

# Vegetable & Fruit News

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## Enterprise Budgets are Useful Tools, During Uncertain Times.

With rising input costs, it is important for farmers to understand the income and expenses associated with each of their farm enterprises (a commodity or activity that produces a marketable product). Farms will often have different enterprises that contribute to their whole farm business. Enterprise budgets are a useful tool for planning and estimating income (revenues), expenses (costs), and profits for a single enterprise of a farm business. They can also be used to develop a whole-farm budget to estimate the overall profitability and resource requirements (land, machinery, and labor) for a farm business. Unlike records, which document past inputs and outcomes, budgets are used to estimate the outcomes of activities in the future. This allows farmers to evaluate the efficiency of each enterprise on the farm, so they can determine which enterprises are profitable versus which ones should be cut back or eliminated. Knowledge of enterprise budgeting and the ability to

use them will assist farmers in making sound business decisions. Several land grant universities and ag organizations have sample or templates enterprise budgets that can be downloaded for free and customized to fit a farmer's operation and needs. Farmers can make changes to these budgets to include their production techniques, inputs, and overall management. If you have problems finding or downloading an enterprise budget, please contact your local Extension office for assistance.

## Enterprise Budgets Resources

- Ag Marketing Resource Center - Collection Budgeting Tools: <https://bit.ly/AGMRCENTBDG>
- Ag Risk + Farm Management Library - List of State Budget Websites: <https://agrisk.umn.edu/Budgets/StateBudgetWebsites>
- University of Maryland - Grain Crop Budgets: <https://go.umd.edu/CROPBUDGET>
- University of Delaware—Grain & Vegetable budgets: <https://bit.ly/3OdnOCE>
  - Creating and Using Enterprise Budgets: <https://bit.ly/UDELH2UCB>
- Penn State—Vegetables & High Tunnel Budgets: <https://bit.ly/4tFxxRx>

## Vegetable Insect Scouting Tips

Veronica Yurchak, *Extension Vegetable Specialist, UMD*; [vjohnso4@umd.edu](mailto:vjohnso4@umd.edu)

**Strawberries:** Field and high tunnel growers should be scouting for aphids in strawberries. Small aphid populations can be exacerbated under covers used for freeze protection during winter or early spring. Strawberries in high tunnels or under row covers should also be scouted for spider mites, which may begin appearing soon. If present, aphids and mites will likely be located on the undersides of leaves and near crowns. Good coverage with horticultural oils can be an effective early-season management option that helps reduce the development of chemical resistance over the course of the season.

**Alliums:** The majority of the state has reached the necessary growing degree days for allium leafminer emergence. Be sure to scout leaf tips for signs of egg laying (Figure 1). Insect netting can be used to exclude leafminer pests and crops should be kept covered for 8 weeks following predicted leafminer emergence. Several effective insecticide options are available and typically require 2-3 applications with the first application occurring around 2 weeks after egg-laying marks are observed (assuming regular scouting). Foliar applications of dinotefuran, spinetoram, and cyantraniliprole work well. For organic producers, the most effective option is spinosad. Seedcorn maggot is also active in some areas. Control relies on preventative treatments, and areas with a history of problems should receive a soil drench at planting. For direct seeded onions, insecticide treated seeds provide good protection from seedcorn maggots. Onion maggots typically become active around 735 growing degree days (39°F base temperature) so scouting for this pest should begin within the next month.



Fig 1. Leafminer oviposition marks appear as small, white dots along leaf blades.

**Tomatoes:** Continue scouting for thrips and signs of tomato spotted wilt virus in greenhouse/high tunnel tomatoes. Read more about early season thrips management [here](#).

**Peas:** Southern areas of the state have reached the necessary growing degree days for seedcorn maggot emergence. Damage is typically highest in fields planted around peak fly emergence, and in those with high organic matter – planting following recent cover crop incorporation or in fields with recently incorporated manure applications should be avoided if possible. Ideal conditions for seedcorn maggots are wet soil, heavy organic matter incorporation, field planting within 5-7 days, followed by cold weather that slows seedling emergence. Peas should contain an insecticide seed treatment to reduce pest infestation.



2026-2027 Mid-Atlantic Commercial Vegetable Production Recommendations Guide can be found at <https://go.umd.edu/MACVPRG>

## Times and Temperatures for Vegetable Transplant Production.

*Emmalea Ernest, Extension Fruit & Vegetable Specialist; emmalea@udel.edu*

**\*\* Note this article first appeared on the March 20, 2026 UD Cooperative Extension Weekly Crop Update <https://sites.udel.edu/weeklycropupdate/>. \*\***

Some vegetable transplants for spring planting have already been seeded in the greenhouse and others will be started soon. Efficiently producing healthy transplants on the right schedule for timely planting is an important part of successful vegetable production. The information below is an adaptation of Table A-4 from the Mid-Atlantic Commercial Vegetable Production Recommendations (<https://go.umd.edu/MACVPRG>).

To decrease transplant production time and increase germination uniformity, place transplant trays in a germination chamber or on thermostatically controlled heat mats for the first 48-36 hours after seeding. Use the optimal germination temperatures in the table as a guide for setting the thermostat. For crops with a wide optimal range, germination will occur more quickly at the high end of the range. Trays should be removed from the germination chamber or heat mats turned down to the optimal day temperature as soon as the root emerges from the seed and before the seedlings emerge. Continuous high temperatures will produce leggy transplants.

The time to produce a well-rooted transplant depends on the crop and the growth conditions in the greenhouse. To produce transplants more quickly, use the smallest recommended cell size and keep temperatures within the recommended optimal range. Low light conditions (caused by cloudy weather or weathered greenhouse film) will slow transplant growth.

Transplant cell size should be chosen to balance the goals of timely transplant production (smaller sizes establish more quickly), successful establishment (larger cell sizes are generally easier to establish), greenhouse space efficiency (smaller cell sizes take up less greenhouse space) and greenhouse management time (smaller cell sizes require more timely watering). Generally, you should use the smallest cell size that you can successfully establish in the field to reduce costs associated with growing media and greenhouse time and space.

### Vegetable Transplant Production: Germination and Transplant Growth Temperatures, Time to Transplant and Recommended Tray

Crop	Optimum Germination Temp (F°)	Optimum Day Temp (F°)	Minimum Night Temp (F°)	Week to Grow	Recommended 1020 Tray Size
Brocc	60-85	65-70	60	4-7	72
Cae	60-85	65	60	6-7	72
Caulifer	65-85	65-70	60	6-8	72
Cucumber	65-90	70-75	65	2-4	50, 72
Eggplant	80-90	70-85	65	6-9	50, 72, 128
Lettuc	60-70	60-65	40	4-6	96, 128, 200
Melon	75-85	70-75	65	2-4	50, 72
Onion	65-85	65-70	60	9-12	288, 338
Pepp	80-90	70-75	60	7-9	72, 128
Sumer Squash	85-95	70-75	65	2-4	50, 72
Tomat	70-80	65-75	60	5-6	50, 72, 128
Waterelon (seedepollinizer)	80-90	70-75	65	3-4	50, 72
Waterelon * (seedles)	85-90	72-75	65	4-6	50, 72

*\* See the watermelon section of the Mid-Atlantic Commercial Vegetable Production Recommendations for detailed instructions on seedless watermelon transplant production.*

## Tips for Starting Seedless Watermelon Transplants

The information below is a summary from the Mid-Atlantic Commercial Vegetable Production Recommendations (<https://go.umd.edu/MACVPRG> )

Triploid (seedless) watermelon seeds require a special regime to germinate well, since they are less vigorous than standard diploid types. Seeded pollenizers and standard-seeded watermelon transplant production do not need special germinating conditions and can be done directly in the greenhouse.

Due to their size, watermelon transplants should be grown in plug trays with cells at least 1.5 inches in diameter and 2 inches deep; anything smaller will restrict root growth and provide less protection to the transplant.

- Use a general commercial greenhouse growing medium with a starter fertilizer. Fill trays and water them to capacity. Allowed to drain excess water for 24 hours in a heated area so that the media can warm up to 85°F (29°C). Maintain this temperature during seeding. Planted seeds at 1 inch deep with the “pointed” side up.
- During germination, it is critical that trays are kept at a uniform temperature of 85-90°F (29-32°C) and at high humidity. Check plants after 44-48 hours.
- Once they have emerged, move them immediately to the greenhouse. Set your greenhouses to 72-75°F (22-24°C) during the day and 65°F (18°C) at night. Maintain this temperature cycle until transplants are ready to be hardening off in 4-6 weeks.
- Do not water until after crook emergence. Water as needed to prevent media & seedlings from drying out.
- Do not fertilize until the first true leaf emerges.
- If you used a growing medium that contains starter fertilizer, then apply 100 ppm N at the first true leaf and again at second true leaf appearance. If using a constant feed system then, apply 50 ppm N for each watering once the first true leaf has emerged.
- If you used a medium without starter fertilizer, then you will want to use fertilizers with calcium nitrate and potassium nitrate as N sources, and apply 50 ppm N every 3 days from emergence to first true leaf, and 200 ppm N every other day from first true leaf to second true leaf.
- Transplants will take 4-6 weeks from sowing to finish transplants. One week before to transplanting into the field, harden off plants. Do this by lowering day temperatures, reduce watering, and stop fertilization. If possible, place plants on wagons or move benches outside during the day and bring them in at night, but make sure the area is sheltered from high winds and avoid days where the temperature is below 60°F (16°C).
- Transplant watermelons into the field when daily mean temperatures have reached 60°F (16°C). Protected transplants from winds with row covers or rye windbreak strips.
- Tips to reduce transplant stretch: Stretched watermelon transplants that have an extended hypocotyl, the area of the stem below the cotyledons or seed leaves.), which causes them to be more susceptible to damage during and after transplanting.
  - Avoid leaving plants in the germination chambers too long. Move trays to growing areas before the cotyledons emerge.
  - Stretch is more likely to happen during low-light or cloudy conditions. High light reduces stretch. Make sure greenhouse films have high light transmission and replace film more often in transplant houses.
  - Avoid using fertilizers with large amounts of ammonium as the N source, as this can lead to stretch. Use fertilizers with calcium nitrate and potassium nitrate instead. Avoid high phosphorus fertilizers.
  - Keep houses in the 72-75°F range during the day.
  - Avoid overwatering, keep plants on the dry side.

## It's a Great Time to Review Food Safety Training

*Carol Allen, Agent Associate in Food Safety*

\*Note article first appeared in the March 30, 2026 issue of the Food safety Newsletter for Maryland Farmers.\*

Seasonal workers have arrived and hopefully, producers will have had some time to hold a worker training on health and hygiene. With returning workers, this may be a simple reminder of basic produce safety practices, but with newer folks, it may be both necessary and timely.

Both Good Agricultural Practices (GAP) and the Produce Safety Rule (PSR) emphasize the importance of worker training. This training is twofold; worker health and hygiene and task-specific training. A producer is required to train workers in both areas.

We want to train our workers to practice simple, basic hygiene such as washing their hands, proper use of sanitary facilities, and keeping clothes and boots clean. A food safety culture is a subliminal awareness of how microbial contamination can be prevented in all aspects of farm work. Hand washing, wearing clean clothing, washing after certain animal related tasks, and other responsibilities will ensure only safe produce arrives to market. Now is when your SOPs (standard operating procedures) will really pay off.

The Produce Safety Alliance has created a video on worker health and hygiene. You can access it on the Produce Safety Alliance YouTube Channel. Videos cover basic health and hygiene as well as assuring the workers of their importance in producing high quality and safe produce. It is currently available in English, Spanish, Creole and Hmong. <https://bit.ly/PSAAHV>

Once you have covered health and hygiene or any other training, make sure to record the event on a log. Record templates can be found on the UME website at <https://psla.umd.edu/extension/produce-safety/>. Your records are proof that you have fulfilled that responsibility.

Additional farm signs to reinforce some of these basics can be found on the UMD Food Safety website (<https://psla.umd.edu/extension/produce-safety/order-signs-farm-food-safety/>).

The Produce TRAINER program wide range of engaging, multi-media worker food safety resources that are fun and educational. These aids would be another way to help develop that farm food safety culture.

<https://producetrainer-d.nmsu.edu/index.html>.

If you have any questions about Good Agricultural Practices, the Produce Safety Rule or writing an agricultural water assessment, or if your group has interest in a GAP class or would like an on-farm training for employees, contact Carol Allen, [callen12@umd.edu](mailto:callen12@umd.edu), 240-994-5043.



Laminated "Please Wash Your Hands Often!" signs are available from MDA. (410)-841-5700.



## University of Delaware and University of Maryland Launch Free Virtual H-2A Farm Labor Seminar Series

The University of Maryland Extension (UME), the Department of Agricultural and Resource Economics (AREC), and the University of Delaware Cooperative Extension will host a free virtual seminar series titled “*Exploring H-2A Farm Labor in the Mid-Atlantic Region.*” The three-part series will take place from March 31 through April 21, 2026, and is designed to help agricultural employers better understand the complexities of the H-2A temporary agricultural worker program.

As labor challenges continue to impact agricultural operations across the region, the H-2A program has become an increasingly important option for securing seasonal workforce needs. This seminar series will provide participants with practical insights into the financial, legal, and regulatory considerations associated with the program.

“Producers are facing increasing pressure to secure reliable labor, and the H-2A program can be a valuable tool when used correctly,” said Paul Goeringer, Principal Faculty Specialist and Extension Legal Specialist with the University of Maryland. “This seminar series helps farmers understand not just the costs, but also the legal and compliance responsibilities that come with participating in the program.”

The virtual seminars will be held via Zoom from 12:00 p.m. to 1:00 p.m. on the following dates:

- **March 31, 2026** — *The Real Cost of H-2A Workers.*  
Speaker: Nate Bruce, University of Delaware
- **April 7, 2026** — *Legal Aspects of the H-2A Process.*  
Speakers: Brandon Davis, Phelps Dunbar LLP; Paul Goeringer, University of Maryland
- **April 21, 2026** — *State Department of Labor Considerations.*  
Speakers: Ross Weiner, Maryland Department of Labor; Ellen Romero, Delaware Department of Labor

The seminar series is offered at no cost; however, advance registration is required. Participants can register online at <https://go.umd.edu/H2AWebinars>.

This program is supported by the Northeast Extension Risk Management Education Center through USDA-NIFA award no. 2024-70027-42540.

This collaborative effort reflects the ongoing commitment of University of Maryland Extension and University of Delaware Cooperative Extension to provide timely, research-based information to agricultural producers across the Mid-Atlantic region. This program is offered by land-grant institutions committed to equal opportunity and access. Individuals requiring accommodations should contact program organizers at least two weeks prior to the event.

## Advanced cover crop program—Seeking farmer collaborators

**Maximize Your Cover Crop Potential through Purposeful, Site-Specific Cover Crop Planning and Management. Maryland's Grain, livestock, specialty crop farmers, including small acreage and urban producers are invited to apply to participate in the project.**

The objective of this project is for growers to work with Extension to identify the top needs of crop fields, and to incorporate cover crops into their cropping system in a way that will help to address those needs. This project will analyze agronomic outcomes as well as the water quality associated with the purposeful cover crop planning and implementation through on-site data collection consistent with the latest science-based evaluation metrics and methodologies.

Interested farmers will choose from a list of cover cropping practices and will be offered a free technical planning session (by phone, zoom, or at county extension office) to identify which practice or combination of practices will best address the needs of their crop fields. **\* If you are practicing an innovative cover cropping practice that is not on the list, we want to hear from you too!**

***\*Farmers selected to participate in the program will be provided with financial payment.***

**Step 1.** Fill out **Application** by May 15, 2026 or contact Sarah Hirsh at shirsh@umd.edu or 410-651-1350

Link: <https://go.umd.edu/advancedcovercrop>

**Step 2.** Farmer and UME Ag Agent meet by phone or zoom to discuss field conditions and plan cover crops based on specific field needs.

**Step 3.** Farmers who qualify for the program will be contacted in June.

**Step 4.** Farmer plants planned cover crops on fields.

**Step 5.** University of MD Extension will assess the success of the cover crops in meeting the field needs.

### Criteria and Payment Details:

- Grain farmers enroll up to 100 acres: \$50 an acre + \$500 base for participation
- Specialty crop farmers enroll between 5 - 20 acres: \$50 an acre + \$3000 base for participation
- Specialty crop farmers between 0 - less than 5 acres: \$80 an acre + \$3000 base for participation
- Livestock farmers enroll up to 30 acres: \$50 an acre + \$2000 base for participation

### Expectations for payment:

- Purchase cover crop seed, plant and manage the cover crop.
- Attend two in-person networking meetings (~2 hours each) where you will have an opportunity to meet and discuss cover crops with other enrolled farmers.
- Provide basic management and financial records pertaining to the cover crop
- Complete survey about your experience with the cover crop (should take between 15-30 minutes to complete). \*Grain Farmers will also need to do a social network analysis survey.

This work is supported by the National Fish and Wildlife Foundation's Innovative Nutrient and Sediment Reduction Grant Program Project 78444. Project partners include the University of Maryland Extension in collaboration with Future Harvest (FH) and Colorado State University (CSU) Institute for Research in the Social Sciences, and matching support from Maryland Department of Agriculture. PI's for this project are Sarah Hirsh (UME), Lisa Garfield (FH), and Rachel Lahoff (CSU). Co-PI's are UME's Amanda Grev, Haley Sater, Benjamin Beale, Shannon Dill, Dwayne Joseph, Andrew Kness, Qianwen Lu, Kelly Nichols, Jennifer Rhodes, and Jeff Semler.

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## USDA Value-Added Producer Grant Closes April 22, 2026

The [USDA Value-Added Producer Grant Program](#) is a highly competitive nationwide federal grant program that helps agricultural producers develop and market value-added activities. Eligibility for the grant requires applicants to provide a 100% non-federal match to the USDA grant that is provided. To help producers meet the non-federal financial matching commitment, MARBIDCO is currently offering the Maryland Value-Added Producer Matching Grant (MVAPMG) to provide up to 15% of the matching funds required. More specifically, MARBIDCO offers up to \$7,500 for Planning Grants and up to \$25,000 for Working Capital Grants.

The Value-Added Producer Grant (VAPG) program helps U.S. agricultural producers enter into value-added activities that:

- Generate new products from raw agricultural commodities
- Create and expand marketing opportunities
- Increase producer income through enhanced product value and market reach

Eligible applicants include: an agricultural producer, agricultural producer group, farmer or rancher cooperative, or majority-controlled producer-based business venture (all defined terms under federal regulations).

Grant funds can be used for

- Planning up to \$50,000: Planning grant funds can be used to pay a Qualified Consultant to conduct and develop a feasibility study, business plan, or marketing plan associated with the value-added agricultural product.
- Working capital expenses, up to \$200,000: Working Capital grant funds can be used to pay eligible operational costs related to the value-added agricultural product.

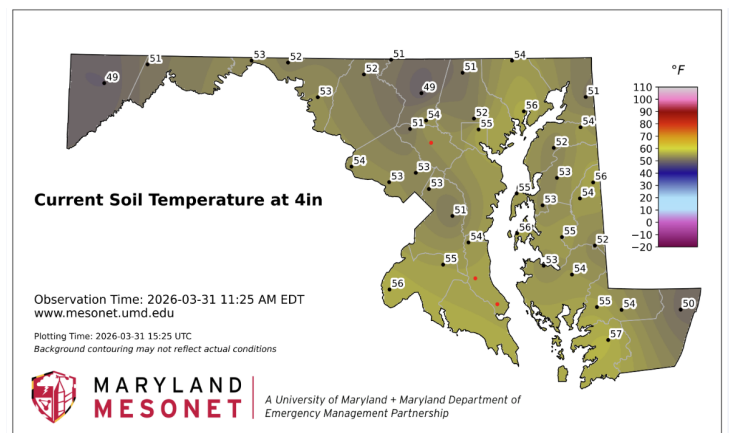
**USDA Application Deadline:** The USDA Value-Added Producer Grants application deadline is April 22, 2026. To view the VAPG Grant Application Portal User Guide, [click here](#). Electronic applications will be accepted via the VAPG application portal until 1:00 p.m. Eastern Time on April 22, 2026. Additional information is available on [Grants.gov](#) or by contacting the state's USDA Rural Development office.

## AI Wildlife Study: Looking for Specialty Crop Farmers

UMBC, UMD, and UMES have received NSF SBIR funding to help farmers with wildlife management by building an adaptive AI wildlife deterrent platform designed to address crop damage from deer, birds, and other wildlife that outsmarts every conventional method within weeks. The system will use real-time species identification and rotating multi-modal deterrents to prevent the habituation problem that undermines traditional tools.

They are looking for partners with local farmers to run demonstration pilots, particularly in specialty crop and organic operations where wildlife deterrent chemical options aren't available, and damage rates are highest. The team will visit the farm to discuss the farmer's pain points and cross-check with our deployment infrastructure/hardware compatibility. Wildlife devices (camera, sound-based deterrence) will be placed on partner farmer fields and will be serviced weekly, either remotely or via an in-person farm visit. Data collected will be shared with the farmer. If you are interested in participating, please fill out the [interest form at https://bit.ly/4bHOPau](https://bit.ly/4bHOPau).

Maryland has a network of weather stations (Maryland Mesonet) that is administered by the University of Maryland's Department of Atmospheric and Oceanic Science, in partnership with the MD Department of Emergency Management. Each mesonet site measures air temperature, atmospheric pressure, relative humidity, wind speed and direction, solar radiation, rainfall, snow depth, and soil moisture and temperature at five depths, most at 1-minute intervals. The measurements are available to Maryland citizens from the Mesonet website (<https://mesonet.umd.edu/index.html>).



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# ONLINE AGRICULTURAL TAX WORKSHOP FOR PROFESSIONALS (6 CE CREDITS)

## REGISTRATION

- ✓ Early Bird: \$200+ plus eventbrite platform fee (through April 15)
- ✓ Regular: \$230 plus eventbrite platform fee (beginning April 16)

## INSTRUCTORS

Kevin Burkett, CPA  
Clemson University

Rob Holcomb, EA  
University of Minnesota  
Extension

## INFORMATION



- ✓ When: **Tuesday, May 5th**  
**9:00a.m.–3:20p.m.**
- ✓ Learn core farm tax principles and updates in just 6 hours online
- ✓ Use real-world examples to get better at handling farm taxes for farms and farmers

## CEUs

- ✓ Earn **6 IRS-approved CE credits**; certificate from Pennsylvania Tax Institutes.



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