

PENNSYLVANIA
VEGETABLE GROWERS

NEWS



July 2020 / Volume 43 Number 7

August is

PA

PRODUCE MONTH



The Pennsylvania Vegetable Marketing and Research Program is again celebrating August as PA Produce Month.

Besides offering special point-of-purchase materials to supermarkets directly and to growers through the mail and at many of the produce auctions, the Program will be sending out press releases to media across the state to publicize the abundance of fresh Pennsylvania produce in August and using social media (Facebook and Instagram) to create consumer interest in local produce. A new feature this year is an ecookbook, Pennsylvania Vegetables, which will feature recipes, messages, videos, tips, instructions, and other interactive content from all walks of the local food chain — farmers, chefs, nutritionists, bloggers, enthusiasts, hobbyists, groups, organizations, kids, consumers, you name it! Growers can find a multitude of ideas, graphics, social media helps and

suggestions in the Farmers' Resources on PAVeggies.org to help them make the most of the PA Produce Month promotion

at their markets. They can also call the Program at 717-694-3596 to order a Produce Month point-of-purchase kit.

8 WAYS TO CELEBRATE PA PRODUCE MONTH

August is PA Produce Month. Pennsylvania fields are ripe for the picking, which means it's the ideal time to enjoy as much local produce as you can get your hands on! Here's how:

- 1 VISIT PLACES OFFERING LOCAL PRODUCE AT LEAST 1X/WEEK.
- 2 STOCK UP ON SEASONAL GOODS.
- 3 CREATE FRESH & HEALTHY MEALS USING JUST-PICKED PRODUCE.
- 4 BUY EXTRA FOR CANNING, PRESERVING FREEZING, & PICKLING.
- 5 SWAP RECIPES, IDEAS, TIPS, & VEGETABLE "HACKS".
- 6 VISIT PAVEGGIES.ORG FOR INSPIRATION & INFORMATION.
- 7 GET THE PENNSYLVANIA VEGETABLES E-COOKBOOK.
- 8 SHARE YOUR EXPERIENCES. TAG #PAVEGGIES.

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HOW TO USE KALE

Check your way through the bounty that Pennsylvania has to offer and share your story with others - tag #paveggies.

SALAD

Chop the kale into small portions and mix well with lemon juice, then pair with other salad fixings.

KALE CHIPS

Chop into chip-size portions, coat in olive oil, salt and pepper, maybe other spices, then bake until crispy.

STIR FRY

Saute the kale along with onion, pepper, carrots, and more. Stems may be included for a nice crunch!

PESTO

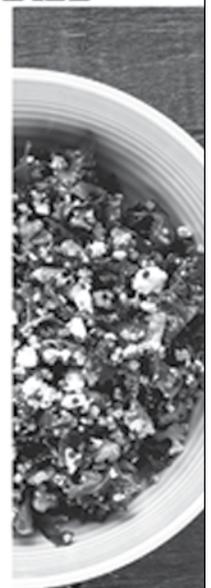
Replace the classic basil with kale for a different flavor and new nutrient profile.

SANDWICH

Out of spinach or romaine? Throw the leafy portion of the kale into your sandwich for a nice, healthy crunch.

SHARE SOME

MORE TIPS, TRICKS & RECIPES: PAVEGGIES.ORG



NEWS



*Pennsylvania
Vegetable Growers
Association*

*An association of
commercial vegetable,
potato and berry growers.*

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What's Happening on the Farm

Brian Campbell

Stress? – Smile!

We are now in the month of July (August by the time you read this) — maybe some wish it was December and the season was over. So much heat and not enough rain — I think that sums it up.

How do you deal with a year that started with freezing temperatures late into spring damaging many crops, and then excessive heat without necessary rainfall decimating crops. Trying to irrigate in addition to your workload that doesn't allow for any time to do what has to be done already.

STRESS!! Is everyone OK?? How do you deal with it? Sometimes it is just not easy! I can say with certainty when everyone started to plan for the year, we did not plan for the year we are having.

I have been in communication with many farmers in the field — whether their water source dried up, or they don't have time to water everything or they just don't irrigate — stress has impacted them whether they mentioned it or not.

You are tired and working 100-hour plus weeks since spring. How do you get through these stressful times?

FAMILY? FRIENDS? CHURCH/ GOD?

What allows you to go home at night and be a Dad/Mom or husband/wife or sister/ brother when you are drained from the challenges that come from something you do that you love so much?

What makes you smile? Better yet, what allows you to help someone else SMILE?

For me, putting a SMILE on another person's face is what allows me to hold my head high and look forward to what tomorrow will bring. Hang in there, there is a lot to look forward to. Tomorrow is another day. Don't forget what life on the farm has to offer.

Enjoy your day! And SMILE!

Mr. Campbell is the President of the Association. He grows fresh market vegetables for the retail and wholesale markets on his farms near Berwick.

PVGA Directors Meet Virtually

The PVGA Board of Directors meet virtually on July 21 for their regularly scheduled summer meeting. Their spring meeting in March usually held in conjunction with visits to state legislators was cancelled due to the coronavirus pandemic. While the summer meeting has usually been held by telephone conference call, this year's meeting was a Zoom meeting allowing most of the Board members to see each other.

The Board reviewed revised financial reports from 2019 as well as the final reports from the 2020 Farm Show Food Booth. While the 2020 booth set new all-times sales and profit records with a net profit of \$73,000, primarily due to the addition of infused water, the outlook for 2021 is very uncertain. While PVGA has submitted vegetable stir-fry, veggie burgers and corn dogs for approval as new menu items for 2021, is unknown whether the 2021 Farm Show will be held – to date it has not been canceled.

The Board also reviewed the final reports from the 2020 Mid-Atlantic Fruit and Vegetable Convention. The Association had a total of 1,254 persons registered and an estimated surplus of \$50,000 from the 2020 Convention. The Association's Convention Planning Task Force met virtually in April to begin planning for the 2021 Convention. While the Convention Joint Committee with representatives from the five sponsoring organizations met on June 24 and decided to move forward with plans for an in-person convention, the PVGA Board voted at their meeting to recommend that options for a virtual convention be explored in place of an in-person convention. The Hershey Lodge had indicated that meeting rooms could only be set up to accommodate 25 to 33% of their regular capacity to allow for social distancing. This will present a real challenge for the Convention since meeting rooms commonly are completely filled in normal years.

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*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 Director, at the above address.

Important Updates on COVID-19

While the COVID-19 pandemic continues to change many aspects of agriculture and daily life in Pennsylvania, the state took major strides towards reopening during the month of June.

As of early July, every Pennsylvania county is in the “green phase” of Gov. Tom Wolf’s reopening plan, which allows all businesses to reopen as long as they follow certain restrictions and safety guidelines to prevent the spread of COVID-19.

The following updates reflect new information since early July. Be sure to visit [pfb.com/coronavirus](https://www.pfb.com/coronavirus) for the most up-to-date information.

- All Pennsylvania counties are now in the least-restrictive green phase of Gov. Tom Wolf’s reopening plan. In the green phase, all businesses may open but must continue to follow certain safety precautions and guidelines, including limiting occupancy, requiring face masks, enforcing social distancing and others. Learn more <https://www.governor.pa.gov/plan-for-pennsylvania/#Phase2Reopening>.
- A new state Health Department order requires masks or similar face coverings to be worn in public spaces (except when maintaining at least six-foot distance outdoors).
- A new state-administered program, the Pennsylvania Fresh Food Financing Initiative COVID-19 Relief Fund, will provide \$10 million in relief grants to farms engaged in direct-to-consumer sales and food retailers that serve underserved, historically disadvantaged and/or low-to-moderate income communities. Grants are also available to start new farm markets or direct-to-consumer operations to serve areas where food access has been affected by COVID-19. The grants must be used for certain, eligible costs related to the pandemic. Applicants must serve low-to-moderate income communities and accept SNAP and WIC to the maximum extent possible. See https://www.agriculture.pa.gov/Food_Security/Pages/Fresh-Food-Financing-Initiative-COVID-19.aspx to learn more.
- The COVID-19 Relief PA Statewide Small Business Assistance program has grants available to Pennsylvania small businesses affected by the COVID-19 pandemic. Businesses may apply through one of 18 Community Development Financial Institutions. See <https://pabusinessgrants.com/> to learn more.
- USDA has expanded eligibility for its Coronavirus Food Assistance Program, adding several dozen specialty crops to the list of eligible commodities. Payment rates have also been adjusted for a handful of crops, including mushrooms, apples, potatoes, peaches and others. See <https://www.farmers.gov/cfap> for more information.
- The deadline to apply for the Small Business Administration’s Paycheck Protection Program has been extended until Aug. 8. The program provides loans to eligible businesses, including farms, with 500 or fewer employees to continue to pay employees and cover some overhead costs during the pandemic. Sole proprietorships, independent contractors and self-employed people are also eligible. Applicants apply through eligible lenders. Visit <https://bit.ly/38jvQR0> to learn more.
- The SBA recently released a new EZ Paycheck Protection Program loan forgiveness application form in response to legislation requiring the agency to create a more “borrower-friendly” application form. The form is available at <https://bit.ly/31n-Pzh0>. There is also a revised version of the full form available at <https://bit.ly/2Yz8ljH>.
- Pennsylvania driver’s licenses, photo ID cards and learner’s permits that have an expiration date between March 16 and July 31, will be valid until July 31. PennDOT had previously extended the expiration date for vehicle registrations of all classes, safety and emissions inspection stickers and disability parking placards until June 30; however, the expiration dates for those products are not being extended again.
- Food processors and retailers can obtain free personal protective equipment for employees through the Pennsylvania Emergency Management Agency. Equipment comes in boxes of 500. Visit <https://bit.ly/3fVYdY6> to request protective equipment.
- Pesticide applicator exams have resumed on a limited basis. Learn more at <https://bit.ly/2ZcLWb5>.
- The U.S. Environmental Protection Agency has issued guidance on conducting pesticide safety training sessions during the pandemic. Find more information at <https://bit.ly/2YARK-Wd>.
- The Federal Motor Carrier Safety Administration has extended until Sept. 30 its waiver regarding expiring driver’s licenses and medical examiner’s certificates for drivers who had current credentials as of March 1. FMCSA may use enforcement discretion to not take action in certain cases when a commercial learners’ permit, CDL or Medical Certificate is expired.

From the **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, July 2020, and **Farm Bureau Express**,
Penna. Farm Bureau, July 10, 2020.

National News Briefs

Priorities for Agriculture Relief Outlined

In a recent letter to leaders in Congress, American Farm Bureau Federation President Zippy Duvall outlined the priorities farmers hope to see included in legislation providing relief from the economic fallout of the COVID-19 pandemic.

The communication came as Congress considers follow-up legislation to the CARES Act, which provided wide-ranging relief related to the COVID-19 pandemic, including support for agriculture. Duvall noted that there are still some concerns for agriculture that were not addressed in the CARES Act and that farmers continue to suffer financially due to the pandemic.

“The economic losses across the U.S. agriculture sector are broad-based, directly impacting farmers and ranchers and their supply chain partners — from input providers to end users,” Duvall wrote. “Producers have witnessed their markets shrink overnight or even disappear, while supply chains have been stretched to the limit in response to the pandemic. The widespread closures

at the retail level are impacting consumer demand and purchasing patterns in ways that the industry has never experienced.”

Among the priorities highlighted were:

- Supporting producers by extending relief funding for losses incurred after April 15, replenishing the Commodity Credit Corporation funding to \$68 billion, providing additional resources to state Departments of Agriculture and supporting biofuel production facilities.
- Supporting livestock farmers by providing aid to independent and contract poultry producers, opening Conservation Reserve Program acres for emergency haying and grazing, and waiving overtime fees for FSIS meat inspectors in small and medium-sized packing plants.
- Supporting rural communities by increasing funding for community health care centers and taking steps to expand broadband access.

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- Expanding eligibility and increasing funding for the Paycheck Protection Program and making the program more workable for agriculture.
- Providing housing funding to accommodate social distancing guidelines for H-2A workers and funding to help offset the cost of protective equipment and sanitizing supplies.

From the *Pennsylvania Agricultural Alliance Issues Update*,
Penna. Farm Bureau, July 2020.

Fixes to SBA Loan Program Signed Into Law

A bill that aims to add more flexibility to the Small Business Administration's Paycheck Protection Program, which offers support to farms and other small businesses to help keep employees on the payroll during the COVID-19 pandemic, is now law.

Congress passed and President Donald Trump signed the measure recently. The bill addresses some improvements that will benefit agriculture — including extending the loan forgiveness period and the minimum loan maturity period — and makes other technical changes to the program.

Farm Bureau continues to advocate for agriculture-specific improvements to the program not included in the bill that would allow greater participation by farmers. Those include providing clarity that H-2A workers count as employees for the purpose of determining eligibility and that the program considers rental income, farm equipment trades, breeding livestock and other documented sources of income as part of a farm's net income, also for eligibility purposes.

From the *Pennsylvania Agricultural Alliance Issues Update*,
Penna. Farm Bureau, July 2020.

Farm Bureau Urges Senate to Make Small Business Loan Program More Workable for Agriculture

Farm Bureau is asking senators to increase funding for one of the U.S. Small Business Administration's main COVID-19 relief programs and make improvements so that more farmers can participate.

In a recent letter to leaders of the Senate Small Business and Entrepreneurship Committee, American Farm Bureau President Zippy Duvall highlighted improvements to the SBA's Paycheck Protection Program to make the program more workable for agriculture.

Agriculture, forestry, fishing and hunting businesses account for only 1.5 percent of loans distributed through the program, which is designed to help small businesses and sole proprietors affected by the pandemic pay employees and some overhead expenses. Some aspects of the program do not take into account the unique nature of agriculture businesses. For example, many farmers were shut out of the program due to having reported net losses the previous tax year.

"While the PPP is providing vital assistance to farmers and ranchers who were able to receive loans, more funding is needed to support those shut out of the program and significant changes are necessary for agricultural producers to fully participate," Duvall wrote.

In addition to increasing funding for the program, Farm Bureau is calling for:

- Forgiveness of loans up to \$150,000.
- Allowing farms operating a sole proprietorships to base their income for eligibility calculations on gross receipts rather than net income.
- Clarifying that seasonal workers with H-2A visas qualify as employees and that wages paid to them qualify for loan forgiveness.

- Including rental payments in the calculation for loan forgiveness.
- Allowing expenses related to providing protective gear and enhancing workers safety due to COVID-19 to qualify for loan forgiveness.
- Including income from farm equipment trades, breeding livestock and all rental income in the calculation for loan availability.
- Several tax-related clarifications and fixes.

Farm Bureau supports several pieces of legislation that address some of the proposed changes, including the Expanding Assistance to Farmers Act, Small Business Expense Protection Act, JOBS Credit Act and Paycheck Protection for Producers Act, which was sponsored by two members of Pennsylvania congressional delegation, Reps. Glenn "G.T." Thompson and John Joyce.

From the *Farm Bureau Express*, Penna. Farm Bureau, July 24, 2020

EPA Allows Limited-Time Use of Existing Dicamba Stocks

The U.S. Environmental Protection Agency will allow farmers to use their existing stocks of three dicamba herbicides through July following a federal court ruling last month that vacated the products' registrations.

EPA's order bans further sale or distribution of the three affected products—XtendiMax, Engenia, and FeXapan, except to ensure proper disposal. But the agency is allowing growers and applicators to use existing stock in their possession and purchased before June 3 (the date of the court ruling) until July 31, after which application will be prohibited.

American Farm Bureau Federation President Zippy Duvall wrote a letter to the EPA following the court's ruling, asking for guidance for farmers.

"Farmers across the country invested in dicamba-resistant seeds based on the EPA's previous approval," Duvall wrote. "Millions of acres of crops have already been planted and there's no turning back. The clarity provided by the EPA provides certainty for farmers who were left wondering how they would protect their crops and stock America's pantries."

At a recent on-farm event in Lancaster County, EPA Administrator Andrew Wheeler said the agency will abide by the court ruling, "but we will do so in an orderly manner."

Several organizations involved in the push to vacate the dicamba registration took emergency legal action asking the court to force EPA to require growers to halt dicamba use immediately. However, the court denied that request, leaving in place EPA's order allowing growers to use existing stocks until July 31.

Farm Bureau, along with other agricultural groups, filed a legal brief asking the court to keep EPA's order in effect. Farm Bureau and other groups warned that granting the request to force EPA to immediately ban dicamba would "put America's soybean and cotton growers at risk for financial devastation."

"Growers have planted millions of acres of crops that depend on the use of dicamba products this growing season," the agriculture groups wrote. "Because no viable alternatives exist that can be deployed immediately, banning growers' use of existing stocks of dicamba products could have disastrous consequences."

From the *Pennsylvania Agricultural Alliance Issues Update*,
Penna. Farm Bureau, July 2020.

New Clean Water Rule Takes Effect

The Navigable Waters Protection Rule—the new federal clean water regulation that replaced the controversial 2015 Waters of the U.S. rule—has taken effect.

A federal judge last week denied a request from groups opposed to the new rule to block it from taking effect. However, lawsuits against the new rule are ongoing.

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clear and commonsense approach to defining which waterways are subject to federal regulation. Farm Bureau believes the federal government overstepped its authority in implementing the 2015 WOTUS rule, which was less clear, took a much broader approach and would have subjected the overwhelming majority of Pennsylvania farmland to federal oversight.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020.

New Stress-Management Training Program for Agriculture

Farm Bureau and other organizations have launched a free, online course that aims to help farmers, their families and neighbors identify and cope with stress.

The course, developed by Michigan State University Extension and University of Illinois Extension, gives participants the skills to understand the sources of stress, manage their own stress, learn the warning signs of stress and suicide, identify effective communication strategies, and connect farmers with appropriate mental health and other resources.

Farm Bureau is partnering with Farm Credit and the National Farmers Union to offer the course to the general public.

“We have to break through with a message of hope and help,” said American Farm Bureau Federation President Zippy Duvall. “Families don’t have to face today’s stresses and heavy burdens alone. This free online resource is a first step toward recognizing the signs and knowing what to do. We hope anyone who knows someone struggling will take advantage of this potential lifeline.”

Learn more or register for the course at opencoursesstore.d2l.com/product?catalog=msu_urmfs_2020.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020

PVGA Directors Meet Virtually *continued from page 2*

The Board reviewed projected Association budget figures for 2021 if both the Farm Show and the Convention were not held. Income would only be 19% of the normal amount. Expenses would be 57% of normal unless things like research funding, local meeting grants, promotion and donations are also cut. While the Association has sufficient reserves to maintain those types of discretionary expenses for a year, it would be a significant loss to the Association.

The Executive Committee reported they had approved letters to the Governor urging him to allow garden centers to open during the stay-at-home period. A similar letter had been sent to legislators. The Committee also declined to invite members to participate in a survey about dicamba use because of uncertainty of how the results would be interpreted and used. They had approved signing on to a group letter supporting extra federal funding for agricultural research and extension activities dealing with the coronavirus pandemic.

The Board received reports from numerous other committees. They voted to extend the contract with Troxell Administrative Services for the day-to-day administration of the Association until April 2021.

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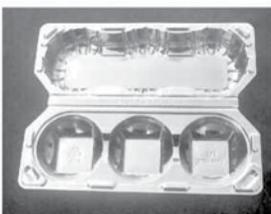
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State News Briefs

Broadband Bills Advance in General Assembly

Several bills that would help expand broadband access in rural Pennsylvania recently moved forward in the General Assembly.

Senate Bill 835—introduced by Sen. Wayne Langerholc of Cambria County—and House Bill 2348—introduced by Reps. Marty Causer of McKean County and George Dunbar of Westmoreland County—would create a special account for grants to develop broadband service in underserved areas. The grants, which would be overseen by the Commonwealth Financing Authority, would be funded by shifting an existing \$5 million tax credit.

The House passed House Bill 2348 and the Senate Communications and Technology Committee sent Senate Bill 835 to the full Senate for consideration.

House Bill 2438—by Rep. Clint Owlett of Tioga County, and Senate Bill 1118—by Sen. Joe Pittman of Indiana County—would allow rural electric cooperatives to use their existing utility easements to install fiber-optic lines without having to renegotiate right-of-way agreements. Cooperatives would still have to renegotiate if new infrastructure, such as new poles, is needed. House Bill 2438 cleared the state House and both bills were advanced by the Senate Communications and Technology Committee to be considered by the full chamber.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020.

Senate Passes Relief Bill for County Fairs

A bill that aims to provide financial relief to county fairs that cannot be held due to the COVID-19 pandemic has cleared the state Senate unanimously last month.

Senate Bill 1182, introduced by Sen. Michele Brooks of Mercer County, now goes to the House for consideration.

Normally, county fairs are eligible to receive reimbursements from the state after holding a certain number of agricultural-related activities and events during the fair. The bill would allow fairs that do not open this year due to the pandemic to apply for grants equal to the state reimbursements they received in 2019. Most, if not all, county fairs will be unable to open this year due to limits on large gatherings during the pandemic.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020.

Protective Gear Bill Advances

A measure that aims to assist food processors in securing protective equipment for employees during the COVID-19 pandemic has moved forward in the state Senate.

The Senate Agriculture and Rural Affairs Committee voted last month to send House Bill 2435, introduced by Rep. Bridget Kosierowski of Lackawanna County, to the full chamber for consideration. The bill cleared the state House in April.

The legislation would create a state grant program to help food production facilities with the purchase of personal protective gear for employees. Workers at food processing plants are a critical link in the supply chain. Outbreaks of COVID-19 at meat packing plants earlier this year caused severe bottlenecks in the food supply chain that prevented meat from getting from Pennsylvania farms to grocery store shelves.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020.

MAV Width Bill Clears State Senate

The state Senate unanimously passed a bill to change the state's vehicle code regarding the width of multipurpose agricultural vehicles (MAVs), commonly known as ATVs or side-by-sides.

Currently, the state vehicle code requires that MAVs be no wider than 62 inches; however, newer models of side-by-sides are often up to 66 inches wide. Senate Bill 995 would change the vehicle code definition of an MAV to include vehicles up to 66 inches wide.

Farmers are allowed to operate MAVs in a limited capacity on roadways as part of their farming operations. This change would make sure that farmers who have newer models of MAVs would still be able to legally move those vehicles on the road.

The legislation now heads to the House for consideration.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020.

State Senate Committee Advances Wind Power Bill

A state Senate committee has advanced a bill that would allow construction of wind turbines on preserved farmland.

House Bill 441, introduced by Rep. Curt Sonney of Erie County, was approved by the Senate Agriculture and Rural Affairs Committee and now heads to the full chamber for consideration. The state House passed the bill last year.

The plan would allow the owner of preserved farmland with 50 or more acres to grant a right-of-way for the installation of a wind power generating system. Now, such landowners may grant rights-of-way for other utilities, such as water, sewage, electric, telephone, underground mining and gas- or oil-product lines. The bill would add wind power to that list.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020.

Game Commission Eliminates Some CWD-Related DMAP Units, Concurrent Seasons In Effect

As part of changes for the 2020-2021 hunting season, the Pennsylvania Game Commission has eliminated some Deer Management Assistance Program permits and increased antlerless tag availability within the Disease Management Areas and other areas with high concentrations of Chronic Wasting Disease.

For the upcoming hunting season, 18 DMAP units that had been created specifically for CWD management have been eliminated. Instead, the commission recently approved a 14-day concurrent antlered and antlerless deer season and increased antlerless tag availability for 10 Wildlife Management Units in areas where the majority of CWD cases have been found. According to the commission, "the antlerless deer license increases and concurrent seasons in these areas eliminate the need for DMAP permits in CWD Disease Management Areas."

The commission also says that while past CWD-related DMAP units have been eliminated, some CWD-related DMAP permits may be available in August pending the outcome of the CWD Response Plan vote in July. Information will be made available no later than Aug. 1.

Other measures to control CWD may still be coming, if all or part of the plan is adopted by the game commission. A vote is expected no later than the July 24-25 meeting. Further measures could be put into place, including a statewide feeding ban, extended seasons in CWD areas, removal of antler restrictions, and targeted removals.

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The 2020 regular firearms antlered deer season will open Nov. 28 and include one of the three newly approved Sundays on Nov. 29. In Wildlife Management Units 2B, 2C, 2D, 2E, 4A, 4B, 4D, 5A, 5C and 5D, the concurrent season begins Saturday, Nov. 28, includes Sunday, Nov. 29, and then runs until Dec. 12. In all other WMUs (1A, 1B, 2A, 2F, 2G, 2H, 3A, 3B, 3C, 3D, 4C, 4E and 5B), a seven-day antlered deer season will be followed by a seven-day concurrent season. Antlerless deer hunting begins on Dec. 5 and continues through Dec. 12, concurrent with the antlered deer season.

The three Disease Management Areas maintained by the Game Commission will also be expanding this season. Of the 204 positive CWD cases found this year, a number of them were found just outside or on the edge of existing DMAs. For that reason, all three are expanding.

DMA 2 now covers all or portions of Indiana, Cambria, Clearfield, Centre, Union, Snyder, Blair, Huntingdon, Mifflin, Juniata, Perry, Cumberland, Westmoreland, Somerset, Bedford, Fulton, Franklin, and Adams counties.

Four of last year's new cases were found in DMA 3, and that area has expanded by another 114 square miles to 1,233 square miles, and covers parts of Indiana, Armstrong, Clarion, Clearfield and Jefferson counties.

DMA 4 has expanded by 346 square miles due to a new case of CWD found on a captive deer facility. It now covers parts of Berks, Lancaster and Lebanon counties.

It is illegal to move high-risk deer parts outside the boundaries of any DMA.

From the Pennsylvania Agricultural Alliance Issues Update, Penna. Farm Bureau, July 2020.

Regulations Could Change Regarding Crop Damage by Canada Geese

The Pennsylvania Board of Game Commissioners gave preliminary approval July 25 to a measure that would pull state regulations into line with recently changed federal guidelines that provide farmers and other landowners additional time to address problems from resident Canada geese.

Landowners properly registered with the U.S. Fish and Wildlife Service were previously allowed to destroy Canada goose nests and eggs on their properties from March through June, and properly permitted agricultural producers could kill small numbers of adult geese causing crop damage from May through August.

The proposed changes would allow take of nests and eggs year-round, and expand the period during which take for agricultural depredation is allowable to April through August.

Other registration and permitting requirements for both types of control activities remain unchanged.

Game Commission staff said incorporating the federal changes into state regulations isn't expected to greatly increase the taking of Canada geese by permit, and little or no impact on overall goose populations is anticipated.

The measure will be brought back to a future meeting for a second vote.

Proposal Would Create Locally Focused Conservation Program for Agriculture

Farmers and local conservation officials would partner on conservation projects that improve water quality through a new program expected to be proposed soon in the General Assembly.

State Sen. Gene Yaw of Lycoming County has signaled plans to introduce legislation to create an Agricultural Conservation As-

sistance Program administered by the State Conservation Commission. The program would provide funding to county conservation districts across the state to partner with local farmers to implement conservation practices. Conservation districts would determine what types of projects should be prioritized to make the greatest improvements to water quality, allowing the program to be tailored for each county to meet local needs.

Pennsylvania Farm Bureau partnered with other organizations and government agencies to help develop the proposal.

Funding would be distributed based on a formula. While counties with the most need for investments in conservation—such as those working to meet federally mandated goals for reducing nutrient and sediment pollution in the Chesapeake Bay Watershed—would receive the most funding, the program would provide funding to conservation districts throughout the state.

From the Farm Bureau Express, Penna. Farm Bureau, July 24, 2020.

PA Potato Grower Named to USDA Fruit and Vegetable Industry Advisory Committee

A Schuylkill County farmer and Farm Bureau leader will help advise the U.S. Department of Agriculture on policy related to fruit and vegetable crops.

Julie Masser Ballay was one of 24 members recently appointed to USDA's Fruit and Vegetable Industry Advisory Committee. She is vice president and CFO of Sterman Masser, Inc., a potato grower, processor and wholesaler, and serves on the Schuylkill/Carbon County Farm Bureau Board of Directors.

Appointees to the committee serve two-year terms and advise the USDA secretary on issues affecting the fruit and vegetable industry.

From the Farm Bureau Express, Penna. Farm Bureau, July 24, 2020.



Pennsylvania Farmer to Serve on EPA Advisory Committee

A Juniata County dairy farmer will have a hand in making sure Pennsylvania farmers' voices are heard by the nation's top environmental policymakers.

David Graybill was among 33 members appointed to the U.S. Environmental Protection Agency's Farm, Ranch and Rural Communities Federal Advisory Committee. The panel will meet twice a year starting this summer to provide independent policy advice, information, and recommendations to EPA Administrator Andrew Wheeler on environmental issues and policies that affect agriculture and rural communities.

"It's an incredible honor and opportunity to give Pennsylvania and mid-Atlantic farmers a voice in high-level environmental policy discussions," Graybill said. "I believe passionately that farmers should be leaders in conservation—not just to be good stewards of the land, but also because the steps we take to protect the environment and natural resources are smart and efficient farming practices. I look forward to bringing that perspective to the FRRCC and having the opportunity to discuss how policies proposed in Washington will affect our work on the farm."

The committee was established in 2008 but had no members when EPA began soliciting applications for new members last year. The 33 members appointed last month will form a brand-new committee and each are serving two- or three-year terms.

Continued on next page

NEWS

State News Briefs

continued from page 8

Graybill and his wife, Marie, operate Red Sunset Farm in Mifflintown. Graybill represents District 10 on Pennsylvania Farm Bureau's State Board of Directors, serves on the board's Executive Committee and chairs PFB's State Dairy Committee. He has also been a longtime Farm Bureau leader at the county level.

Graybill has been a leader in implementing environmental practices on his farm and promoting conservation within the agricultural community, including serving on the committee that helped draft Pennsylvania's Phase 3 Watershed Improvement Plan for reducing nutrient and sediment pollution in the Chesapeake Bay Watershed.

From the **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, July 2020.

Conservation Grants Available to Farmers in Lancaster, York Counties

The Pennsylvania Department of Agriculture has opened up applications to farmers in Lancaster and York counties for up to \$250,000 in Conservation Excellence Grants.

The \$2.5 million program, created by 2019 PA Farm Bill, funds on-farm measures that reduce erosion and run-off, including fencing to keep livestock out of streams, streambank restoration, cover crops, riparian buffers, manure storage, and comprehensive nutrient management plans. Funding will support technical assistance and the installation of these and other high-impact BMPs.

Funds will be administered by the Lancaster and York County Conservation Districts. Lancaster and York County farms have been prioritized in order to help Pennsylvania meet its federally mandated goals to reduce nitrogen, phosphorous and sediment runoff into the Chesapeake Bay by 2025.

Applications will be accepted beginning July 1, and evaluated on a first-come, first-served basis, according to their potential to meet program criteria. Grant funding may be combined with other public grants, tax credits such as the Resource Enhancement and Protection Program, and private funding.

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Applications are also available online at <https://bit.ly/2CLJyAD> and from both counties' conservation district offices. Farmers with questions about applying may contact Program Administrator Eric Cromer at 223.666.2556 or ecromer@pa.gov.

From the **Pennsylvania Agricultural Alliance Issues Update**,
Penna. Farm Bureau, July 2020.



It's Time To Fertilize

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Berry Mix 4-2-4

Fertilize strawberries and brambles after the last harvest with Berry Mix 4-2-4 one time between July-September before you mulch the plants. The fertilizer will be more readily available to the plant roots if allowed to be absorbed directly into the soil while protected by the mulch. For strawberries, after harvest apply 8-10 lbs per 100 row ft. For brambles, apply 6 lbs per 100 row ft.

Holly Care 4-6-4

For blueberries especially, between July-September we recommend a one time application of Holly Care 4-6-4 to provide a high phosphorus fertilizer with sulfur to give plenty of time for the roots to absorb them. Apply 10 lbs. per 100 row foot. Can also be used on hollies, dogwoods, gardenias, marigolds, rhododendrons, azaleas, ferns, hydrangeas and all other acid loving plants.

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NEWS

Coronavirus Food Assistance Program

- USDA is now taking applications for the Coronavirus Food Assistance Program. Options to apply, additional forms, and an online application generator and payment calculator are available on farmers.gov/cfap.
- Producers with an eAuthentication account can now apply for CFAP via the CFAP Application Portal at <https://apps.fsa.usda.gov/cfap/index.jsp>.
- The CFAP Application Generator and Payment Calculator is an Excel workbook to help producers understand the sales and inventory records needed to apply and to calculate potential payments. This tool allows producers to enter information specific to their operation and will generate a completed application form that can be signed and submitted to their local FSA office for review and processing.
- Producers who are interested in filling out the application manually can also visit farmers.gov/cfap to download the application form, AD-3114.
- FSA set up a call center in order to simplify how we serve new customers across the nation. The CFAP Call Center is available for producers who would like additional one-on-one support with the CFAP application process. Please call 877-508-8364 to speak directly with a USDA employee ready to offer assistance.
 - This is a good first step before a producer engages the team at the FSA county office at their local USDA Service Center.
- Producers should apply through their local Farm Service Agency. While many USDA Service Centers are open for business by phone appointment only, FSA is working with our agricultural producers by phone and using email and online tools to process applications.
 - Please call your FSA county office to schedule an appointment. You can find contact information for your local USDA Service Center at farmers.gov/cfap, and check Service Center status at farmers.gov/coronavirus/service-center-status.
- CFAP is structured to ensure the availability of funding for all eligible producers who apply.
 - In order to do this, producers will receive 80 percent of their maximum total payment upon approval of the application. The remaining portion of the payment, not to exceed the payment limit, will be paid at a later date nationwide, as funds remain available.
- Eligible commodities and additional information can be found on farmers.gov/cfap.
- USDA has considered additional commodities to be eligible for CFAP by collecting information that is not currently available to USDA on potentially eligible commodities. Comments were submitted through June 22, 2020. Updated 7-23-20 FARM PRODUCTION AND CONSERVATION | FSA | NRCS | RMA | Business Center
- On July 9, USDA announced an initial list of additional commodities that have been added to CFAP and USDA made other adjustments to the program based on comments received from agricultural producers and organizations and review of market data.
- The following commodities are now eligible for CFAP: alfalfa sprouts, anise, arugula, basil, bean sprouts, beets, blackberries, Brussels sprouts, celeriac (celery root), chives, cilantro, coconuts, collard greens, dandelion greens, greens (others not listed separately), guava, kale greens, lettuce – including Boston, green leaf, Lolla Rossa, oak leaf green, oak leaf red and red leaf – marjoram, mint, mustard greens, okra, oregano, parsnips, passion fruit, peas (green), pineapple, pistachios, radicchio, rosemary, sage, savory, sorrel, fresh sugarcane, Swiss chard, thyme and turnip top greens.
- Other program changes include:
 - Expanding for seven currently eligible commodities – apples, blueberries, garlic, potatoes, raspberries, tangerines and taro – CARES Act funding for sales losses because USDA found these commodities had a 5 percent or greater price decline between mid-January and mid-April as a result of the COVID-19 pandemic. Originally, these commodities were only eligible for marketing adjustments.
 - Determining that peaches and rhubarb no longer qualify for payment under the CARES Act sales loss category.
 - Dividing potatoes into fresh russets, other fresh, processing and seed, with payment rates attributed accordingly.
 - Correcting payment rates for apples, artichokes, asparagus, blueberries, cantaloupes, cucumbers, garlic, kiwifruit, mushrooms, papaya, peaches, potatoes, raspberries, rhubarb, tangerines and taro.
- If a producer submitted a CFAP application for a previously ineligible commodity, and the application was disapproved, the producer must submit a new CFAP application.
- If the producer submitted an application and was paid for CFAP but also has crops that are now considered eligible or are now eligible for CARES Act funding for sales losses, the producer should NOT submit a new application, but rather, contact the local FSA office to amend the application.
- For producers who have already applied for CFAP and whose commodities have experienced payment rate increases, FSA will automatically calculate the increase and issue a payment.

Continued on next page

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NEWS

Coronavirus Food Assistance Program *continued from page 10*

- For potato payments, producers will need to contact FSA to amend the application to identify the specific type of potatoes. Updated 7-23-20 FARM PRODUCTION AND CONSERVATION | FSA | NRCS | RMA | Business Center
- Producers who have already applied will not be impacted by a payment rate decrease.
- USDA expects to announce additional eligible commodities in the coming weeks.

Additional Commodities Eligible for Coronavirus Food Assistance Program

U.S. Secretary of Agriculture Sonny Perdue announced an initial list of additional commodities that have been added to the Coronavirus Food Assistance Program (CFAP), and that the U.S. Department of Agriculture (USDA) made other adjustments to the program based on comments received from agricultural producers and organizations and review of market data. Producers will be able to submit applications that include these commodities on Monday, July 13, 2020. USDA's Farm Service Agency (FSA) is accepting through Aug. 28, 2020, applications for CFAP, which helps offset price declines and additional marketing costs because of the coronavirus pandemic.

USDA expects additional eligible commodities to be announced in the coming weeks. USDA collected comments and supporting data for consideration of additional commodities through June 22, 2020. Changes to CFAP include:

- Adding the following commodities: alfalfa sprouts, anise, arugula, basil, bean sprouts, beets, blackberries, Brussels sprouts, celeriac (celery root), chives, cilantro, coconuts, collard greens, dandelion greens, greens (others not listed separately), guava, kale greens, lettuce – including Boston, green leaf, Lolla Rossa, oak leaf green, oak leaf red and red leaf – marjoram, mint, mustard, okra, oregano, parsnips, passion fruit, peas (green), pineapple, pistachios, radicchio, rosemary, sage, savory, sorrel, fresh sugarcane, Swiss chard, thyme and turnip top greens.
- Expanding for seven currently eligible commodities – apples, blueberries, garlic, potatoes, raspberries, tangerines and taro – CARES Act funding for sales losses because USDA found these commodities had a 5 percent or greater price decline between mid-January and mid-April as a result of the COVID-19 pandemic. Originally, these commodities were only eligible for marketing adjustments.
- Determining that peaches and rhubarb no longer qualify for payment under the CARES Act sales loss category.
- Correcting payment rates for apples, artichokes, asparagus, blueberries, cantaloupes, cucumbers, garlic, kiwifruit, mushrooms, papaya, peaches, potatoes, raspberries, rhubarb, tangerines and taro.



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FARM LABOR

Penn State Offers Posters and Pamphlets to Educate Workers About COVID-19

Penn State Extension is offering posters and pamphlets in English and Spanish to communicate best practices and health services for agricultural employee protection from COVID-19. The new resources address Key Point #6 of the CDC and U.S. Department of Labor interim guidance for agricultural workers and employers: "Basic information and training about infection prevention should be provided to all farmworkers in languages they can understand."

The Penn State Extension Horticulture Team, with permission from the UC Davis Western Center for Agricultural Health, adapted "Protecting Agricultural Workers from COVID-19" posters for Pennsylvania agricultural employees by adding information on local resources and health services.

As part of a Penn State Extension multi-state impact collaboration, pamphlets for distribution to agricultural employees were modified from a resource produced by the Cornell Farmworker Program. The posters and pamphlets are downloadable from the Penn State Extension website, and print copies will be distributed by agricultural health providers, produce auctions, and extension educators.

Visit these links for more information:
<https://extension.psu.edu/downloadable-posters-on-practices-and-services-to-protect-agricultural-workers-from-covid-19>

<https://extension.psu.edu/downloadable-pamphlets-on-health-guidance-for-agricultural-workers-during-the-covid-19-pandemic>

Or contact Tara Baugher, tab36@psu.edu (717-334-6271).



July is UV Safety Month: Information on Sun Exposure and Agriculture

Farmers, farmworkers and everyone who works outside should be cautious about their exposure to the ultraviolet rays (UV) from the sun. Skin cancer is the most common type of cancer in the United States. Incidence of skin cancer can increase with repeated exposure to the sun which causes damaging changes to the skin. The two types of ultraviolet rays most likely to damage a person's skin and increase the risk for developing skin cancer are Ultraviolet A (UVA) and Ultraviolet B (UVB).

No one is immune to the sun's UV rays; however, some skin types are more susceptible than others. People with blonde or red hair, fair skin, or freckles tend to get sunburned more quickly than others and should be even more vigilant about protecting themselves from the sun. However, persons with darker toned skin or those who tan easily must still be concerned. Skin damage builds up over the years, and once the damage has occurred, it cannot be reversed.

Continued on next page

FARM LABOR

Risks of Sun Exposure

One of the main health concerns of sun exposure is skin cancer. In the United States, one in five people will develop skin cancer. Contact your physician if you notice a difference in your skin or changes in moles regarding asymmetry, border, irregularities, color, or size.

The three main types of skin cancer are basal, squamous, and melanoma. Basal and squamous cancers are typically associated with long-term exposure to the sun but are seldom fatal. Melanoma can be fatal if not diagnosed and treated early and can affect people of all ages. When examining your skin for melanoma, look for changes in the size, shape, and color of existing moles and discolored patches of skin that may start small and grow.

Recommendations

The following recommendations can reduce an agricultural producer's risk of sun exposure, skin cancer, and other sun-induced conditions:

Sun Intensity — Exposure to harmful ultraviolet rays is most intense between 10:00 a.m. and 4:00 p.m. When possible, avoid working in direct sunlight during this time. If you must be in the sun during these hours, take shade breaks to reduce exposure, drink plenty of water, and reapply sunscreen at least every two hours.

Sunscreen — Sunscreens have one or more chemicals that absorb or disperse ultraviolet rays. Sun protection factor (SPF) is a numerical rating that indicates a specific amount of protection. You should wear a sunscreen with a minimum SPF of 15, but those with fair skin should use an SPF of 30 or higher. Due to exposure to water, weather, and perspiration, you should reapply sunscreen at least every two hours.

Clothing — Long-sleeved shirts and long pants provide protection from the sun's rays. Darker clothing with a tight weave provides more protection from the sun than light-colored, loose-fitting clothing. Special SPF or UV-resistant clothing is available to reduce exposing your skin to the UV rays.

Hats — When it comes to sun protection, not all hats are created equal. You should wear a wide-brimmed (minimum of three inches wide) hat with flaps or drapes to provide sun protection for your eyes, ears, and neck.

Sunglasses — To reduce the risk of eye damage from the sun, wear sunglasses with UV protection. When purchasing UV-blocking sunglasses, look for labels that indicate "UV absorption" or "meets ANSI UV requirements." Long-term exposure of your eyes to the sun could cause pterygium (thickening of the outer coating of the eye), cataracts, and possibly macular degeneration.

Medications — Check both your prescription and over-the-counter medications concerning whether the medication creates sensitivity to sunlight and discuss options with your physician.

Diseases — Sun exposure can be problematic for people with certain types of diseases or health conditions. Discuss your medical condition and sun exposure with your physician.

Citations

Jepsen, S. D. & Suchey, J. (2015) *Sun exposure (Protect your skin)*.

Ohio State University Extension.

Retrieved from <http://ohioline.osu.edu/factsheet/aex-79018>.

Schwab, C. & Stone, J. (2002) *Remember sun safety in the field*.

Iowa State University Extension and Outreach. Retrieved from <https://store.extension.iastate.edu/ItemDetail.aspx?ProductID=4993>. UV radiation. (2010). Centers for Disease Control and Prevention. Retrieved from <http://www.cdc.gov/niosh/topics/uvradiation/>.

Reviewed and Summarized by:

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Plant and Pest Advisory, Rutgers Cooperative Extension, July 7, 2020.

USDA Launches New Farmers.gov Features to Help Farmers Hire Workers

U.S. Secretary of Agriculture Sonny Perdue announced new features on the U.S. Department of Agriculture's (USDA) Farmers.gov website designed to help facilitate the employment of H-2A workers.

The primary new H-2A features on Farmers.gov include:

- A real-time dashboard that enables farmers to track the status of their eligible employer application and visa applications for temporary nonimmigrant workers;
- Streamlining the login information so if a farmer has an existing login.gov account they can save multiple applications tracking numbers for quick look-up at any time;
- Enables easy access to the Department of Labor's (DOL) Foreign Labor Application Gateway (FLAG);
- Allows farmers to track time-sensitive actions taken in the course of Office of Foreign Labor Certification's (OFLC) adjudication of temporary labor certification applications;
- Allowing for farmers to access all application forms on-line.

All information can be found at www.farmers.gov/manage/h2a.

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The A-B-C's of Cucurbit Downy Mildew Control

Andy Wyenandt

In 2004, cucurbit downy mildew (CDM) re-emerged in the US with a vengeance causing significant losses in cucurbit production. In most years prior to this, concern for CDM control was minimal, since the pathogen arrived late in the growing season (in more northern regions), or the pathogen caused little damage, or never appeared. After 2004, with significant losses at stake, and with very few fungicides labeled for its proper control, CDM became a serious threat to cucurbit production. Importantly, at the time, cucumber varieties with very good levels of CDM resistance were no longer resistant, suggesting a major shift in the pathogen population. Research done over the past 15 years has led to a better understanding of the pathogen. Recent research has determined that the CDM falls into two separate clades: Clade I and Clade II. Some CDM (*Pseudoperonospora cubensis*) isolates fall into Clade I which predominately infect watermelon, pumpkin, and squash, where CDM isolates in Clade II predominately infect cucumber and cantaloupe. Research suggests that isolates in Clade II can quickly become resistant to specific fungicides (NCSU). Most cucumber varieties are resistant to Clade 1 isolates, but there is no resistance currently available for Clade 2 isolates. For pickling cucumber the varieties, Citadel and Peacemaker, are tolerant to clade 2 isolates. For slicing cucumbers, the varieties SV3462CS and SV4142CL are tolerant to Clade 2 isolates. All organic and greenhouse growers are encouraged to use tolerant varieties since chemical control options are very limited (NCSU). An extended list of cucumber varieties with CDM resistance from the University of Florida can be found <https://edis.ifas.ufl.edu/pp325>. For the past decade, researchers from around the US have been closely monitoring and forecasting the progress of CDM through a website hosted by NCSU. The CDMpipe website is currently in the process of an upgrade and will now be hosted by Penn State University. All cucurbit growers are encouraged to sign up to the CDMpipe website to help them know what cucurbit crops are being infected (and where) and to follow the forecasting to know where the pathogen may move to next. As a note, in recent years, CDM control with certain fungicides has varied significantly depending on the cucurbit host and geographic region. This is extremely important since two clades of the pathogen are potentially present (affecting host range) as well as having a potential impact on control strategies. How do you know which clade may be present on your farm? Follow the reports. If CDM is mostly present in cucumber crops as it works its way up the east coast, then you are most likely to see it infect cucumber and melon on your farm first. Scout your fields regularly, especially if CDM is in the immediate region. Pay very close attention to symptom development and on what cucurbit crop(s) you see it on, this is especially important if you grow more than one cucurbit crop. Like cucurbit powdery mildew, once CDM arrives in the region preventative fungicide applications will be necessary.

Fungicides for CDM control

As with cucurbit powdery mildew control, there is no reason to begin a preventative CDM fungicide program until it has been detected in the immediate region. Cucurbit growers need to pay special attention to the reporting system mentioned above to see what cucurbit crops are affected by CDM and follow the forecasting system to see if CDM is an immediate threat.

Loss of efficacy in the control of CDM has also been documented in FRAC code 4 (mefenoxam), FRAC code 11 fungicides (azoxystrobin), FRAC code 28 (propamocarb HCL), and FRAC code 43 (fluopicolide) in the mid-Atlantic region and elsewhere. Insensitivity to fluopicolide (43) and propamocarb HCL (28) have been reported in multiple states (Thomas et al., 2018). In some

cases, individual isolates of CDM were insensitive to both chemistries. Recent research in Michigan in a three year field study using pickling cucumber determined that cyazofamid (21), (ametoctradin, 45 + dimethomorph, 40), (zoxamide, 22 + mancozeb, M03), mancozeb (M03); chlorothalonil (M05), and oxathiapiprolin (49) alone or in a premix provided the best level of control (Goldenhart & Hausbeck, 2019). In a recent study evaluating different fungicide chemistries in field trials done in different states (OH, NY, & SC) determined that propamocarb HCL (28), cymoxanil + famoxadone (27 + 11), and fluopicolide (43) were ineffective in 1 or 2 states during both years of the trial (Keinath, Miller, & Smart, 2019). In one year of the study, famoxadone (11), dimethomorph (40), cymoxanil (21), and mancozeb (M03) were ineffective for CDM control (Keinath, Miller, & Smart, 2019). In bioassay studies done during this trial, cyazofamid (21), oxathiapiprolin (49) suppressed CDM >80%.

Most fungicides labeled for the control of CDM are at-risk for resistance development because of the specific modes of action. These include Ranman (cyazofamid, FRAC code 21), Gavel (zoxamide, 22 + mancozeb, M03), Zing! (zoxamide, 22 + chlorothalonil, M05); Curzate (cymoxanil, 27), Previcur Flex (propamocarb HCL, 28), Forum/Revus (dimethomorph, 40), Zampro (ametoctradin, 45 + dimethomorph, 40), Orondis Opti (oxathiapiprolin, 49 + chlorothalonil, M05), and Orondis Ultra (oxathiapiprolin, 49 + mandipropamid, 40). Importantly, just like with cucurbit powdery mildew control, there are a number of CDM fungicides with different modes of action from different FRAC codes to chose from. As noted in the paragraph above, the efficacy of individual fungicide chemistries may vary significantly by state or region. Thus, growers need to scout their cucurbit fields on a weekly basis, note the efficacy, or lack thereof, they are seeing in the field, and incorporate the use of as many different FRAC groups as possible to help mitigate fungicide resistance development.

Fungicide programs for CDM control

An example of a fungicide program for CDM control in the mid-Atlantic region might look like this, where a CDM specific fungicide from a different FRAC group is used on weekly basis:

A – B – C – D – E

where A= Gavel (zoxamide, 22 + mancozeb, M03); B= Orondis Opti (oxathiapiprolin, 49 + chlorothalonil, M05); C= Ranman (cyazofamid, FRAC code 21); D= Orondis Ultra (oxathiapiprolin, 49 + mandipropamid, 40); E= Curzate (cymoxanil, 27)

Not all of the fungicides listed above are labeled for all cucurbit crops. Some fungicides, such as the Orondis products have limited number of applications. Growers will need to refer to local recommendations and the label for crop specifics. Remember, the label is the law.

A protectant fungicide such as chlorothalonil or mancozeb should be added (if not already included) to the tank mix with each high-risk fungicide to reduce selection pressure and to help control other important diseases such as anthracnose and plectosporium blight. All growers should follow use recommendations on labels and avoid overusing one mode of action, even if it works well. If loss of efficacy is present, the grower should avoid using that particular fungicide (FRAC group) for CDM control the rest of the growing season.

Growers should remember that fungicides specifically labeled for CDM control won't control CPM, and fungicides labeled for CPM control won't control CDM. Therefore, carefully following the disease monitoring and forecasting website, choosing varieties with CDM resistance, paying close attention to host crops, scouting fields on a regular basis, noting fungicide efficacy, and

Continued on next page

Pennsylvania Vegetable Current Issues

Beth Gugino and Shelby Fleischer in Consultation With Extension Educators

General conditions and observations: Much of the state has remained dry with spotty isolated thunderstorms. In some cases, growers have had to supplement their farm stands and markets produce from the auctions due to irrigation limitations. As a result of the drier weather, issues with insect pests have been the predominant concern for growers and there have been reports of occasional pests causing damage in select fields.

Important Notice: Nationwide there have been reports of residents receiving packages labeled as jewelry but instead contain unsolicited unlabeled plant seeds. These seeds could be potentially very harmful to PA agriculture industry and ecosystem. They could contain plant diseases or be weeds and invasive plants and have been tied to an online scam called "brushing". If you received a package of this type, do not plant or discard them and contact the U.S. Department of Agriculture's confidential Antismuggling Hotline at 1-800-877-3858 or by email at SITC.MAIL@aphis.usda.gov for further instructions.

Field Production Update

Downy mildew has been confirmed on cucumbers in Blair, Lancaster, and Chester Counties in PA this past week. There have

also been additional reports in the surrounding region in Maryland and Massachusetts. The closest report on another cucurbit host is cantaloupe in North Carolina. There have been no reports on jack-o-lantern pumpkin in the region however, there have been reports of angular and bacterial leaf spots. Regular scouting of fields is critical. Check the CDM ipmPIPE website for the latest reported outbreaks and disease forecasting information or call the 1-800-PENN-IPM hotline which is updated on Wednesdays each week. The use of downy mildew target fungicides on cucumber is highly recommended. If you have succession planting, be sure to destroy those you are no longer harvesting by either disking them under or burning them down with an herbicide.

Other diseases being reported in the field include **bacterial spot of pepper, bacterial canker, and early blight in tomato**, as well as **pith necrosis** (a bacterial disease) **in tomato** and **powdery mildew on cucurbits** and **anthracnose on cucumber and mature tomato fruit**.

Swede midge has made its way to Pennsylvania. First confirmed in New York about 20 years ago, it has spread to additional states and Canada, and now to Bradford County.

Continued on next page

The A-B-C's of Cucurbit Downy Mildew Control *continued from page 14*

following proper fungicide resistant management guidelines remain critically important for successful CDM control.

Dr. Wyenandt is the Extension Vegetable Pathologist with Rutgers

Cooperative Extension. From Rutgers Coop. Ext., <https://plant-pest-advisory.rutgers.edu/the-abcs-of-cucurbit-downy-mildew-control/>, February 12, 2020.

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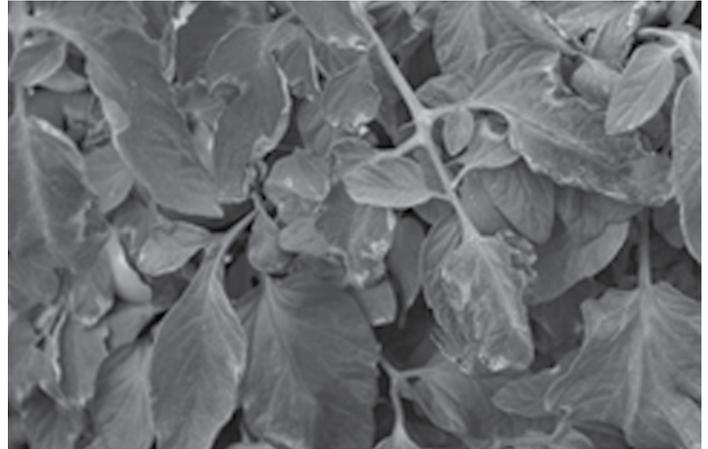
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VEGETABLE PRODUCTION

Pennsylvania Vegetable Current Issues *continued from page 15*

Bacterial leaf spot on older pumpkin leaves (Photo: Meg McGrath, Cornell University).



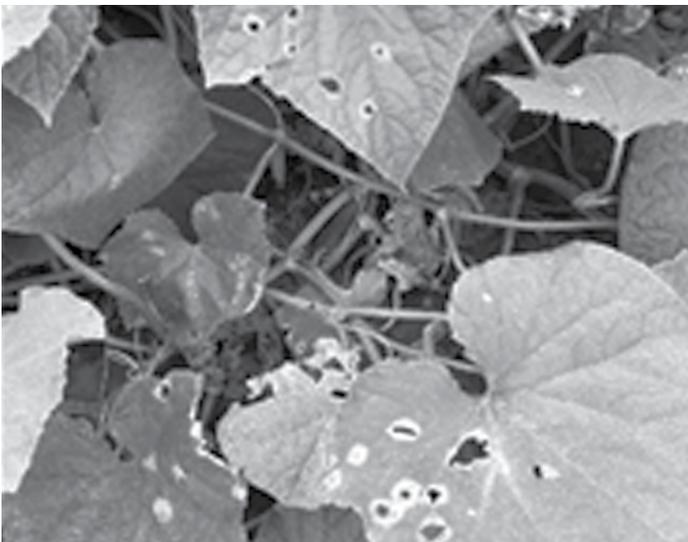
Bacterial canker marginal necrosis on tomato leaves (right) (Photos: Beth K. Gugino).



Anthrachnose on tomato fruit (Photos: Beth K. Gugino).



Broccoli plant not producing a head due to swede midge. Photo J. Esslinger.

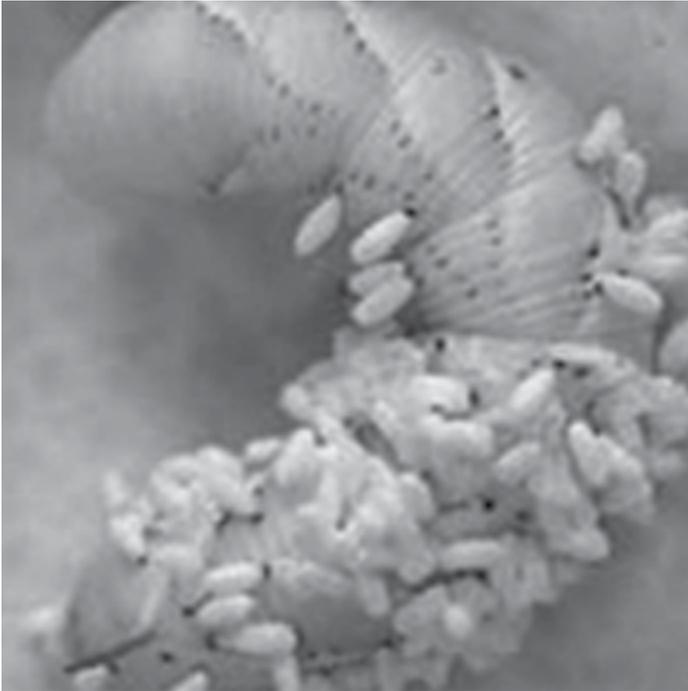


Anthrachnose on cucumber leaves (Photos: Beth K. Gugino).

Larval feeding induces changes in plant physiology, resulting in distorted growth. More information is here: <https://extension.psu.edu/swede-midge-now-in-pennsylvania>. Several insects that commonly occur in tomatoes, but typically not in large enough numbers to be a big concern, are showing up in high numbers.

Continued on next page

Pennsylvania Vegetable Current Issues continued from page 16



Tomato hornworm, with cocoons of an insect parasitoid, *Cotesia congregata*, attached. Photo: T. Kuhar



Squash bees in a Cucurbit flower (Photos: John Eslinger).



Entrance of squash bee nest in soil (Photos: John Eslinger).



Yellow vine decline in pumpkins, on a plant heavy feeding by squash bugs (Photo: S. Fleischer).

Continued on next page

VEGETABLE PRODUCTION

Pennsylvania Vegetable Current Issues *continued from page 17*



A crop of ground cherry, also known as tomatillo, is being heavily damaged by what we suspect is *Heliothis subflexa*, a relative of corn earworm.

These include **Colorado potato beetle**, **flea beetles**, and **tomato hornworm**. In most years, the parasitoid *Cotesia* congregates, keeps hornworms to low levels, but this year we have had damaging rates of defoliation by hornworms. The second generation of **Striped Cucumber Beetles** are abundant, and their relatives, the **Spotted Cucumber Beetle**, and adults of the **Western Corn Rootworm**, are all active. They are most easily found in squash/pumpkin flowers. The **squash bee** is also in those flowers. Males stay with the flowers overnight, while females stay in their nests. Nests are made in the ground, about pencil-sized width, sometimes with the excavated soil visible near the entrance hole. **Squash bug** is active, in all life stages. Squash bug transmits a pathogen that causes yellow vine disease, which is showing up in some fields. The **proportion of the population** of corn earworm that is showing resistance to pyrethroids tends to build as the season progresses. Southeastern Virginia is already reporting rates of 40%, which is high for this time of year. Pyrethroids also are known for having problems in hot weather.

Dr. Gugino is Extension Vegetable Pathologist and Dr. Fleischer is Extension Vegetable Entomologist at Penn State Univ. From Penn State Extension, July 28, 2020.

Swede Midge: Now in Pennsylvania

Shelby Fleischer, John Esslinger, and Francesco DiGioia

Another invasive species, the swede midge, has made its way to Pennsylvania. Swede midge is a tiny, 1/16 inch long fly that can be a serious pest of Brassica crops, also known as cole crops, and weeds.

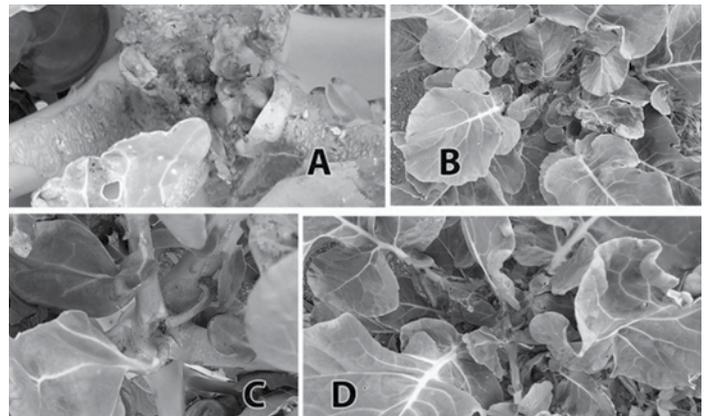


Brown corky scarring is not limited to the growing points and leaf petioles, but can also cause damage in the heads of cauliflower. Image: Cornell University

Native to Europe and parts of Asia, this pest was confirmed in New York about 20 years ago and has spread to additional states and Canada. This midge belongs to a group of insects that are known to be host-plant specialists, often causing galls or other induced plant growth patterns. The swede midge fits this pattern, being tightly connected to a plant family, and larval feeding induces changes in plant physiology, resulting in various forms of distorted growth.

We discovered swede midge by responding to a farmer's problem in broccoli on July 16, 2020, in Bradford County. To the best of our knowledge, this is the first occurrence of swede midge in Pennsylvania. However, the damage has been mistaken for mo-

lybdenum injury, herbicide injury, and various abiotic stress factors. Swede midge may be more widespread in Pennsylvania, but damage misdiagnosed, or it may exist in weeds or crops that are planted at higher densities, such as Brassica cover crops.



Swede midge damage to broccoli on July 16, 2020, in Bradford County, PA. (B, D) Broccoli plant not producing a head. (A, C) Close up of scarred tissue where the head should be at top. Photos: John Esslinger, Penn State

Entomologists working in infested areas have done a great job pulling together a Swede Midge Information Center at <http://web.entomology.cornell.edu/shelton/swede-midge> and all the information in this article comes from those sources.

The Damage and Biology PowerPoint (<http://web.entomology.cornell.edu/shelton/swede-midge/resources.html>) includes great photos of symptoms on crops.

Swede Midge Damage on Crops and Swede Midge Damage on Weeds (<http://web.entomology.cornell.edu/shelton/swede-midge/damagecrops.html>) has additional symptoms on crops and weeds.

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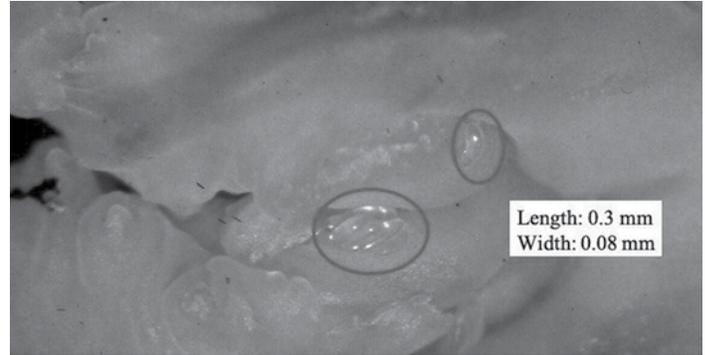
Swede Midge: Now in Pennsylvania *continued from page 18*

Organic Management of Swede Midge (<https://ecommons.cornell.edu/bitstream/handle/1813/55087/swede-midge-organic-FS-NYSIPM.pdf?sequence=3&isAllowed=y>). A synthesis of biology, ecology, and management, with a focus on organic growers.

Damage varies with the crop and time of infestation. Symptoms include scarring at the growing point resulting in a 'blind head', leaf puckering, multiple shoots and growing points, many small heads, brown corky scarring, swollen flower buds/florets or leaves, and other plant growth distortions. Secondary soft rot infections can also occur. There is no host-plant resistance, but there is variation in susceptibility among plants. The problem at the farm in Pennsylvania was with broccoli, cauliflower, and brussels sprouts not producing any heads.

Swede midge overwinter as pupae and emerge in several flushes in the spring. Adults are very short-lived (less than a week), and poor fliers. Adults mate and lay eggs in the developing leaves that make up the growing tip, and larvae feed at within these growing tips, which protects them from contact insecticides. Larvae feed for 1 to 3 weeks, then jump to the ground, and pupate in the upper half-inch of soil. There are multiple generations per year.

Management is tied to their ecology. Strategies that remove a host resource can be effective. This includes rotation, sanitation (e.g., clean harvest), and avoiding Brassica cover crops. Recent research on how to 'crash' swede midge populations on a farm through careful timing of crop rotation in space and time, along



Swede midge females lay their eggs deep in the heart of cruciferous plants. They like the youngest actively growing tissue. Eggs are initially transparent becoming creamy yellow as they near maturity, and microscopic and cannot be seen with the naked eye. Image: Cornell University

with updated information on relative preference among 14 different Brassica hosts, is summarized in a free pdf download, New Crop Rotation Recommendations for Swede Midge at <https://ecommons.cornell.edu/handle/1813/70145>.

Systemic insecticides are effective. Organic insecticides have given only partial control. Multiple kaolin clay applications may be among the most effective organic spray options. Careful application of insect netting is an expensive but effective option. There has been a tendency for this pest to be more of a problem on smaller, diversified farms, and organic farms.

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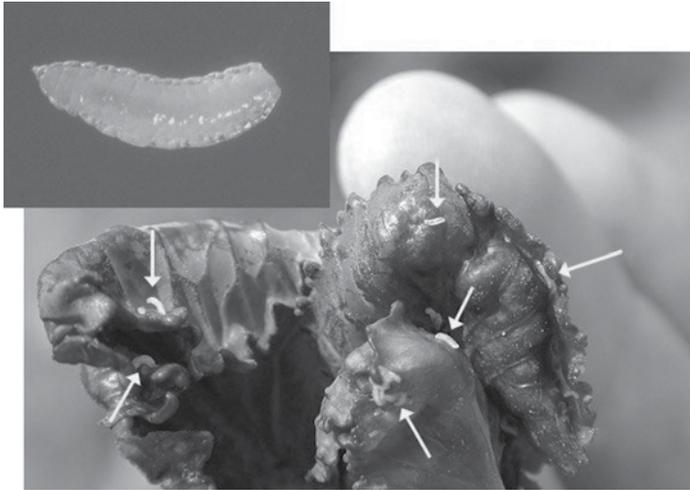
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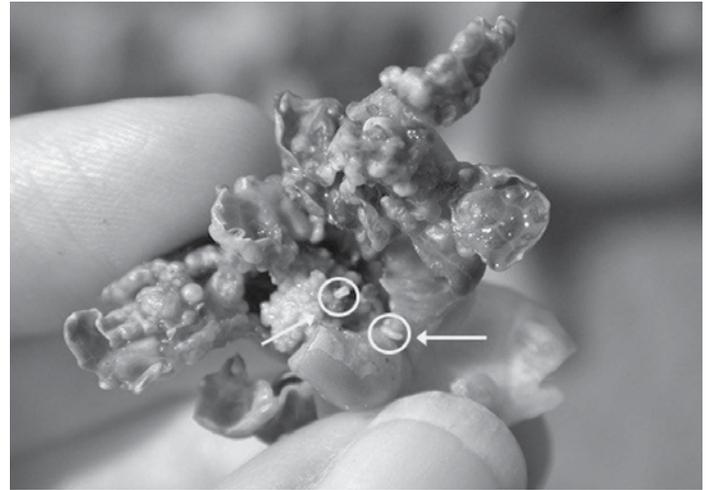
VEGETABLE PRODUCTION

Swede Midge: Now in Pennsylvania *continued from page 19*

If swede midge is indeed rare in Pennsylvania, the best management tactic now may be early detection, which would allow management to be directed at very low and scattered populations. Sex pheromone lures that only attract males are available, and trapping protocols developed in northeastern states and Canada. The midges are small (think the size of spotted wing drosophila larvae—you will want a hand lens when searching for them) and can be hard to identify. Efforts to establish early detection would take some skill and organization.



Eggs hatch into larvae, which are 3-4 mm in size at maturity. They are clear when they first hatch and become more creamy white or yellow. As they near maturity, they have the capability to curl up and flip or jump off of the plant to the ground. Swede midge larvae feed gregariously (in groups), during feeding, larvae produce a secretion that breaks down plant tissue, creating a moist environment. The secretion is toxic to the plant and results in swollen tissue, abnormal growth, and brown scarring that ultimately can result in reduced yield and unmarketable produce. Image: Cornell University



Peel back leaves of the suspect growing tip and look for larvae. Swede midge larvae break down plant tissue creating a very moist environment – you will see the moisture in an infected tip compared to a healthy one. Image: Cornell University

Dr. Fleischer is with the Dept. of Entomology and Dr. Di Gioia is with the Dept. of Plant Science at Penn State Univ., and Mr. Esslinger is with Penn State Extension. From Penn State Extension, <https://extension.psu.edu/swede-midge-now-in-pennsylvania>, July 22, 2020.

Two-Spotted Spider Mites in Greenhouse and High Tunnel Crop

Thomas Ford

Two-spotted spider mite outbreaks are more common as we leave our cooler weather behind and head into what should be weeks of warm, dry weather.

Spider mites in general thrive under warm conditions and can go from egg to adult in seven days. Each female two-spotted spider mite can lay approximately 100 eggs. In a few short weeks, in the absence of any biocontrols, two-spotted spider mite populations can seem to explode overnight, resulting in stippled leaves, defoliation, and even plant death.

Spider mites have a broad host range and are said to be capable of feeding on almost any crop in the greenhouse or high tunnel. Spider mites injure plants directly by inserting their piercing mouthparts into the leaves to remove cellular content. Spider mites remove chlorophyll from the leaf which reduces the plant's overall ability to photosynthesize or produce food.

Spider mites exhibit different feeding behaviors at different population densities. When the population is low, spider mites will confine their feeding to the undersides of the leaf's surface. As the population explodes spider mites become visible on the upper leaf surface and may produce silken webs that can cover the entire plant.

Greenhouse/high tunnel growers often refer to themselves as "wet" growers or "dry" growers. In respect to spider mites,

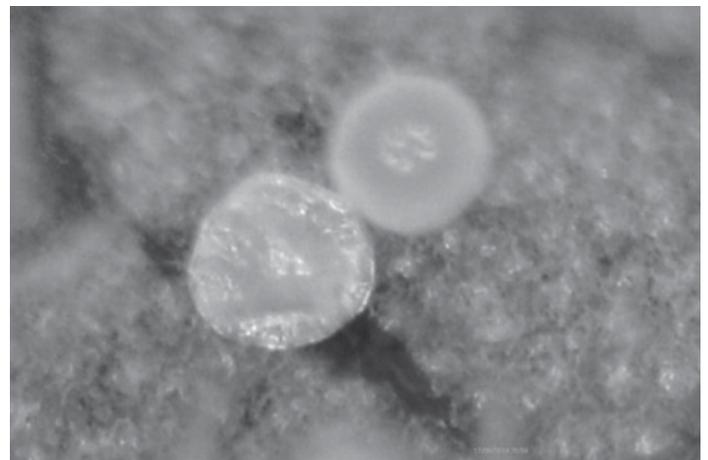


Figure 1: Spider mite eggs appear as small spheres on the undersides of the leaf. Photo: Tom Ford, Penn State Extension

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Two-Spotted Spider Mites in Greenhouse and High Tunnel Crop

continued from page 20

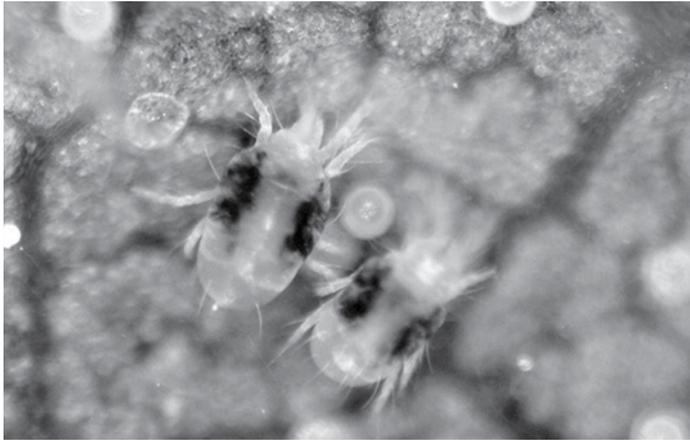


Figure 2: Two-spotted spider mites are first detected on the lower leaf surface Photo: Tom Ford, Penn State Extension

“dry” growers tend to observe more spider mite problems than “wet” growers because spider mites tend to develop faster on water-stressed plant materials.

Growers should scout greenhouses/high tunnels weekly for the signs of two-spotted spider mite infestations. Stippling of the lower leaves is the first sign of a spider mite infestation. A 10X hand lens works well to visually detect the presence of eggs, larvae, and adult mites. Tapping leaves over a white piece of paper or over a white clipboard can reveal the presence of two-spotted spider mites on the white surface to the person scouting the crop.

Biological control should be the primary pest management strategy utilized by growers to manage two-spotted spider mites in greenhouses and high tunnels. Biocontrol agents frequently deployed by greenhouse growers include:

- *Galendromus occidentalis* (predatory mite)
- *Mesoseiulus longipes* (predatory mite)
- *Neoseiulus californicus* (predatory mite)
- *Neoseiulus fallacis* (predatory mite)
- *Phytoseiulus persimilis* (predatory mite)
- *Feltiella acarisuga* (predatory midge)

Biocontrol agents like *Phytoseiulus persimilis* and *Neoseiulus fallacis* are relatively quick acting and can contain a spider mite outbreak very quickly. Many predatory mites do not perform as well on plants with trichomes (hair-like projections on the plant) when compared to plants with no trichomes.

If a grower would prefer to apply a registered miticide in lieu of utilizing biocontrol agents, they should consider applying and rotating the following registered products to prevent pesticide resistance. Please review the label



Figure 3: *Phytoseiulus persimilis* is just one of many predaceous mites that can be used as a biocontrol for two-spotted spider mites. Photo: Tom Ford, Penn State Extension

carefully before application to make sure that the pesticide product is labeled for the crop that you are targeting.

- abamectin (Agri-Mek SC)
- chlorfenapyr (Pylon)
- *Chromobacterium subtsugae* Strain PRAA4-1 (Grandevo)
- horticultural oil (Suffoil-X, Ultra-Pure Oil)
- insecticidal soap (M-Pede, Kopa)
- *Isaria fumosorosea* Apopka Stain 97 (Ancora)
- neem oil (Triact 70)
- rosemary & peppermint oil (Ecotec)
- soybean oil, garlic oil, capsicum oleoresin extract (Captiva)

Miticides should be applied at 5–7-day intervals unless otherwise directed by the label. It is recommended to mark a few plants with a stake or ribbon prior to making a miticide application. The plants that have been tagged should be examined carefully with a 10X hand lens a few days after the application to evaluate the efficacy of the product used against the spider mite population.



Figure 4: Two-spotted spider mite infestation on greenhouse tomatoes. Photo: Tom Ford, Penn State Extension

Some growers frequently express concerns about resistance issues in two-spotted spider mite populations to some popular miticides. While resistance can be observed, I attribute most miticide “failures” to spray coverage issues by the applicator. Spider mites tend to be located on the lower leaf surface early in the infestation cycle and move to the upper leaf surface as the population explodes. Thorough coverage of the upper and lower leaf surface is essential if good control is to be achieved.

For additional information, please contact Tom Ford at tgf2@psu.edu.

References

- 1) Beytes, Chris. Grower Talks Insecticide, Miticide, Fungicide Guide. Ball, 2020.
- 2) Gill, Stanton A, et al. Total Crop Management for Greenhouse Production. Maryland Cooperative Extension, 2016.
- 3) Stack, Lois B, et al. New England Greenhouse Floriculture Guide: a Management Guide for Insects, Diseases, Weeds and Growth Regulators. New England Floriculture, Inc., 2017-18.

Mr. Ford is a Penn State Extension Educator in Cambria Co. From Penn State Extension, <https://extension.psu.edu/two-spotted-spider-mites-in-greenhouse-and-high-tunnel-crops>, July 16, 2020.

BERRY PRODUCTION

Tissue Nutrient Analysis for Berry Crops: Getting the Most for Your Money

Tissue analysis is a valuable tool that can provide insights into a planting's nutritional status, but taking a sample according to recommendations is essential for getting good results. This article explains the "whys" and "hows" of sampling leaf tissue for berry crops to ensure that results are valid.

Tissue analysis can be used for routine monitoring, or for diagnosing nutritional problems. For routine monitoring, tissue samples must be of the same growth stage and age for which standards were developed in order for results to be correctly interpreted. For diagnosing problems, samples can be taken at other times, but a sample must be submitted from plants showing symptoms, and also from ones that aren't for comparison.

Why is this the case?

Plant nutrient levels change throughout the course of the growing season, with some nutrients decreasing in concentration, and others accumulating. At different points in the year, nutrient concentrations may be changing rapidly or be relatively stable. Stability in nutrient levels is often the basis for recommended sampling times.

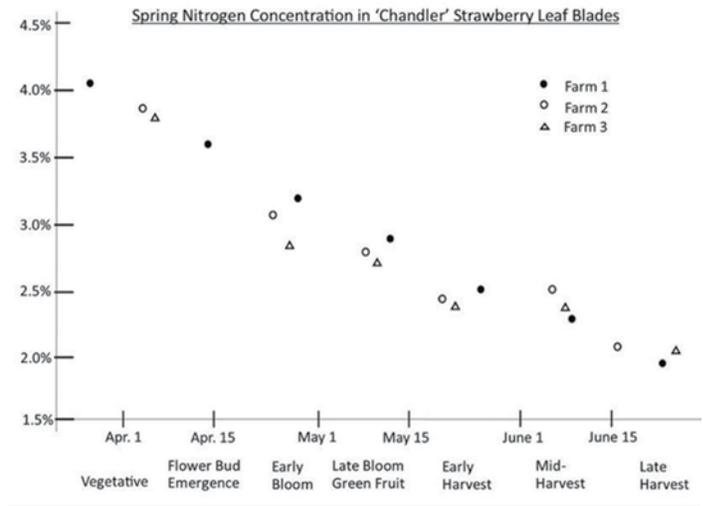
We had monitored nutrient status on six grower farms back in the spring of 2003 for 'Chandler' strawberries in plasticulture production. Strawberry samples were taken about every other week from the time the leaves were large enough to sample through harvest. At each sampling, the most recently fully expanded leaves were selected. Results for the three farms with the highest yields are presented here and show what we could expect nitrogen levels to look like in a well-managed planting. All three farms were fertigating with recommended rates, but nitrogen concentrations still decreased rapidly throughout the course of the spring. Nitrogen concentrations for the other three farms with lower yields varied, but they generally ran 0.3 to 0.8 percentage points lower depending on the time of sampling.

From the following graph, it's easy to see that it would be difficult to interpret results reliably without knowing the date or crop growth stage. When samples are submitted to Penn State's Agricultural Analytical Lab for plasticulture strawberries in the spring, we recommend that samples are taken around the time of first bloom or a few days earlier to allow time for the analyses to be completed and to correct problems.

With blueberries, PA recommendations have been to sample leaves during the first week of harvest or immediately after harvest. Now late varieties exist that give new meaning to the term "late", so harvest covers a larger part of the year. One question that arose was "Does sampling time need to be adjusted because of the expanded harvest season that now exists with late varieties?"

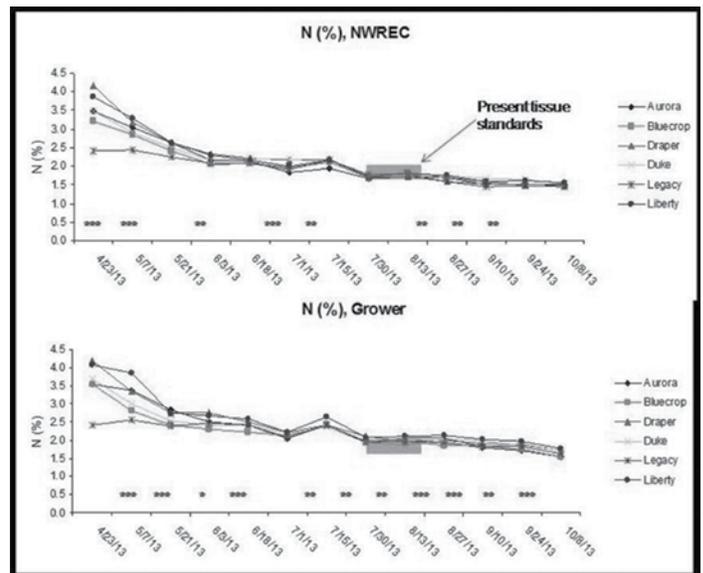
To answer this question, a study was done at Oregon State University under organic and conventional production using six early to late season blueberry cultivars. The results are presented in the graphs below. In both types of production, nitrogen levels changed throughout the year, dropping rapidly at the beginning of the growing season for all cultivars except 'Legacy'. Sampling leaves at the beginning of the growing season usually resulted in high nitrogen concentrations and more variability among cultivars, so adjustments would need to be made to levels used for interpretations. Nutrient levels were more stable later in the year. What would make sampling time more straight-forward would be to specify a mid-to-late summer window for all cultivars. We likely will update the sampling instructions in the near future to indicate this more clearly.

All of the above explains the "why" behind our recommendations for tissue sampling, and some of the work that goes into establishing standard levels for interpretations. Here are some answers to the common questions regarding the "Hows".



How should samples be taken?

These instructions pertain to samples sent to Penn State's Agricultural Analytical Laboratory. Because some nutrients are mobile in the plant (they can move to another plant part if needed), and others aren't (where they get used first is where they stay), a leaf-age is needed that isn't very old or very young. For all berry crops (and most other crops) this is usually the most recently fully matured leaf. Start with the newest leaves and work your way down until you encounter a leaf that looks mature. Select that leaf unless your selection has some obvious defect (bug holes, spider mites galore, or disease symptoms), in which case you'll need to find another. Take off the petioles, as they have different nutrient levels than the leaves, and if ground up with your sample, will affect results, especially for strawberries where the petiole can make up a large part of the sample. For example, nitrogen will appear to be lower than it really is, and potassium will appear to be higher.



NWREC: North Willamette Research and Extension Center, Oregon State University, under certified organic production. Grower: 6 sites under conventional production. Adapted from Strik and Vance, 2015. Courtesy: B. Strik.

Continued on next page

BERRY PRODUCTION

Tissue Nutrient Analysis for Berry Crops: Getting the Most for Your Money *continued from page 22*

Plasticulture strawberries: Take samples of the most recently fully expanded leaves early in the harvest year, preferably right around first bloom.

Matted-row strawberries: Samples should be taken after renovation once enough leaves have grown back to allow sampling of fully matured leaves. This is a relatively stable time of year for nutrients with strawberries, similar to that for blueberries. In a new planting, samples could be taken at about this same time of the year, but this shouldn't be necessary if the field was amended according to soil test results before planting.

Floricane-fruiting raspberries and blackberries: Take samples of the most recently-fully matured leaves from primocanes (this year's canes that are vegetative) between Aug. 1 and Aug. 20th.

Primocane-fruiting raspberries and blackberries: Take samples of the most recently fully matured leaves from primocanes that have reached their full height (flower clusters are separated or just beginning to bloom).

Blueberries: Take samples of the most recently-fully matured leaves at the time of year that would normally be the end of harvest for mid-season varieties like 'Bluecrop'.

If the plants aren't growing well and you want to figure out what is going on, take samples at another time of the year. Send in two samples — one from plants that are growing poorly, and one from plants that growing well — but check first for other problems such as root rots (nothing is going to look normal when the plant has few roots) or incorrect soil pH.

Current Issues in Berry Crops

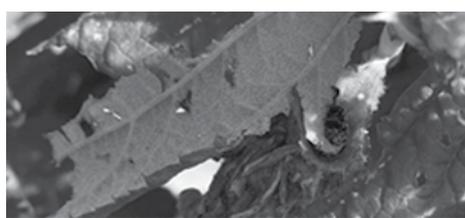
Kathleen Demchak

Disease incidence continues to be relatively low in much of the state where there are dry conditions. All berry crops should be irrigated to the extent possible to size the crops still being produced this year. Also remember that next year's strawberry crop will be dependent on strawberry growth that occurred this summer, whether the plantings are new ones established this year, or are older ones that have been renovated, so be sure not to forget about your berry plantings.

Two-spotted spider mites, thrips, tarnished plant bugs, and potato leafhoppers are present in berry plantings, and damage from them can accrue if plant growth has slowed down due to heat and drought stress. Growers should continue to watch for spotted wing drosophila in late varieties of blackberries and blueberries, and primocane-fruiting raspberry, blackberries, and day-neutral strawberries.



Potato leafhopper feeding causing yellowing and leaf distortion on strawberries and raspberries. (Photo: K. Demchak).



Bagworm feeding on a raspberry leaf. (Photo: K. Demchak).



Raspberry caneborer oviposition wounds and a wilted cane tip indicate that a borer egg or larvae is presented in the cane. (Photo: K. Demchak).

How often should I sample plants?

For younger plantings of perennial crops that are getting established, every year would be prudent, but once established, every 2 or even 3 years is fine. Routinely testing over a number of years on your farm gives you insights into your conditions, and adjustments you might need to routinely make for your farm. It's also very helpful if tissue analysis is conducted along with soil analyses (and sometimes an irrigation water analysis also). All of this info together helps to get plantings on the right track and provides a lot of information that helps with understanding conditions on your farm.

Acknowledgments:

- Thanks to Dr. Bernadine Strik of Oregon State University for sending information related to blueberry nutrients.
- Adapted from: Strik, B.C. and A.J. Vance. 2015. Seasonal variation in leaf nutrient concentration of northern highbush blueberry cultivars grown in conventional and organic production systems. HortSci. 50(10):1453-1466.

Ms. Demchak is with the Dept. of Plant Science at Penn State Univ. From Penn State Extension, <https://extension.psu.edu/tissue-nutrient-analysis-for-berry-crops-getting-the-most-for-your-money>, June 26, 2020.

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