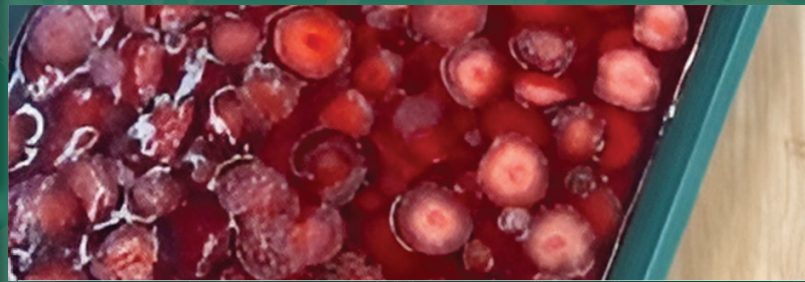


PENNSYLVANIA
VEGETABLE GROWERS

NEWS

for the commercial vegetable, potato and berry grower

PVGA



Volume 47

Issue 4

Cover photos provided by
Morgan Bond



Pennsylvania Vegetable Growers Association

An association of commercial vegetable, potato and berry growers.

President

Peter Flynn '27
West Chester

First Vice President

Tina Forry '25
Palmyra

Second Vice President

Christopher Harner '26
State College

Secretary-Treasurer

William Reynolds '25
Waynesboro

Past President

Rita Resick '26
Somerset

Directors

Morgan Bond '27
Ringtown

Brian Campbell '27

Berwick

Barron Hetherington '25

Ringtown

Alan Kemmerer '25

Berwick

Arthur King '27

Valencia

Amy Metrick '27

Butler

Laverne Nolt '26

Martinsburg

James Reiff '26

Leola

John Shenk '26

Lititz

Robert Shenot '25

Wexford

Jeffrey Stoltzfus '26

Atglen

Jonathan Strite '25

Harrisburg

Mark Troyer '27

Waterford

Executive Director

Tammy K. Linn
Harrisburg

President's Message

Peter Flynn | President

Dear PVGA Members.

Summer has arrived with a series of challenges this year, bringing drought, successive heat waves, and, in some areas, excessive rainfall. I am reminded of a meeting I attended with then-Secretary of Agriculture Sonny Perdue, where he posed an amusing question to a group of Farm Bureau members: "What do you call a group of farmers in a basement?" The answer: "A whine cellar." I have always believed farmers are particularly adept at handling adverse weather, especially compared to the general public. In light of recent conditions, I might suggest replacing "farmers" with "meteorologists" in that joke. Listening to the weather reports, one might think it impossible to survive stepping outside into 90° heat, let alone performing the demanding agricultural tasks required of our profession.

As PVGA members, we are all familiar with the Mid-Atlantic Fruit and Vegetable Convention – the premier horticultural convention in the East, as well as the Pennsylvania Farm Show in Harrisburg, and the Keystone Farm Show in York, PA. In June, I attended an AI (Artificial Intelligence) convention in Pittsburgh, hosted by Penn State, showcasing some amazing innovations in agricultural technology. In contrast, on July 5th and 6th I attended another massive agricultural show, Horse Progress Days, at the Levi Fisher Wireless Farm in Lancaster. While I was excited by the cutting-edge technology displayed in Pittsburgh, I was equally inspired by the innovation and new approaches to traditional methods presented by Horse Progress Days' AI (Amish Intelligence).

Horse Progress Days attracts close to 30,000 people, while signage for parking indicated directions for buggies and bicycles, but nothing for cars. Featuring many educational seminars on a variety of subjects including beekeeping, fermented foods, medicinal gardens, and growing produce to name a few, there were also beautiful teams of horses demonstrating equipment that, like new tractors, have auto-steer capabilities. However, I learned that horses don't have a creeper gear—they can take a step and stop, then take another step and stop, but they can't creep along like some modern tractors. Who knew?!

Horse Progress Days rotates between Michigan, Ohio, Indiana, and Pennsylvania and will be back in Lancaster in 2030. We can all learn a lot from the way others farm, and attending these educational events is always worthwhile. Keep an eye out for the next PVGA newsletter and the email updates for twilight meetings. We hope to see everyone volunteering at the PA Farm Show booth and attending the Mid-Atlantic Fruit and Vegetable Convention in January.

Stay cool!

Pete Flynn
President PVGA

Inside this Issue

President's Message 2

PVGA's Farm Show Booth Volunteers 3

Bramble Borers or Solitary Bees? 3

Reflections Column 4

Selling to the Senses 7

Green Beans 8

Spotted Wing Drosophila (SWD) –

a 2024 PA Update 9

Sweet Corn School – Early Sweet Corn

Production Using Plasticulture 11

PVGA Twilight Meeting 13

Recipe Corner 14

*Pennsylvania Vegetable Growers News is the official publication of the
Pennsylvania Vegetable Growers Association*

908 N 2nd St., Harrisburg, PA 17102 | 717-973-5915 | pvga@pvga.org | www.pvga.org

Our Mission:

PVGA serves Pennsylvania's commercial vegetable, potato and berry growers through education, research, advocacy and promotion.

Our Vision:

PVGA is 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 PVGA at the above address.

PVGA's Farm Show Booth Volunteers

Bill Reynolds | PVGA Secretary/Treasurer
on behalf of the Farm Show Booth Task Force

Hopefully, everyone had a good July 4th with friends and family. We have a lot to be thankful for, even as we go through this heat wave and dry spell as I write this.

The Farm Show Booth Task Force continues to meet every few weeks to plan all aspects of the booth for the Farm Show which will be held January 4-11 in 2025. For our Farm Show Booth to be successful, we need your help to fill a lot of volunteer shift time slots. We are appreciative of all our volunteers that have helped make the last two years our best ever, as well as all the help in the past that helped us get to this point.

PVGA board members will start calling in late September/early October to get an earlier start, so we hopefully will have all the shifts filled by mid-November. We hope you will start to consider

what day(s) you, your family, employees, and friends would be willing to help. If you would be willing to coordinate with those individuals, that will help all of us on the board to maximize our calling.

It is only with your help that we can continue to be successful in raising funds for our organization and fund the many research projects we all benefit from.

We look forward to seeing everyone again at the 2025 Farm Show!

Bramble Borers or Solitary Bees?

Kathy Demchak, Penn State Extension

Raspberry and blackberry borers make tunnels in canes, but so can solitary bee pollinators. This can lead growers to think they have borer problems when they might not.

There are 3 common borers affecting brambles in PA. The first is raspberry cane borer, which also attacks blackberries. The first symptom of this pest is primocane tips that wilt in early summer. If raspberry cane borer caused the wilting, you will see two rows of punctures encircling the primocane right below the wilted tip. These punctures are made by the female who will lay an egg between the two rows of punctures. Once the egg hatches, the larva tunnels downwards. Infested cane tips should be cut below the lower row of punctures (Fig. 1), removed from the planting, and destroyed as soon as possible. The tip will die eventually and break off, usually at the top line of punctures.



Fig. 1. Cutting the cane off in the early stage of damage will prevent the borer from tunneling downwards.

If you purposely break the tip off at the lower row of punctures, you may find the cane is solid, in which case the borer would have been removed (Fig. 2), but if more time elapses, you may see a hole in the center of the stem indicating the larva has already tunneled downwards (Fig. 3). In order to ensure that you have removed the borer, you will need to continue to cut the cane at lower points until the cane is solid, and destroy the cut portions.



Fig. 2. Raspberry cane borer has not yet hatched or tunneled downwards. Note the oviposition hole where the egg was laid in the short section of cane (right side).

Reflections Column

“Introduction”

Dr. Bill Lamont



I was a recognized leader nationally and internationally in the field of plasticulture. Throughout my career I have authored numerous research and extension publications on vegetable crops, drip/plastic mulches, row covers, high tunnels and greenhouse vegetable production. I have authored many articles in trade publications such as *American Vegetable Grower*, *Productores Hortícolas*, *Irrigation Journal*, *Grower*, *The Vegetable Growers News*, *Organic Grower*, *Spudman* and most recently I pen a monthly column called “Cultivating Thoughts” for *Country Folks Grower* magazine.

I was Program Chair for the first and succeeding educational seminars/workshops on “Using Plasticulture Technology for Intensive Production of Vegetable Crops” sponsored by the American Society for Horticultural Science (ASHS) of which I was selected a Fellow in 2006 and which I served in leadership positions as Extension Division Vice President, President of ASHS, and Chairman of the Board of Directors of ASHS. I also organized other short courses on “Plasticulture” both within and outside the United States. Many of the short courses and seminars were sponsored or co-sponsored by the American Society for Plasticulture of which I am a Past-President and from which I received the Distinguished Service Award in 1999 and the Pioneer Award in 2009. Throughout my career I have been a frequent speaker at growers' conferences around the country and have presented papers at several International Workshops on Vegetable Production and Plasticulture.

Before retiring I was focused on helping to establish high tunnels in the City of Philadelphia to promote the production of nutritious vegetables and winter production of greens and other crops for the population of the city. This project involves a wide array of partners from the city government, schools, and a host of non-profit organizations.

In addition, Dr. Elsa Sanchez and I developed a new and well-received course targeted at the general student population of the university called “Gardening for Fun and Profit”. In addition, I have penned a gardening column twice a month called “Over the Garden Fence” for the *Centre Daily Times* since 2005. Also, I was honored by PVGA with their 2017 Annual Award and in 2016 with their Lifetime Membership Award. Also, I am proud of my military service to the country with 4 years active duty and 20 years in the Naval Reserve retiring with the rank of Commander. He and his spouse Phyllis have two grown boys and four grandchildren and live on 28 acres outside of State College, Pa.

As I say in my columns if you want to contact me with comments or suggestions for future topics to reflect on contact me via e-mail wlamont@psu.edu.

Recently I was approached by Tammy Linn about doing articles for the Pennsylvania Vegetable Growers Association Newsletter which is published six times a year. I said to Tammy that I would but since I have been retired since 2017 and do not keep up on the latest going's on in the field, I would like to do a column where I could reflect on various topics and leave covering the hard-core technical topics to those still actively engaged in the field. I thought that I would pen the first column as a sort of introduction for those that may not know me.

My current title is Professor Emeritus in the Department of Plant Science at The Pennsylvania State University, University Park, Pennsylvania like my longtime friend and colleague Dr. Mike Orzolek. I was born and raised in rural Pennsylvania and obtained two undergraduate degrees, one in Economics and Business from Lebanon Valley College, Annville, Pennsylvania and the other in Horticulture from Delaware Valley College, Doylestown, Pennsylvania. I then went on to receive my M.S. and Ph.D. degrees from the Department of Vegetable Crops, Cornell University, Ithaca, New York.

My career was built around an extensive background in applied research, extension, teaching and service. My responsibility at Penn State was as an extension vegetable specialist and with Dr. Orzolek we were responsible statewide for the culture and management of vegetable crops. Prior to moving to Pennsylvania, I taught both undergraduate and graduate level courses and conducted applied research in the Department of Horticulture, Forestry and Recreation Resources at Kansas State University, where I received the Conoco Outstanding Undergraduate Teaching Award in 1995. Before that I was an Extension Vegetable Specialist at North Carolina State University working with both field and greenhouse vegetable production. I guess you could say that

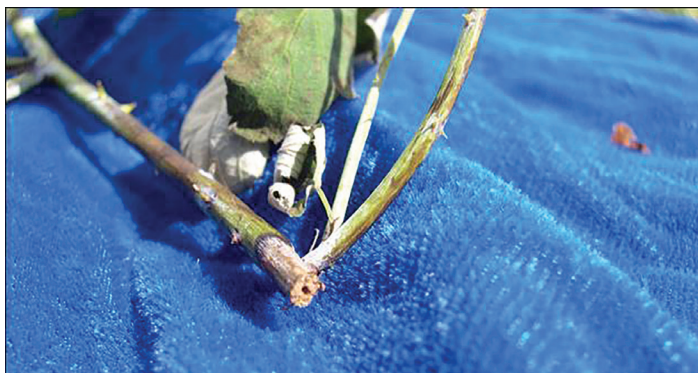


Fig. 3. Raspberry cane broken off at the lower row of punctures caused by raspberry cane borer. In this case, the borer has already hatched and tunneled downwards.

Solitary bee pollinators can and do make holes that look similar, usually in black raspberry or blackberry canes that had been tipped or broken off (Fig. 4). Once the soft pith has been exposed, it is easy for the female to tunnel in and lay her eggs. A key difference from tunnels made by borers is that the tunnel made by a solitary bee will only be within the top few inches of cane, and never in the lower portions of the cane. This is where the bees will develop, waiting for the right time to emerge and pollinate your crops. If you happen to cut these tips off while pruning, you can place them in a protected location where the bees will be safe until they hatch.



Fig. 4. Hole made by a solitary bee in the end of a tipped raspberry florican.

Two other types of borers are common in brambles. One is red-necked cane borer, which usually causes a swelling about a foot above ground level, though it can appear anywhere on the cane. This is caused by the young borer first feeding just under the cane's surface and encircling it several times (Fig. 5) before tunneling either upwards or downwards. Once you notice damage, remove the cane from the planting, cutting as low as is needed to make sure you have removed the borer.



Fig. 5. Cane swelling caused by rednecked cane borer encircling the cane several times while feeding just below the surface.

continued on page 6

Your Source for . . .

HIGH TUNNELS



Greenhouse Systems

Call Harry Edwards @ 717.606.8021

or Email hedwards@rimol.com

Bramble Borers or Solitary Bees?—continued from page 5

Another common borer is raspberry crown borer. Infested plants become weaker over time, and new canes become progressively spindlier. You may find holes in the base of canes while pruning in the spring (Fig. 6), and if you cut the crown open, you may find the larvae and/or pupa (Fig. 7).



Fig. 6. Hole in the base of a blackberry cane caused by raspberry crown borer.



Fig. 7. Raspberry crown borer larvae and pupa in the crown of a thornless blackberry.

There are also other types of borers like the stalk borer that are generalists and occasionally end up in brambles, but these have minimal effects.

Because borers are protected inside of the plant for most of their life cycle, removing infested canes or cane sections is the most straightforward method of management. If a source of pests can be identified like a nearby wild bramble patch, numbers may be reduced by eliminating the source.

If borer infestations do become severe enough to warrant an insecticide application despite the use of cultural controls, timing can be tricky and effectiveness will be only partial. Raspberry cane borer and raspberry crown borer both have a two-year life cycle, so not all of the population is vulnerable at the same time meaning that multiple applications will be needed. Raspberry cane borer adults are black beetles with an orange neck and emerge in early summer. If they are seen on the foliage, a broad-spectrum insecticide may be used prior to bloom whereas with red-necked cane borers, similar sprays directed to the ground before and after bloom may help. For raspberry crown borer, new larvae at the base of the canes in early spring are the target, but as mentioned above, only a portion of the larvae will be exposed each year. As always, the label is the law, not all materials are labeled in all states, and be sure to follow the regulations that apply in your state.

Photos: Kathy Demchak



- › Pistol grip spray gun
- › Tee-Jet 6B control valve
- › Pressure regulator
- › Jet agitation
- › Calibration disc

Produced by:
Martin's Repair Shop LLC
27 W Mohler Church Rd. Ste 1
Ephrata, PA 17522
717-733-3015

See a video of the ATX and MRS units in operation at
https://www.youtube.com/watch?v=2CGn_Bhcx8

Selling to the Senses

Lee Young, Penn State Cooperative Extension

The marketing season for fresh Pennsylvania-grown fruits and vegetables is in full swing. As a producer, you've worked hard for months to bring a wide variety of produce items to your retail stand or farmers market. But are you doing justice to those fruits and vegetables in the way you merchandise them? Are your displays appealing to your customers? Are you selling to your customers' senses?

Produce displays at local farmers markets and farm stands are very often flat and lifeless, making it too easy for customers to float on by without stopping to make a purchase. But there are some simple steps you can take that will grab those customers by the senses, pull them in to your market stand, and get those greenbacks flowing.

Selling to the Visual Sense: People may eat with their mouths, but they shop with their eyes. A key step you can take to improve sales is getting your product off that flat table that sits at hip-bone height and up closer to your customers' eyes. This is most easily accomplished by tiering your display table using boxes or shelves. This creates neat layers, lifts produce items up, and helps to surround the customer in products.



Raising your products up off of a flat surface can be as simple as placing crates along the back side of your display surface, as shown on the left. Custom-built tiered shelving, on the right, is another solution.

Now that your produce is closer to your customers' eyes, create visual interest by contrasting color, shapes and sizes in your displays. But don't overdo this to the point of disorder. Use contrasts to highlight different items, not to hide them.



Contrasts work better in solid blocks of product, such as in the display on the left. While the display on the right contains some contrasting shapes and colors, the effect is lost in the haphazard mix.



Zukes or cukes? Placing similar looking items side by side, like zucchini and cucumbers, de-emphasizes each and confuses customers.

Selling to a Sense of Order: Neatness and uniformity in displays and in containers conveys to customers a sense of order and grower pride. If you have as many types and colors of display baskets and containers as you have items at your market, the message you may be sending is "any old thing will do", with the containers and the products. Strive for some kind of uniform, overall look to your containers.

Selling to the Sense of Abundance: "Pile it high and kiss it good-bye." "It takes twenty-five apples to sell one apple." These old produce industry sayings speak to a basic marketing fact: abundance sells. Unless an item is in high demand and short supply, customers want to pick their items from a whole group, not take the last, picked-over ones. We all like to feel like "smart shoppers"! Bite the bullet and accept the fact that to maximize sales, you will have left-over product at the end of the day.



The last two or three items in a display, as above, are a hard sell indeed, especially if they are surrounded by empty table space. A shopper will be drawn to the display below because of its stronger visual appeal and sense of abundance.

Creating three-dimensional displays and surrounding customers with product also sells to the sense of abundance.



Selling to the Sense of Smell: While food safety concerns can make it difficult for marketers to provide samples of their fresh products for tasting, don't forget about the sense of smell. Point out fragrant flowers to customers, and invite them to sniff. Do you sell herbs? Try crushing fresh basil around your display to release its strong scent. Pesto-lovers will be drawn to your stand, and they might not even know why!



Green Beans

Art King, Harvest Valley Farms

We are into a beautiful field of green beans right now. Beans are an important crop for us because we sell so many. The harvest pictured above will be gone in a few days. But that is a good thing in that they are always fresh. I think the main reason people like our green beans is the variety we grow. This variety would never work if we didn't hand harvest them. They are slender and very tender, and those qualities don't work when you are machine harvesting, which almost all beans are.

Here is the scoop on green beans:

China is the world's largest producer of green beans at over 16 million metric tonnes.

Green Beans are a powerhouse source of vitamins and fiber. Most important is vitamin K, 25% of the daily-recommended amount. They are a very good source of vitamin A, notably through their concentration of beta-carotene, and an excellent source of vitamin C. These two nutrients are important antioxidants that work to reduce the amounts of free radicals in the body. A recent study shows that steaming of green beans may provide cholesterol-lowering benefits by binding together with bile acids.

With this much nutrition in such a delicious food; we should all make green beans a regular part of our diet.

Refrigerated and Ventilated Cooling Systems for Fruit and Vegetable Storages

- COMMERCIAL REFRIGERATION
- DESIGN, SALES AND SERVICE
- SERVING AGRICULTURE FOR OVER 70 YEARS

Free Consultation and Quote
Call Mike Mager at 585-343-2678

REFRIGERATION CO. OF BATAVIA
26 Cedar Street, Batavia, NY 14020
www.arcticrefrigeration.com

HEALTHY PREDATORS, PARASITES ON PATROL

Use Biocontrol To Stamp Out:

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

References available
in your area.

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

Vernon Weaver
McAlisterville, PA

Hearty Beneficials GUARANTEED
Call 315 497 2063



IPM Laboratories, Inc.
www.ipmlabs.com
ipminfo@ipmlabs.com
Since 1981

Spotted Wing Drosophila (SWD) – a 2024 PA Update

Kathy Demchak and David Biddinger, Penn State University

Berry crops have been running ahead of schedule this year, and so has their nemesis, spotted wing drosophila. For the first time to any significant degree, late season June-bearing strawberries were affected on several farms, as were black raspberries, which usually can ripen before SWD numbers increase. None of this bodes well for later-season berry crops like blackberries, blueberries, or day-neutral strawberries.

On the bright side, while monitoring for establishment of *Ganaspis brasiliensis* - a parasitoid wasp of SWD being released in the mid-Atlantic region including in Centre and Adams counties in PA - it was found that a second SWD parasitoid species is establishing here. This second species, *Leptopilina japonica*, does not only attack SWD as *Ganaspis brasiliensis* does, so it was not a good candidate for intentional releases.

So what exactly is a parasitoid? A parasitoid is like a parasite, but instead of living along with its host, it kills it. With both *Ganaspis brasiliensis* and *Leptopilina japonica*, the adult wasp finds an SWD larvae in the fruit, and lays an egg in it. The larvae continues to grow, develop, and pupate, but instead of an adult SWD developing and hatching out (Fig. 1), a wasp does (Fig. 2), which can then go on to attack more SWD, hopefully slowing SWD's population growth. Each wasp is likely to parasitize around 100 SWD larvae. If the wasps can slow the rate at which the SWD population rises, the first sprays for SWD may not be needed quite as early in the season as usual. We were happy to find parasitoid wasps this spring as we found the first SWD emerging from their overwintering sites, so it appeared that the parasitoids were ready.



Fig. 1. Spotted wing drosophila adult nearly ready to hatch from its pupal case. Its red eyes, wings, and legs can be seen. Photo: K. Demchak, Penn State.



Fig. 2. Parasitoid wasp developing inside of an SWD pupal case (top view). Black head, wasp body shape, and its wings can be seen. Photo: K. Demchak, Penn State.

Sprays for SWD will still be needed, along with every cultural control possible. These include picking fruit cleanly and frequently, removing cull fruit and bagging it (feeding it to chickens works, too!), and using landscape fabric in raspberry plantings to help with keeping cull fruit cleaned up and SWD larvae from reaching the soil to pupate. Refrigerating fruit, and keeping plantings weeded and pruned so sprays can get into the canopy where SWD prefers to hide out also help

Below is a table with insecticide ratings provided by entomologists, growers and crop consultants with experience with spotted wing drosophila from across the country and compiled by Phillip Fanning (Univ. of Maine) and Rufus Isaacs (Michigan State Univ). Only insecticides that got a rating of “excellent” or “good” and that have a 3-day or less PHI’s for highbush blueberries and brambles are included. If the pre-harvest interval listed is a range, that is because it varies with the product, use rate, or another factor. If the information below does not match what is on your product label, use what is on the product label instead, as the label is the law.

Also please note that spotted wing drosophila does not appear on the labels of all products listed. In PA, a pesticide can be used for a pest not on the label if the timing, rate, site of application, and any other specifications match the label. If you are from outside of PA, consult the label and your state’s registrations for products legal to use in your state.

continued on page 10



At the root of your success since 1928™

**PREMIUM PROFESSIONAL
PEAT-BASED SUBSTRATES
FOR ALL YOUR GROWING NEEDS**






GERMINATION ALL PURPOSE HIGH POROSITY ORGANIC

Available sizes 3.0 & 74 cu ft loose filled / 3.8, 55, 110 & 120 cu ft compressed

LM-ORG SUBSTRATES ARE OMRI LISTED FOR ORGANIC USE

DENNIS DOBROWOLSKI
Cell: (484) 716-5662
ddobrowski62@gmail.com
Visit our new website at www.lambertpeatmoss.com



(R) following the pesticide name indicates that the material is a restricted-use pesticide.

Rating*	Product Name	Active Ingredients(s)	IRAC code (chem. class)	Pre-harvest interval (d=days; h=hours; --- =not labeled for use on this crop). See individual product labels for details.			Re-entry interval (h=hours; d=days)	
				Strawberry	Brambles	Blueberries	Ribes	
E	Lannate (R)	methomyl	1A	---	---	3d	---	48h
E	Mustang Maxx (R)	zeta-cypermethrin	3A	---	1d	1d	1d	12h
E	Danitol (R)	fenpropathrin	3A	2d or 3d (see label)	3d	3d (high-bush); 2d or 3d (lowbush)	21d currants; 3d gooseberry	24h
E	Imidan	phosmet	1B	---	---	3d	---	24h high-bush; 3d lowbush
E-G	Verdepryn	cyclaniliprole	28	1d	1d	1d	1d	4h
E-G	Brigade (R)	bifenthrin	3A	0d	3d	1d	1d	12h
E-G	Exirel	cyantraniliprole	28	1d	1d	3d	3d	12h
E-G	Malathion	malathion	1B	3d	1d	1d or 2d	1d currants; 3d gooseberry	12h
E-G	Delegate	spinetoram	5	---	1d	1d or 3d	1d or 3d	4h
E-G	Radiant**	spinetoram	5	1d	---	---	---	4h
E-G	Hero (R)	zeta-cypermethrin + bifenthrin	3A + 3A	---	3d	1d	---	12h
G	Entrust	spinosad	5	1d	1d	3d	3d	4h

*E = excellent, G = good

Support of the Pennsylvania Department of Agriculture is gratefully acknowledged, as well that that provided by the USDA National Institute of Food and Agriculture and Hatch Appropriations under Project #PEN04743. Many thanks to Xingeng Wang and Kim Hoelmer (now retired) at the USDA's Beneficial Insects Introduction Research Unit in Newark, DE, Kent Daane at the Univ. of California, Kelly Hamby and her lab at the Univ. of Maryland, Tara Garipey at Ag Canada, and Rowan Saroka, a Penn State student, all of whom played integral roles in making releases and data collection in PA possible.

For more info:

<https://swdmanagement.org/wp-content/uploads/2021/05/SWD-rankings-document-2021.pdf>


<https://www.sciencedirect.com/science/article/pii/S104996441830077X>

STAND 'N PLANT

SEEDER

Use for...

- Seeds
- Onions
- Garlic




Easily plant hundreds of seeds or plants per hour into plastic covered or bare ground seed beds.

PLANTER

Use for...

- Transplants
- Potatoes
- Bulbs



Stand 'N Plant

95 Rose Road, Saltsburg, PA 15681
Phone: 724-639-3965 or visit: www.standnplant.com

SWEET CORN SCHOOL

EARLY SWEET CORN PRODUCTION USING PLASTICULTURE

M. D. Orzolek | Department of Horticulture, The Pennsylvania State University, University Park, PA 16802

Since the price of sweet corn in the Mid-Atlantic region is highest prior to the main harvest season (from late June through mid September), most retail markets and a few wholesale growers plant sweet corn under plastic mulch to achieve early harvest (between June 15 - 30) and consequently a high price (\$4.50 - \$5.50/doz). The plastic mulch increases soil temperature, maintains soil moisture and protects the sweet corn seedlings from environmental fluctuations and animal damage. Dr. Herb Hopen, University of Wisconsin, in 1965 found that the use of clear plastic mulch for the production of sweet corn improved emergence by 81 % eleven days after planting and advanced harvest dates of sweet corn by 6 to 14 days. Similar results have been obtained in Kansas when a polypropylene floating row cover was placed immediately on the soil surface after planting "Seneca Horizon" sweet corn in early April by Dr. Charles Marr in 1991. Optimum soil temperature for sweet corn germination is 55°F to 60°F. The row cover not only increased soil temperature for optimum germination, but also maintained higher air temperatures that increased the growth and development rate of sweet corn. Many research reports and grower experience have observed higher marketable yields of sweet corn grown under plastic mulch compared to bare ground.

What are the necessary steps for success with the production of sweet corn using clear plastic mulch??

1. Preparing the field for planting sweet corn is similar to conventional production.
2. Choosing the correct sweet corn variety that will germinate and grow vigorously under fluctuating temperatures and possesses all the quality factors required for your particular market.
3. Use of a specialized planter that will band starter fertilizer (60N-50P-50K), make deep furrows, place the sweet corn seed in the furrow, close the slot and if need be, apply a granular/liquid insecticide.
4. The furrows should be 8" to 12" inches below the soil line to enable the plants to develop to the 6 to 8 leaf stage before being hindered in growth by pressing against the surface of the plastic mulch.
5. Sweet corn is generally planted in double rows 15" to 24" wide with beds on 60" to 72" centers and at a soil depth of 1 inch. Soil should be moist under the plastic mulch to help facilitate seed germination as well as keeping herbicide in solution and maintain its activity on weed seeds.
6. A mulch layer is the only cost effective method of making a tight stretch of the clear plastic mulch over the top on the sweet corn rows.
7. On a sunny day the soil temperature under the plastic mulch will increase 8° to 15°F higher than uncovered soil. On cold nights the soil temperature should be 5° to 8° F higher than ambient air.
8. Holes where each seed is planted or slits at 2:00 and 10:00 o'clock should be made in the film if not already there when the plastic mulch is purchased to allow for adequate ventilation of air and buildup of solar energy under the plastic film.
9. Generally, a herbicide is applied at the same time as the sweet corn is planted since the increased soil temperatures and moisture will also accelerate weed seed germination and growth. Select and apply herbicides carefully under the plastic mulch to control early weed seed emergence and reduce the potential for sweet corn injury.
10. The height between the planting furrow and plastic mulch has been the criteria used to determine when the plastic should be cut and either removed from the field or placed on either side of the double row of sweet corn. The plastic mulch is cut or slit when the sweet corn plants are 8 to 10 inches tall or when there has been 3 consecutive days when air temperature is at or exceeds 85°F. If the sweet corn was not planted in deep furrows, the plastic mulch will have to be split earlier to prevent severe leaf burn. The sweet corn plants will generally have an unhealthy appearance immediately.

continued on page 12

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



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

Ask us about the advantages of the front mount boom.

PENNS CREEK MFG.

1340 Broadway Rd., Winfield, PA 17889

570-837-1197

www.pennscreekwelding.com

BUILDERS OF DEPENDABLE ECONOMICAL VEGETABLE SPRAYERS

diately after removing the plastic mulch; however, the sweet corn plants will look normal in about a week.

Regardless of the decision to place the plastic on the side of the row or remove directly from the field, the ultimate solution is disposal - what do you do with used polyethylene mulch. The manufacture of a very thin polyethylene film (6 microns thick) appears to be the solution to the problem - production of early sweet corn without having to remove the plastic from the field. The 6 micron polyethylene film was supplied by Integrated Packaging, Victoria, Australia. Because the polyethylene film is very thin, Integrated Packaging in conjunction with SAMCO Agricultural Manufacturing, Tuogh-Adare, Ireland developed a sweet corn planter with film applicator (X-tend system). The planter developed by this technology is able to plant the sweet corn seed, apply a herbicide underneath the plastic film and on the shoulders and lay the film tightly over the two row bed of sweet corn. One unique feature of the thin Integrated Packaging plastic film is that sweet corn can grow through it; so there is no need to cut the polyethylene film to allow for continued sweet corn growth through the plastic. The very thin 6 micron film from Integrated Packaging can also be applied in the field over sweet corn with a standard mulch layer. The Integrated Packaging Americas office is located in Byron Center, MI (616/583-0258).

Planting dates for producing sweet corn under clear plastic mulch can be 2 to 3 weeks earlier than normal planting date of conventionally produced sweet corn without plastic mulch. Remember, planting sweet corn under plastic mulch too early could result in crop loss if a late killing frost occurs after the plastic mulch has been removed from the sweet corn rows. In the final analysis, the profitability of growing sweet corn under clear plastic mulch depends on good management skills and decisions.

Michael D. Orzolek is professor of vegetable crops at Penn State University where he devotes about 67% of his time to extension activities, 20% to research and 13% to teaching. He has done extensive research on stand establishment, plastic mulches, hydrophylic polymers, and tillage systems. Dr. Orzolek formerly was extension vegetable specialist at the University of Delaware. He received his B.S. from Alliance College, his M.S. from West Virginia University and his doctorate from the University of Maryland.

Morrissey Insurance is proud to represent an industry as hardworking and dedicated as our farmers!

We are pleased that our customers choose to work with us!

Customer satisfaction is our number one goal.

Here's what one of our valued customers has to say when asked:

"Why do you choose to work with Morrissey Insurance?"

"Morrissey is a family owned and operated business that understands the needs of our family farm and retail business. Their staff is very knowledgeable and helpful and can provide us with the various types of insurance our farm and retail business needs to keep us "safe" doing business in the Lehigh Valley. We have been with Morrissey for many years and are very happy with the service they provide."

Newhard Farms



B&M MORRISSEY INSURANCE
"Insuring Your Future since 1971"

890 N. Reading Rd., Ephrata, PA 17522

13025 Route 6, Troy, PA 16947

www.insuringyourfuture.com

800-422-8335

PVGA Twilight Meeting

Thursday, September 5, 2024 | 6:00-8:00 pm

Harvest Valley Farms | 917 Deer Creek Road | Gibsonia, PA 15044

Harvest Valley Farms is a diversified vegetable farm serving customers from around Pittsburgh with a dedicated focus on soil health. The twilight will focus on peppers and tomatoes but conversations regarding other crops are sure to occur. Harvest Valley grows 21 varieties of tomatoes and 12 varieties of peppers. Penn State Extension Associate Professor of Crop Science Francesco Di Gioia will be attending to facilitate conversation on soil health and his recent research on Anaerobic Soil Disinfestation (ASD). If you have questions, please contact Commercial Horticulture Educator Glen Bupp at gbb5154@psu.edu or 412-510-3683.

Light refreshments will be served. While walk-ins are always welcome, pre-registration is encouraged. If you plan to attend, please let us know at pvga@pvga.org or 717-973-5915.



Hillside Cultivator Co. LLC



Hydraulic adjusted cultivator
for the edges of plastic mulch



Cultivators especially for
Strawberries



Eco Weeder for close cultivation
around individual plants

For more information visit hillsidecultivator.com

Contact: John Shenk 717-669-3158 Lititz, PA hillsidecultivator@gmail.com

Information and

recipes

Corner

New to PVGA News! Each issue will feature a recipe that includes vegetables and/or fruit.

Creamy Blue Oyster Mushroom Pasta

Submitted by Art King

Ingredients

Package Blue oyster mushrooms
Pasta of your choice (such as egg noodles, fettuccine or penne)
1 tablespoon butter.
1/3 cup Heavy cream
Parmesan cheese
Fresh parsley
Salt and pepper to taste

Directions

Cook the pasta according to package instructions until al dente.
In a separate pan, sauté sliced blue oyster mushrooms with the butter until they are golden brown and caramelized.
Add heavy cream to the pan and simmer until it thickens slightly.
Toss the cooked pasta in the creamy mushroom sauce.
Finish with grated Parmesan cheese and chopped parsley.
Serve hot for a comforting and indulgent vegetarian meal



Tomato, Watermelon, and Cucumber Salad

Submitted by Peter Flynn

Ingredients

2 large red tomatoes, cut into 1-inch wedges (about 2 cups)
2 pounds watermelon, cut into 1/2 by 2 1/2 wedges
1 cucumber, peeled, seeded, and cut into 1/2 inch wedges
1/2 small red onion, thinly sliced (about 1/4 cup)
3 tbs red-wine vinegar
2 tbs extra-virgin olive oil
1 tsp salt
1/4 tsp fresh ground pepper
1/4 cup fresh basil leaves, sliced

Directions

Make the salad: Gently toss tomatoes, watermelon, cucumber, and onion together in a large bowl and set aside. Combine vinegar, oil, salt, and pepper in a small bowl. Pour vinaigrette over the watermelon mixture and toss to combine. Cover and refrigerate for up to 2 hours. Sprinkle with basil and serve.

TEW MANUFACTURING CORP.

Fruit & Vegetable Cleaning & Sizing Equipment & Parts

Quality Latex & Poly Sponge Rubber Drying Donuts

Tuff Foam® Protective Padding

Brushes • Bearings • Sizing Chains

Belting • Scrubber Rubber

New Stainless Steel Machines

**CALL TOLL FREE 800-380-5839
FOR CATALOG & PRICES**

TEW MFG. CORP.
P.O. BOX 87
PENFIELD, NY 14526

585-586-6120
FAX: 585-586-6083
www.tewmfg.com

Chocolate Wave Zucchini Bread

Submitted by Peter Flynn

Ingredients

1/3 cup shortening
1 1/3 cups white sugar
2 eggs
1 1/2 cups zucchini (grated)
1/3 cup water
1 tsp vanilla extract
1/2 cups all-purpose flour
1 tsp baking soda
1/2 tsp salt
1/4 tsp baking powder
1 tsp pumpkin pie spice
1/3 cup chopped walnuts
3 tsp unsweetened cocoa powder
1/3 cup mini semi-sweet chocolate chips

Directions

Preheat oven to 350 degrees F (175 degrees C). Grease one 9 x 5 inch loaf pan.

In a large bowl, cream shortening and sugar together. Mix in eggs. Add zucchini, water, and vanilla; stir. Blend in flour, baking soda, salt, baking powder, and pumpkin pie spice. Stir in nuts.

Divide batter in half and add cocoa powder and chocolate chips to one of the halves. Pour batter into the bottom of the loaf pan. Pour chocolate batter on top of the batter.

Bake until wooden pick inserted into center comes out clean, about 1 hour. Cool. 10 minutes and remove from pan. Store in refrigerator.

Elote Dip

Submitted by Tina Forry

A creamy crowd please and lip-smacking Elote dip aka Mexican street corn dip! Corn mixed with a luscious cream mixture, spices, fresh Cilantro, and cheese.

Ingredients

2 cups fresh corn kernels
1/4 cup mayonnaise
2 tbs sour cream
1/2 tbs chopped Jalapeno
12 tbs grated garlic
2 tbs finely chopped cilantro
1 1/2 tbs lemon juice
1/2 tbs elote seasoning
1 tbs butter
1 tbs parmesan cheese
A pinch of chili power for garnishing

Directions

Heat butter in a pan. Add garlic and jalapenos, sauté for a few seconds. Add fresh corn kernels. Stir and cook until it gets a little caramelized, for about 5-6 minutes. Turn off heat and let the mixture cool.

Add Mayo, sour cream, cilantro, elote seasoning, and lemon juice. Mix until well combined. Adjust seasoning per your liking.

Cover and keep in the refrigerator for at least 30 minutes.

Prior to serving sprinkle with grated parmesan cheese and chili powder. Serve with tortilla chips. Enjoy!

Information and

recipes

Corner

New to PVGA News! Each issue will feature a recipe that includes vegetables and/or fruit.



Strawberry Pretzel Salad

Morgan Bond, adapted from Favorites of First Baptist Cookbook (1980 – New Castle, PA)

Ingredients

Bottom Layer

2 cups crushed pretzels
1/2 cup sugar
3/4 cup melted butter

Middle Layer

1 – 8oz cream cheese
1 – 8oz Cool Whip
1 cup sugar

Top Layer

1 quart fresh strawberries OR
2 – 10oz packages frozen strawberries
2 – 3oz packages strawberry Jello

Directions

Bottom Layer

- Preheat oven to 350°F.
- Mix pretzels, sugar and butter. Cover bottom of 9 x 13 pan, spreading mix evenly.
- Bake for 9 minutes.
- Allow to cool completely. To speed up process, place on hot pads in refrigerator.

Middle Layer

- Combine cream cheese and sugar.
- Add Cool Whip, mix until smooth.
- Spread on cooled pretzel layer. Make sure to cover pretzel layer completely and seal all edges so that the top layer doesn't leak down into the bottom layer.

Top Layer – Fresh Strawberries (preferred method)

- Wash strawberries. Cut tops off and slice.
- Spread sliced strawberries on top of middle layer.
- Add 2 cups boiling water to the strawberry Jello. Stir constantly.
- As Jello begins to cool, add ice cubes or 2 cups cold water. Keep stirring until Jello starts to set up.
- Pour Jello mix on top of strawberries and middle layer.
- Place in refrigerator to allow Jello to set. Refrigerate for 4 hours or overnight.

Top Layer – Frozen Strawberries

- Add 2 cups boiling water to the strawberry Jello. Stir constantly.
- Add frozen strawberries, juice and all, to the Jello mix.
- Let set until it begins to jell.
- Pour onto middle layer.
- Refrigerate for 4 hours or overnight.

Delicious Strawberry Pie

Submitted by Peter Flynn

Ingredients

3/4 cup sugar
1 3-oz package strawberry gelatin
3 tbs cornstarch
1 cup boiling water
1 quart strawberries, rinsed, hulled
1 baked 9-in pie shell
Whipped cream or whipped topping

Directions

Combine the sugar gelatin, cornstarch, and boiling water in a saucepan. Boil for one minute. Place the strawberries in the pie shell. Pour the gelatin mixture over the strawberries. Chill in the refrigerator until firm. Serve with whipped cream or whipped topping.

8 Servings

Crop Growing Expo

PVGA will have a booth at the Crop Growing Expo January 15-16, 2025 at Spooky Nook in Manheim. Contact us at pvga@pvga.org or 717-973-5915 if you are interested in helping us at the booth.



Growers Classified Ads

PVGA offers a classified service to vegetable, potato, and berry growers. Classified ads for used equipment or surplus supplies will be published at no cost in a Growers Classified section.

The ads will be published online on the PVGA website at pvga.org/classified, included in the email update, and in the printed newsletter

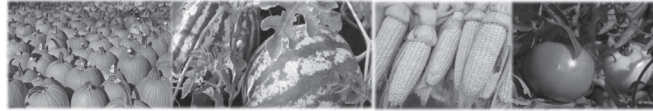
Ads will be restricted to equipment or supplies specific to vegetable, potato, and berry production, not general farm equipment. Other such free classified sections are available in publications like Lancaster Farming, but this is designed to focus specifically on items of interest to our growers. Businesses that commercially sell equipment or supplies will not be able to advertise for free.

There are several ways to place an ad

- Email to pvga@pvga.org
- Mail to PVGA | 908 N 2nd St, Harrisburg, PA 17102



Michael Myers
Ag Solutions
(717) 304-8957



Help Maximize Fruiting Veg and Cucurbit Crop Yields and Profits with FMC Portfolio



Pumpkins, Melons, Squash, Sweet Corn, Tomatoes, Peppers, Potatoes, Cabbage	Melonworms, fall armyworm, corn earworm, diamondback moth, Colorado potato beetle
Pumpkins, Melons, Squash, Potatoes, Cabbage	Cucurbit beetle, worms, aphids, thrips, maggot, Colorado potato beetle, whitefly
Sweet Corn, field Tomatoes, Brassicas, Leafy veg, Potatoes	Corn earworm, fall armyworm, tomato pinworm, hornworm, diamondback moth
Pumpkins, Melons, Brassicas, Potatoes Greenhouse Tomatoes, Peppers, Cuc	Cucurbit beetle, worms, aphids, thrips, maggot, Colorado potato beetle, whitefly
Tomatoes, Peppers, Cucurbits, Potatoes, Greenhouse Tomatoes, Peppers, Cuc.	Aphids, thrips, whiteflies, plant bug
Pumpkins, Melons, Squash, Tomatoes, Peppers, Eggplant, Brassicas	Powdery mildew, fusarium sup., anthracnose, early blight, gummy stem blight, target spot
Pumpkins, Melons, Squash, Tomatoes, Peppers, Eggplant, Brassicas	Powdery mildew, fusarium sup., anthracnose, early blight, gummy stem blight, target spot
Sweet Corn	Northern corn blight, common rust, grey leaf spot, tar spot

Beleaf® 50SG insecticide helps preserve active pollinators when used in accordance with the label directions for use. Always read and follow all label directions, precautions, and restrictions for use. Some products may not be registered for sale or use in all states. FMC, the FMC logo, Avaunt eVo, Verimark, Ccragen eVo, Exirel, Rhyme, Topguard EQ, and Adastrio are trademarks of FMC Corporation or an affiliate. Beleaf is a trademark of Ishihara Sangyo Kaisha Ltd. ©2023 FMC Corporation. All rights reserved. 23-FMC-0138 04/2

Organic Potato Production Field Day: Troyer Farms August 20th, 9 AM- 12 PM

Join the Transition to Organic Partnership Program and Troyer Farms to learn about the growing market for organic potatoes and contract growing opportunities with Folkland Organic French Fries. 817 Rt. 97 Waterford, PA



Register at: paorganic.org/resources/upcoming-events/ or call 814-422-0251 (ext. 262).

TOPP MENTORSHIP PROGRAM for Transitioning and Certified Organic Producers

Certified organic producers can serve as paid mentors and will be paired with a transitioning producer, providing support through the certification process. Transitioning producers receive mentorship at no cost.

Visit www.organictransition.org for more information.

The Transition to Organic Partnership Program (TOPP) is a USDA initiative that will invest up to \$100 million over five years to provide education, technical assistance, and support for producers transitioning to organic. This is a certifier-neutral program. You may be working with any certifier to participate.



Mark Your Calendar!

2025 Mid-Atlantic Fruit and Vegetable Convention

JANUARY 28-30, 2025 | HERSHEY LODGE | HERSHEY, PA



WE'VE GOT YOU COVERED!



Nu-Film® 17

STICKER EXTENDER ADJUVANT

Going from good to great by extending the coverage of your fungicide and insecticide programs and not having the daily worry of what might attack your crops surely relieves constant headaches. Include the proven power of Nu-Film® 17 with your inputs to help move fungicides and insecticides quickly and effectively through your plants for optimum disease control.

SCAN TO LEARN MORE:



REFLECT YOUR STRESS!



Reflections®

SUN REFLECTANT

Reflections® is a patented calcium carbonate formulation with soluble plant available calcium acetate. Once Reflections is applied, the microscopic calcium residue reduces the effect of heat stress while maximizing calcium availability to the melon surface giving you the best of both worlds for your crop to reach new heights.

SCAN TO LEARN MORE:



CONTACT YOUR MILLER SALES REPRESENTATIVE TODAY TO LEARN HOW REFLECTIONS® AND NU-FILM® 17 WILL ASSIST IN PROVIDING JUST WHAT'S NEEDED TO ENJOY A STELLAR HARVEST.

HUBER AgroSolutions

®/™Trademarks of Miller Chemical & Fertilizer, LLC, and its affiliated companies. Always read and follow label directions. ©2024 Miller Chemical & Fertilizer, LLC



MILLERCHEMICAL.COM



Pennsylvania Vegetable Growers Association

908 N 2nd St
Harrisburg, PA 17102

Change Service Requested

PRESORTED STANDARD
U.S. POSTAGE
PAID
HARRISBURG PA
PERMIT NO. 533

PVGA

