

# Deep Roots

September 2025



### **Greetings From the Director**

Hopefully it has been a productive summer for you. We hosted on June 26 at the station another successful Turfgrass Field Day, with approximately 100 attendees. This was the 15th annual turf field day Adam Nichols and I have hosted at HRAREC. Our entomologist Dr. Alejandro Del-Pozo provided an update on his insect management research, and Dr. Arash Rashed, Interim Associate Director of the Virginia Agricultural Experiment Station and Director, Southern Piedmont AREC, welcomed the attendees on behalf of the College of Agriculture and Life Sciences (CALS) at Virginia Tech. Dr. Shawn Askew, Turf Weed Scientist on campus and his former student Juan Romero gave an excellent demonstration of a smart sprayer for turf weed control. Dr. Aman Rana demonstrated the work we are doing on granular herbicide application by drone during the field day.

### In This Issue

- Greetings from the Director
- Updates
- 60 Seconds of Growth
- Upcoming Events
- Spotlights
- Turf Tips
- Fun Facts
- Publications
- Meet the Faculty
- Meet the Team

#### September 2025



We hosted three students, Kenneth Chan, Andrew Wang, and Khadeejah Jones in the VT-REEL program for five weeks at the station his summer, starting with a station tour July 1. The three students presented a summary of their research to our faculty and staff July 25. Drs. Stallknecht, Del-Pozo, and Criscione served as advisors to these three students.

We held a retirement luncheon July 24 for Ms. Patti Richardson, a long-time research assistant in the plant pathology and small fruit programs at HRAREC. Patti retired at the end of July.

Drs. Alejandro Del-Pozo, Kris Criscione, Jayesh Samtani, and I made presentations at the Virginia Nursery and Landscape Association Field Day at Cross Creek Nursery in Rockville, VA on July 31. After field day, I was given a tour of James River Nurseries by owner Mike Hildebrand, who serves on our station's advisory board.

We hosted 14 members of CALS, including faculty, and members of Advancement and Marketing and Communication on August 19. Fortunately, the rain held off so we could show them our research trials and the demonstration gardens.

Besides working with our faculty and staff, I hope you have time to visit our gardens this month as there is much to see. We appreciate all the work the Master Gardeners and other volunteers do to maintain our gardens. The Fall Gardening Festival coordinated by the Virginia Beach Master Gardeners will be on October 4 at our station.

### Garden Open House

The third annual Demonstration Garden Open House was held Saturday, June 21st. Master Gardener volunteers greeted visitors, gave mini tours of several of the 31 gardens, answered questions



and provided lemonade and cookies to offset the hot and sticky weather. Garden visitors and supporters Martha and John Stewart took a break in the



shade with Gardener Sally in the BayScape garden, and everyone smiled when we saw our first kitty on a leash visitor.

# **Updates**



### Is the Future of the Greenhouse Industry Red?

Virginia Tech researchers, with support from the Virginia Agriculture Council, are testing a red fluorescent plastic that shifts sunlight toward the red wavelengths plants use most efficiently for photosynthesis. The material, which contains quantum dots, may lead to larger leaves, higher yields, and shorter growth cycles for crops like basil and lettuce. Researchers are comparing it to standard and shaded greenhouse covers, measuring yield, plant shape, and quality traits. The study will also weigh the potential benefits against the added cost, giving Virginia growers data to decide if this innovation is worth adopting when replacing greenhouse plastic.



Full Article



September 2025

# **Updates**

### **VNLA Field Day**

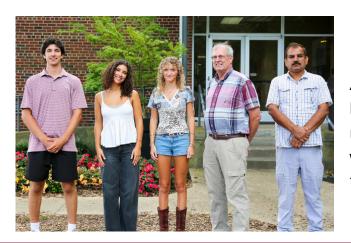
Four of our faculty represented Virginia Tech at the VNLA Field Day at CrossCreek Nurseries in Richmond, engaging with over 300 attendees. They shared the latest insights on weed and insect pest management, and soil and root health, and two of our faculty were featured in the event wrap-up-highlighting the university's commitment to supporting Virginia's growers.



### **REEL Students**



This summer, three REEL (Research and Extension Education Leadership) students spent 5 weeks at our center to gain hands-on experience in applied research. These undergraduate students are paired with faculty members who guide them through ongoing projects and introducing them to the day-to-day process of scientific research. As part of their experience, the entire group toured our station as well.



### Farewell Summer Interns

A huge thank you to our summer interns for all their hard work, creativity, and energy these past few months! Your contributions made a real impact, and we're grateful for everything you brought to the team. Wishing you the best in your next chapter!

# **Updates**

### **Turfgrass Field Day**

Our station recently welcomed lawn care and landscape professionals, and golf and sports turf managers to its annual Turfgrass Field Day, held at the Hampton Roads AREC research plots. The event offered attendees hands-on demonstrations, research updates, and practical advice on maintaining healthy, resilient turf.



Participants learned about the latest developments in turfgrass management, including strategies to reduce pesticide use, smart spraying for weed control, and invasive pest control. Researchers shared insights from ongoing studies such as our Bluemuda trials, sustainable fertilization practices, and cutting-edge maintenance techniques.

The field day is a great opportunity to see research in action and ask questions directly to our experts," said Dr. Jeffrey Derr, Station director and weed scientist. "Our goal is to provide practical solutions that help turf professionals and landscapers maintain beautiful, healthy turf while minimizing the environmental impact."





# **Updates**

#### **CALS Visitors**

A group from the College of Agriculture and Life Sciences (CALS) at Virginia Tech visited our station August 19. We gave them a tour of our research trials and demonstration gardens.





### **Police Dog Training**

You may have noticed Norfolk Police at our station. For the past few years, they've occasionally trained their dogs here, with officers hiding-often in the woods near the demonstration gardens-for the dogs to find. We're glad to support their training and appreciate the added police presence.

### Dr. Del-Pozo's PBS Feature

In this Virginia Home Grown feature, entomologist Alejandro Del-Pozo gives viewers a tour of the Hampton Roads AREC display gardens, highlighting researchdriven ways to support pollinators at home. From native perennials like black-eyed Susans to practical pest management tips, Del-Pozo shows how science and design come together to create gardens that are both beautiful and beneficial to pollinators.





Watch Now



Root phenotyping to quantify traits like length, surface area, and volume. These measurements help us better understand the overall plant.



Measuring plant "greenness" with a SPAD meter helps track plant health and test different soils, irrigation, and fertilizers.



# **Upcoming Events**

#### **VIRGINIA GREENHOUSE SURVEY**

We need your input! Take the statewide greenhouse research survey today.

Greenhouse and nursery production are booming in Virginia, contributing \$370 million to the economy in 2022. Yet, the last statewide greenhouse research survey was over 20 years agoleaving a big knowledge gap.

If you own, operate, work in, or collaborate with greenhouses, we need your input. Take the survey online via the QR code or link, or request a mailed copy at <a href="mailed:ericjs3@vt.edu">ericjs3@vt.edu</a>. Share it with colleagues, too!

Sponsored by the 2025 CALS Integrated Seed Grant Program, co-sponsored by VAES and VCE.



Click Here to Take Survey

#### **FALL GARDEN FESTIVAL**

#### Celebrate the Season at the Master Gardener Fall Festival on Saturday October 4!

Autumn is here, and so is the Master Gardener Fall Festival! Join us for a day of fun, food, and gardening inspiration. Explore plant sales, seasonal decorations, expert gardening tips, and activities for all ages.

Whether you're a seasoned gardener or just looking for a family-friendly outing, the festival is a perfect way to celebrate the season and connect with fellow gardening enthusiasts. Don't miss this chance to learn, shop, and enjoy fall in full bloom!

Stay tuned for dates, times, and special activities – on the website.



Get More Information

# **Spotlights**

Master Gardener - Mary Ann Kincaid

Meet Mary Ann, our longtime Master Gardener serving the community for 23 years and a Water Steward for 18! Before discovering the Master Gardener program, she worked in advertising, but a desire to be outdoors and inspiration from local gardening experts led her to join. Gardening has always been a passtime for Mary Ann, but she's enjoyed learning from past mistakes right in her own backyard. Her spouse got involved too, bringing years of vegetable gardening experience to the program. Together, they discovered that Master Gardening is about far more than plants. It's a welcoming community that fosters learning, collaboration, and shared enjoyment. As Mary Ann says, "It's 25% horticulture, 75% social," connecting people through a shared love of gardening rather than politics or religion. For Mary Ann, the best part of the program is the friendships, mentorship, and camaraderie that come from being part of a vibrant community.

#### Staff - Aman Rana

Aman is our Lab and Research Specialist with the weed science program. He brings a strong background in technology-driven research to his role at the AREC including his certification as a drone pilot. Aman earned his Ph.D. at Virginia Tech, where he focused on innovative weed management strategies including microwave radiation and herbicide evaluation. He went on to a postdoctoral role at Texas A&M University, designing field research projects that used unmanned aerial systems (UAS) and machine vision to evaluate herbicide efficacy in major field crops. Since returning to the AREC in 2018 he has been a key contributor to the nursery weed control program, applying his expertise in field and greenhouse trial design, data analysis, and new technology development. With a passion for combining computer science, artificial intelligence, and agronomy, Aman is constantly exploring creative ways to improve weed management systems.



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# Fall Turf Tips

FOR HOMEOWNERS

Jeffrey Derr and Adam Nichols



As temperatures cool in fall, it's time to focus on winter weed control, fertilization, and overseeding. Winter annual weeds, such as annual bluegrass (Poa annua), typically germinate from September to November. Homeowners have limited options for selectively controlling emerged annual bluegrass, so applying a crabgrass preventer—like prodiamine, dithiopyr, or pendimethalin—before germination (mid-August to early September) can help. However, these products also prevent successful overseeding of tall fescue and other turf species, so you must choose between overseeding or preemergence weed control. Thin lawns often benefit more from overseeding, as increased turf density naturally reduces annual bluegrass.

Crabgrass preventers can also control some winter annual broadleaf weeds, such as chickweed and henbit, preventing them from appearing at all. Lawn burweed, which produces sharp spines in spring, can be managed preemergence with isoxaben or postemergence with three-way herbicides before it matures. Bermudagrass in tall fescue can be suppressed with targeted products if applied before dormancy.



Fall is also the ideal time to fertilize cool-season grasses like tall fescue, supporting root development without excessive shoot growth. Warm-season grasses, including bermudagrass, zoysia, and St. Augustine, should be fertilized primarily during the summer months.

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## Fall Turf Tips

FOR COMMERCIAL



#### Jeffrey Derr and Adam Nichols

As temperatures cool in fall, focus on winter weed control, fertilization, and overseeding. Winter annual weeds, including annual bluegrass (Poa annua), typically germinate from September through November. Preemergence crabgrass preventers—such as prodiamine, dithiopyr, or pendimethalin—applied in mid-August to early September can reduce annual bluegrass, chickweed, and henbit density. However, these products also prevent successful overseeding of coolseason turf. For overseeding, products like Tenacity or Sublime can help establish new turf while suppressing winter annuals.

For emerged annual bluegrass in tall fescue, ethofumesate (PoaConstrictor) and bispyribac (Velocity) are options, though repeat applications may be needed. Velocity can also be used in dormant bermudagrass overseeded with perennial ryegrass, while actively growing bermudagrass requires alternatives like Revolver, Monument, or Katana.

Isoxaben (Gallery) provides preemergence control of broadleaf winter annuals, including lawn burweed (Soliva sessilis), which produces spiny seeds in spring.

Apply before emergence to prevent problems, or use postemergence threeway herbicides before the weed matures.

Fall is also the optimal time to fertilize cool-season turf like tall fescue, promoting root development without excessive shoot growth. Warm-season grasses—including bermudagrass, zoysia, and St. Augustine—should be fertilized primarily during summer.

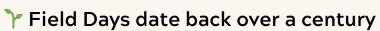




# OID YOU KNOW,

#### Welcome to

Rooted in History: Station Fun Facts



A photo from 1916 shows researchers sharing new Irish potato and vegetable (known as "Truck Crops") variety research with local growers. These early events laid the foundation for connecting science with practical farming.

\*View this photo on our Instagram + Facebook pages\*

- Ornamental Field Days have a colorful history

  The first one in 1972 featured 500 varieties of annual flowers, including over 100 petunias. Attendees got an up-close look at new plant varieties and emerging trends in landscaping.
- Attendees could take home more than knowledge
  In 1979, Field Day participants received rooted cuttings of
  unique plants to try in their own gardens. This tradition made
  the events interactive and memorable for everyone.



## **Publications**

#### Journal Articles January-August 2025

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## **Publications**

#### Journal Articles January-August 2025

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- Criscione, K.S. 2025. Lime Calibration for Soilless Media- A Tool for Greenhouse and Nursery Producers. Virginia Cooperative Extension Publication. SPES-718. https://www.pubs.ext.vt.edu/SPES/spes-718/spes-718.html.
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- Horticultural and Forest Crops Pest Management Guide. 456-017. Sections authored: Del Pozo-Valdivia (3), Derr (6), Hong (2). <a href="https://www.pubs.ext.vt.edu/content/dam/pubs-ext-vt-edu/456/456-">https://www.pubs.ext.vt.edu/content/dam/pubs-ext-vt-edu/456/456-</a> 017/ENTO-604.pdf.
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#### Meet the

# Faculty



**Dr. Jeffrey Derr**Director
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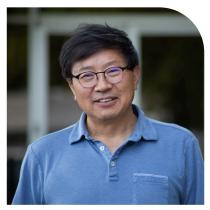
**Dr. Alejandro Del-Pozo** Entomologist



**Dr. David Sample**Biological Systems Engineer



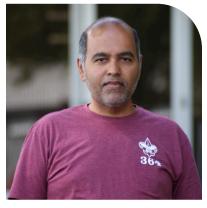
**Dr. Laurie Fox**Horticulture Associate



**Dr. Chuanxue Hong**Plant Pathologist



**Dr. Eric Stallknecht** Greenhouse Specialist



**Dr. Jayesh Samtani** Small Fruits Specialist



**Dr. Kris Criscione**Nursery Production
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