new productive variety with excellent flavor that holds up in storage. Can overcrop. Cross-pollinate and prune assertively to maintain fruit size. Not precocious like Duke.

Bluejay - Bluejay is early-ripening, and is one of our standards for mummy berry resistance. It's another variety that would be excellent if one could get it to produce consistently. But we don't see that consistency here in New Jersey.

Spartan - Some growers here in New Jersey grow modest amounts of Spartan as an early variety that tastes better than Duke. For me, it hasn't grown very well, nor been very productive, probably due to soil issues, and it doesn't do very well on amended upland soils.

And finally...

Huron - We only have some small plants, so I haven't been able to judge them very much. Below are a few notes from the plant patent (with my highlights and comments). The patent gives no indications as to disease resistance.

"It is exceptionally late flowering and was one of the few early to mid-season genotypes to survive a late frost in the mid-1990s. 'Huron' also has excellent winter hardiness, as it has routinely been challenged with mid-winter temperatures below -20°C."

"In the trials conducted in Michigan at Grand Junction, 'Huron' was consistently one of the top rated advanced selections. It had among the highest fruit load of any of the early to midseason cultivars and the best flavor. The average date of first harvest was 5d before 'Draper' and 6d after 'Duke'. The fruit of 'Huron' was slightly softer than 'Draper' and much firmer than 'Bluecrop'. 'Huron's' fruit were smaller than 'Draper', but larger than 'Duke' and 'Bluecrop'. Its fruit color was similar to 'Duke', but a little darker than 'Bluecrop' and 'Draper'. 'Huron' fruit had a storage life as long as 'Draper', which was several weeks longer than 'Duke' and 'Bluecrop'. 'Huron' had the second highest levels of soluble solids next to 'Draper' and the second lowest acidity next to 'Duke'."

"Blueberry growers in Michigan and the cooler production regions across the USA, Europe, and Canada will find 'Huron' desirable as a new early northern highbush variety. However, some fruit pedicels of 'Huron' fruit remain attached in very hot weather. The fruit of 'Huron' also develops sugar slowly and if picked too early can be very tart. In addition, the fruit clusters of 'Huron' are relatively tight, which may reduce picking efficiency."

Mark's bottom line (mostly on consistency and productivity): Top picks (still): Duke, Draper, and Reka. Wild cards: Hannah's Choice, Sweetheart, Huron, and Bluejay. Bottom picks (for me): Spartan and Bluetta

*Ms. Demchak is with the Dept. of Plant Science at Penn State Univ. From the **Vegetable, Small Fruit and Mushroom Production News**, Penn State Extension, <http://extension.psu.edu/plants/vegetable-fruit/news/2014>, January 31, 2014.*

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02

VEGETABLE PRODUCTION

Using Growing Degree...*(continued from page 23)*

- Calculate the GDD that will accumulate during the harvest period (3 days x 25 GDD/days) = 75.
- Record maximum and minimum temperatures and calculate GDD = ((Maximum Temperature + Minimum Temperature)/2) - 50° F
- Add daily GDD from planting until they equal the GDD in the intended harvest period (75).
- When GDD equal those in the harvest period, make the next planting.
- The process can be repeated for subsequent plantings and other varieties.
- To obtain specific variety GDD information, contact your seed supplier

*Dr. Johnson is the extension fruit and vegetable specialist at the Univ. of Delaware. From the **Weekly Crop Update**, Univ. of Delaware, <http://extension.udel.edu/weeklycropupdate/>, Vol. 22, Issue 3, April 11, 2014.*



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