Vol. 3. MARCH 2025

# The Stalk

Accomack & Northampton County Cooperative Extension
Eastern Shore Agricultural Research & Extension Center

## *Worrying About Wireworms? Chemical Options to Consider for 2025*

***Dr. Kemper L. Sutton, Entomologist, Virginia Tech Eastern Shore AREC***

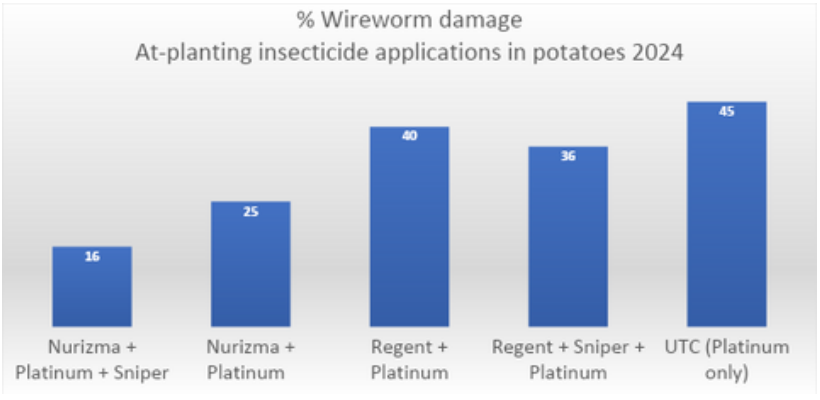
Wireworms, the larval stage of click beetles, can be a significant problem for potato growers. On the Eastern Shore, the primary species is the corn wireworm (Melanotus communis). Unlike other insects that complete their life cycle within a single year or growing season, wireworms can live as larvae in the soil for up to five years, making them particularly challenging to control.

Tunnel injury on potato tubers

Historically, chemical control has been the most effective method for keeping potatoes free from wireworm damage. However, due to changing regulations and reduced efficacy of older pesticides, we have been exploring a new class of insecticides called meta-diamides (IRAC group 30). This new class has shown promising results compared to older options.

In a study conducted on a commercial potato farm on the Eastern Shore, we tested one of the new meta-diamides (trade name: Nurzima, BASF) for wireworm control. On its own, it performed well compared to other treatments. However, we found that combining it with bifenthrin resulted in the best reduction in wireworm injury. Growers should consider adding this new class of insecticides to their toolkit for effective wireworm control.

Tunnel injury on potato tubers

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## FALL 2024 GRADUATES

***Dr. Mark Reiter, ESAREC Director & Soils & Nutrient Management Extension Specialist***


(Left to right) Dr. Mark Reiter, Professor of Soils and Nutrient Management at Virginia Tech, Mr. Andrew Fletcher, Farm Manager at the Eastern Shore AREC, Dr. Thomas Badon, Ms. Mary Michael Zahed, Dr. Joseph Haymaker, and Mr. Jean Damascene Tuyizere, visiting scholar from the Sokoine University of Agriculture in Tanzania.

We had 3 graduate students finish their programs in Fall 2024 from the Eastern Shore AREC. All 3 students worked with Dr. Mark Reiter and John Mason in the Soils and Nutrient Management research group. Students graduating were:

·Mary Michael Lipford Zahed, M.S. with her thesis titled, "Optimizing Cover Crop Integration: Early Establishment Methods and Technological Approaches for Enhanced Biomass and Nitrogen Management in the Mid-Atlantic." Her committee was Dr. Ozzie Abaye in the School of Plant and Environmental Sciences at Virginia Tech, Dr. Josh Mott at the USDA-Agricultural Research Services' Soil Management and Sugarbeet Research unit in Fort Collins, CO, and Ms. Kristen Hughes-Evans with Sustainable Chesapeake in Richmond, VA. Mary Michael began work as a Program Specialist at the Texas Water Resources Institute in San Antonio in January 2025. The Texas Water Resources Institute (TWRI) has helped solve Texas' water issues through research, education and outreach for 70 years.

·Thomas Beauregard Badon, Ph.D. with his dissertation titled, "Exploring Phosphorus Dynamics in Mid-Atlantic Soils: A Multi-Scale Analysis Integrating Soil Fertility and Land Management for Environmental Sustainability." His research committee was composed of Drs. Matt Eick and Ryan Stewart from the School of Plant and Environmental Sciences at Virginia Tech and Dr. Richard Snyder from the Virginia Institute of Marine Sciences' Eastern Shore Lab located in Wachapreague, VA, with the College of William and Mary. Beau was initially hired as a post-doctoral fellow by the USDA-Agricultural Research Service at the National Sedimentation Laboratory in Oxford, MS, before the position was terminated. He is currently working with J. C. Walker Brothers, Inc. in Willis Wharf, VA, during his job search.

·Joseph Ryan Haymaker, Ph.D. with his dissertation titled, "Cultivating Sustainability: Analyzing Soil Health Dynamics and Economics of Cover Crops in the Mid-Atlantic." His committee was Dr. Ryan Stewart from the School of Plant and Environmental Sciences at Virginia Tech, Dr. Kurt Stephenson in the Department of Agricultural and Applied Economics at Virginia Tech, and Dr. Kipling Balkcom from the USDA-Agricultural Research Services' National Soil Dynamics unit in Auburn, AL. Joseph is continuing his research efforts into nutrient cycling and cover crops by working as a postdoctoral associate with Dr. Ryan Stewart at Virginia Tech.

Thank you to countless colleagues and friends from the Eastern Shore of Virginia, mid-Atlantic region, and around the world for assisting our research group as we worked towards completion of these 3 conservation-oriented projects that will assist with growing food more efficiently and economically for years to come.

## *Weed Control Strategies in Potatoes*

### *Dr. Vijay Singh, Weed Scientist, Eastern Shore AREC*

Weed infestation and herbicide resistance among various troublesome weeds is continuously haunting the growers owing to the lesser number of viable herbicide options than before. The menace of weeds in the upcoming season depends to a larger extent on the practices being followed over the previous years and can be prevented by certain practices planned well in advance.

Procuring certified weed-free potato seed for planting is the foremost prevention technique that avoids introduction of new weeds into the field. Tillage and harvest machinery should be cleaned thoroughly of weed seeds before moving from one field to another. Crop rotation is another strategy that facilitates use of herbicides in other crops that can not be used in potato crop. Timely elimination of weeds before seed setting is required to keep the weed seed bank under check. On the Eastern shore of Virginia, major weed issues in potato are common ragweed, common lambsquarters, Palmer amaranth, large crabgrass and yellow nutsedge.

### Devising the weed control strategy

Two major components of an effective weed control program in potato are tillage and herbicides. To lessen the generation of weed seeds or propagules, potato fields should always be tilled after prior crops are harvested. If weeds develop and get close to their reproductive stages before potatoes are sown, more tillage is necessary. The majority of weeds can then be eliminated by a cultivation (drag off/ hilling) that is timed just before potato emergence.

### Preemergence (Soil-Applied) herbicides

Preemergence application of Matrix SG (Group 2, 1.0-1.5 oz/A) immediately after hilling or drag-off provides good control of major grass and broadleaf weeds. Preplant as well as preemergence application of Dual Magnum (Group 15, 1-2 pt/A) or preemergence application of Boundary 6.5EC (Group 15 + 5, 1.5-2.4 pt/A) is effective in suppressing yellow nutsedge along with major grasses and broadleaf weeds. Check label for exact rate, as herbicide rates depend on soil type and organic matter. The inclusion of Group 15 herbicides is important if sedges are a major problem. Other effective preemergence options include Outlook (Group 15, 12-21 fl oz/A) or Reflex (Group 14, 0.75-1 pt/A) which can provide excellent broadleaved weed control. Avoid application of Dual Magnum/ Outlook under cold conditions, as it can cause crop injury.

## Postemergence herbicides

Postemergence application of Matrix SG (Group 2, 1.0-1.5 oz/A) provides good control of major grass and broadleaf weeds. If grass weeds are a major problem in the field, postemergence application of Group 1 herbicides; Select Max (9-32 fl oz/A) or Poast (1-2.5 pt/A) is recommended. Use Poast (Group 1) herbicide if goosegrass is a major issue compared with other grasses. Metribuzin 75 (Group 5, 0.33-0.66 lb/A) is another option for postemergence control of broadleaf weeds but it is weak on grasses. Herbicide labels should be consulted, and appropriate adjuvants must be used for all the postemergence applications.

In summary, the use of Dual magnum (Group 15)/ Boundary (Group 15 + 5) as preemergence followed by Matrix (Group 2) + Metribuzin 75 (Group 5) as postemergence consistently provided excellent control of grasses, broadleaved weeds and sedges in our previous studies. In case of weeds resistant weeds to Group 2 herbicides, adding Metribuzin (Group 5) facilitates effective control. Reflex and Outlook can also be chosen for preemergence applications if nutsedges are not an issue.

**Herbicide options**

| Herbicide | Herbicide group | Product rate | Remarks |
|---|---|---|---|
| **Preemergence** | | | |
| Matrix SG | 2 | 1.0-1.5 oz/A | Use NIS @ 0.25% v/v if weeds are already emerged |
| Prowl 3.3 EC | 3 | 1.8-3.6 pt/A | Incorporate after application |
| Reflex | 14 | 0.75-1.0 pt/A | Avoid preplant incorporation or application to emerged potatoes |
| Dual Magnum | 15 | 1.0-2.0 pt/A | Avoid cool/wet soil conditions after application |
| Outlook | 15 | 12-21 fl oz/A | Avoid application under cold conditions |
| **Postemergence** | | | |
| Select Max | 1 | 9 – 32 fl oz/A | Do not apply any pesticide within 2-3 days, use NIS @ 0.25% v/v |
| Poast | 1 | 1.0-2.5 pt/A | Use COC @ 1.0% v/v, avoid COC when hot/humid, do not apply any pesticide within 2-3 days |
| Matrix SG | 2 | 1.0-1.5 oz/A | Use NIS @ 0.25% v/v |
| Metribuzin 75 | 5 | 0.33-0.66 lb/A | Certain cultivars are sensitive |

For more information, please refer to 2024/2025 Mid-Atlantic Commercial Vegetable Production Recommendations: https://www.pubs.ext.vt.edu/content/dam/pubs_ext_vt_edu/456/456-420/SPES-586.pdf

# THE AGENT'S CORNER

*Theresa Pittman - Accomack County ANR Agent*
*Hélène Doughty - Northampton County ANR Agent*

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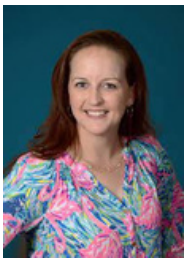


## Dead/Sick Birds? Suspect Avian Influenza? Who do I call?

### *Backyard/Small/Commercial Poultry Flocks*

If you have increased mortality in your domesticated poultry flock (backyard, small or commercial), call the Virginia Department of Agriculture and Consumer Services at 540-209-9120

### *Wild Birds*

If you observe any of the following:

- Five or more dead vultures, waterfowl, shorebirds, or seabirds in the same area within five days
- Sick or dead eagles, hawks, owls, or turkeys, excluding ones found on the road
- Ten or more dead wild birds of any species in the same area within five days

***Notify DWR by calling the Virginia Wildlife Conflict Helpline at 855-571-9003 or emailing wildlifehealth@dwr.virginia.gov.***


# Agents' Calendar: March 2025

*"Working for the Wellbeing of Our Communities!"*

- March 4: ESMG Exec Board Meeting, Agent Reporting System Training
- March 4: Northampton Farm Bureau Meeting Extension Updates
- March 6: Accomack Emergency Operations Radiological Event Plan
- March 10-15: Slug Bait On-farm Study setup and first bait application
- March 10: VCE/AREC Monthly Meeting
- March 11: Southeast District Unit Coordinator Meeting, Emporia, VA
- March 12: Eastern Shore Master Gardeners' Entomology Training
- March 19: ESSWCD Board Meeting
- March 19-20: Strengthening Facilitation Skills Workshop, Richmond, VA
- March 20: Hydroponics 101: A Beginner's Guide (Webinar Series)
- March 26: Small Farms/Homesteaders' Workshop (cut flower and small fruit production/Backyard poultry)
- March 27: Accawmacke Elementary Agriculture Career Fair
- April 3: Food Safety School, ESAREC Classroom

Ongoing:

- 2025 Eastern Shore producers' sustainability series
- Small Farm/Food Business education series

Weekly

- WESR VCE AG Radio recordings - daily @8:30am/12:30pm
- WESR Master Gardener Radio recordings - daily @12:20 pm
- Slug Trap check in cover crop study (Soybean Board Project)

# *FDA FSMA Final Rule for Agricultural Water*

***Mrs. Theresa Pittman, Agriculture & Natural Resources Extension Agent, Accomack County***

FOOD SAFETY UPDATES

The FDA's Food Safety Modernization Act (FSMA) final rule for agricultural water revises pre-harvest water provisions for covered produce (excluding sprouts). It replaces previous microbial quality criteria and testing requirements with systems-based assessments for hazard identification and risk management. Farms must conduct annual water assessments and implement mitigation measures based on findings.

Under the new FSMA final rule for agricultural water, compliance requirements include:

- Annual Water Assessments: Farms must conduct annual assessments of their pre-harvest agricultural water systems to identify potential hazards and risks.
- Mitigation Measures: Based on the assessment findings, farms must implement appropriate mitigation measures to minimize risks. These measures must be put in place within specific timeframes.
- Significant Changes: If there are significant changes that increase the likelihood of hazards, farms must reassess their water systems and update mitigation measures accordingly.
- Evaluation Factors: Farms must evaluate various factors such as water source, water distribution system, crop characteristics, and environmental conditions during their assessments.
- Documentation: Farms are required to document their assessments, findings, and mitigation measures to ensure compliance and facilitate inspections.
- These requirements aim to enhance the safety of agricultural water and reduce the risk of contamination in produce.

FDA | FDA FOOD SAFETY MODERNIZATION ACT

**KEY DIFFERENCES BETWEEN THE NEW AND OLD RULES:**

| Aspect | Old Rule | New Rule |
|---|---|---|
| **Assessment Method** | Microbial testing of water to build a water quality profile. | Comprehensive assessment of the entire water system, considering factors like land use, water source, irrigation practices, and potential contamination risks. |
| **Flexibility** | More rigid testing requirements. | More flexibility for farms to implement mitigation strategies based on their unique circumstances. |
| **Risk-Based Approach** | Relying primarily on test results. | Emphasizes a risk-based approach, identifying potential hazards through assessment and taking corrective actions. |
| **Documentation** | Required but less detailed. | Likely requires more detailed records regarding the assessment process, identified risks, and mitigation measures taken. |

## Compliance Dates

**Large Business >$500K** — **APR 7, 2025**

**Small Business $250K-$500K** — **APR 6, 2026**

**Very Small Business >$25K-$500K** — **APR 5, 2027**

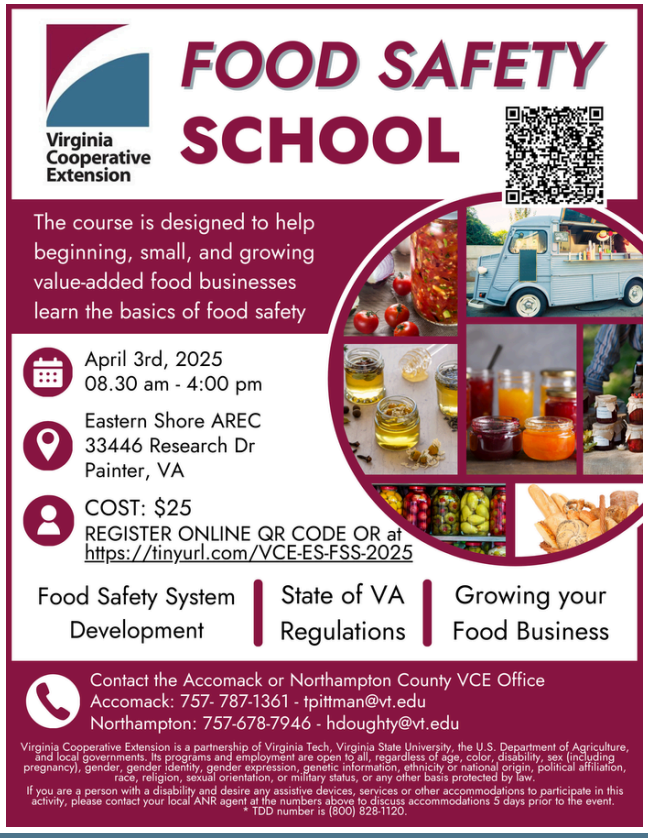
## Small Farms & Homesteaders' Workshop Rescheduled for: March 26, 2025

The harsh winter weather has compelled us to reschedule several programs, including the Small Farms & Homesteaders' Workshop.

The rescheduled date is Wednesday, March 26, 2025, at the ESAREC from 8 a.m. to 4 p.m. To register for this new date, please visit: https://tinyurl.com/VCE-ES-SFW-2025.

Whether you're looking to diversify your farming operations or simply enhance your current practices, this workshop offers valuable insights. Participants will have the opportunity to engage with experts in the field, learn about sustainable farming techniques, and network with fellow homesteaders.

Don't miss this opportunity to gain knowledge and skills that can help you thrive in the world of small-scale agriculture. For more information or assistance with registration, feel free to reach out to our dedicated team. We look forward to welcoming you and supporting your farming journey!


## Food Safety School Rescheduled for: April 3rd, 2025

Participating in the VCE Food Safety School will equip attendees with a thorough understanding of Virginia's food safety regulations and the compliance necessities for food businesses. The workshop will guide participants through the essential steps to create a strong food safety system and share best practices for upholding high safety standards.

Moreover, participants will discover strategies for growing their food business while maintaining safety and tips for scaling operations without sacrificing standards.

The workshop is set for Thursday, April 3rd, 2025, from 8:30 AM to 4:00 PM at Eastern Shore AREC, located at 33446 Research Dr, Painter, VA, with a registration fee of $25.

Hosted by Virginia Cooperative Extension, this program is inclusive and welcomes everyone. For accommodations and additional questions, please reach out to the Accomack office at 757-787-1361 (tpittman@vt.edu) or the Northampton office at 757-678-7946 (hdoughty@vt.edu).

## FROM THE DESK OF DR. SUTTON

**become part of a community engaged science project!**

Help Virginia Cooperative Extension Volunteers and personnel in identifying and mapping the spread of the allium leafminer, an invasive pest that poses a significant threat to allium crops, including onions, garlic, shallots, and ornamental alliums.

EASTERN SHORE AGRICULTURAL RESEARCH AND EXTENSION CENTER VIRGINIA TECH

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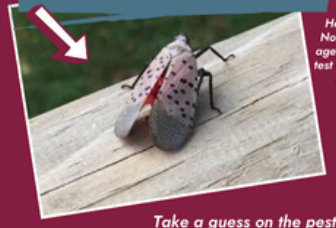
To get involved, go to:
https://mastergardener.ext.vt.edu/allium-leafminer

Contact Dr. Sutton at klsutton@vt.edu or your local extension agent (Northampton hdoughty@vt.edu; Accomack tpittman@vt.edu)

## WHAT'S THAT BUG? ???



*Hélène Doughty, Northampton ANR agent, invites you to test your entomology knowledge.*

*Take a guess on the pest and email or text your answer to 757-999-0780 / hdoughty@vt.edu*

***February Answer:***
***Colorado Potato Beetle***

Last month's insect was the Colorado potato beetle (Leptinotarsa decemlineata). It is a notorious pest of potato crops. It primarily feeds on plants in the nightshade family, (potatoes, tomatoes, and eggplants), with a preference for eggplants. Adult beetles overwinter in the soil and typically emerge in April. Control methods include crop rotation and applying insecticides. In garden settings, hand-picking beetles, using deep, plastic lined trenches, heavy mulch or applying insecticides is recommended. Effective management requires a combination of strategies to reduce beetle populations and protect crops.

## *Soil Health Survey*

***Tell us about your soil health practices and you are entered to win great prizes! Take the survey by scanning the QR code or by clicking on this link: bit.ly/soilhealthacres***

## Acres of Soil Health Implementation

Please complete this survey if new practices are being implemented including cover crops, no-till, or rotational grazing.

Farmers, Specialists, Agencies, and Organizations are all welcome and encouraged to contribute.

There will be a prize drawing once a month.
Estimated time to complete survey: 2 minute

VIRGINIA SOIL HEALTH COALITION

Virginia Cooperative Extension
Virginia Tech • Virginia State University

For more information contact Dara Booher at VFGCFarmerMentor@gmail.com

# VCE & ESAREC Contact Information

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| | Amanda Hurley | Administrative & Fiscal Assistant | amandalh@vt.edu | 757/678-7946 |
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VIRGINIA AGRICULTURAL EXPERIMENT STATION
EASTERN SHORE AGRICULTURAL RESEARCH AND EXTENSION CENTER
VIRGINIA TECH

Virginia Cooperative Extension brings the resources of Virginia's land-grant universities, Virginia Tech and Virginia State University, to the people of the commonwealth. VCE provides education through programs in Agriculture and Natural Resources, Family and Consumer Sciences, 4-H Youth Development and Community Viability.

The Virginia Tech, Eastern Shore AREC is committed to supporting commercial vegetable, grain, oilseed, and fiber production throughout the Commonwealth of Virginia. Centrally located on Virginia's Eastern Shore, the center conducts basic and applied research on more than 25 agricultural crops.