



Note From the President:

Hoping everyone’s summer went off without a hitch, and that research trials, field days, and clientele interaction was a complete success. It is you, the active members of Southern Weed Science Society that are the reason for the success of our society. I have been extremely lucky to interact with many of you over the years and consider many you treasured colleagues. As we move closer to the 2025 annual meeting we can reflect on the success of our society and the many members that have played a vital role in that rich tradition. The 2025 meeting will be held in historic Charleston, SC at the Charleston Marriott. I would encourage all our members to take time to explore the rich history of agriculture in the region. Building on this historic venue for our 2025 meeting will provide us an opportunity to emulate the outstanding tradition that has been built by the members of the Southern Weed Science Society. Eric Palmer (SWSS President-Elect) in his role as program chair is developing an excellent program for the 2025 meeting. This meeting will celebrate the history of the SWSS while investigating opportunities that we can build upon to guarantee the success of SWSS members in the future. Matthew Cutulle is serving as the chair of the local arrangement committee while helping with many of our graduate student events will also be providing information on some of the unique site-seeing opportunities in the area. On that note I would also encourage each of our members to become more active in the society by not only presenting your valuable research but participating in the meeting sections, offering to serve on committees, and most importantly voicing your opinion and becoming an active member in the SWSS. It is the responsibility of each of us as SWSS members to honor past members by working to ensure the success of the Southern Weed Science Society for future members.



“The most important history is the history we make today” – Henry Ford

Todd Baughman
2024 SWSS President

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2024 Weed Contest Winners

Overview: The Southern Weed Science Competition was held in Blacksburg, VA on August 7th. This years competition was hosted by Virginia Tech with local arrangements being handled by Shawn Askew, Michael Flessner, Jacob Barney, and Whitney Askew. There were 10 universities represented from across SWSS.

SWSS Contest Participation:

Year	Universities	Contest Participants		Total Participants
		Graduate	Undergrad	
2024	10	75	11	79
2023	10	52	7	59
2022	11	57	9	66

Student Contest Overview

The contest followed the official rules in place for the SWSS Weed Contest. Students competed in weed identification, calibration, identification of unknown herbicides, crop/weed problem identification an recommendations and a mystery event. Awards were given for individual and team contest winners.

Awards

Graduate Individual

Top Individual Graduate Students		
Place	Name	School
1 st	Tristen Avent	University of Arkansas
2 nd	Maria Souza	University of Arkansas
3 rd	Tanner King	Mississippi State
4 th	Michael Dodde	University of Arkansas
5 th	Jared Smith	University of Arkansas
6 th	Tunde Akanbi	Auburn University
7 th	Cory Ketchum	University of Arkansas
8 th	Gustavo Camargo-Silva	Texas A&M
9 th	Akashdeep Singh	Auburn University
10 th	Gavin Sparks	LSU

1st Place by Contest		
Contest	Name	School
Weed Identification	Gustavo Camargo-Silva	Texas A&M
Unknown Herbicide Identification	Maria Souza	University of Arkansas
Farmer Problem	Josh Lee	University of Georgia
Individual Calibration	Tristen Avent	University of Arkansas

Graduate Team

Team Calibration Results		
Place	Names	School
1st	Ncomiwe Maphalala, Ailaina Richardson	Mississippi State; Team 2
2nd	Jared Smith, Maria Souza, Michael Dodde, Cory Ketchum	Arkansas; Team 1
3rd	Ronel Argueta, Alexandra Veverka, Samuel Crawford	NC State; Team 3

Top Overall Teams		
Place	Names	School
1st	Jared Smith, Maria Souza, Michael Dodde, Cory Ketchum	University of Arkansas; Team 1
2nd	Tanner King, Alex Mangialardi, Jacob Dodd, Amy Wilber	Mississippi State ; Team 1
3 rd	Gustavo Camargo-Silva, Sarah Chu, Purushottam Gyawali, Kapil Chohbe	Texas A&M; Team 2

Undergraduate Individual

Top Individual Undergraduate Students		
Place	Name	School
1 st	Aidan Ross	University of Arkansas
2 nd	Rhet Baxley	University of Arkansas
3 rd	Eve Williams	Louisiana State University

1st Place by Contest		
Contest	Name	School
Weed Identification	Rhet Baxley	University of Arkansas
Unknown Herbicide Identification	Aidan Ross	University of Arkansas
Farmer Problem	Aliyah Abdur-Razzaquq	Texas A&M
Individual Calibration	Aidan Ross	University of Arkansas

Undergraduate Team

Team Calibration Results		
Place	Names	School
1st	Maddie Douglas, David Cartwright, Katie Witbeck, Courtney Higham	University of Tennessee

Top Overall Teams		
Place	Names	School
1st	Maddie Douglas, David Cartwright, Katie Witbeck, Courtney Higham	University of Tennessee

A New SWSS Weed Contest Trophy: The previous Broken Hoe trophy was completely full of previous contest winners and was auctioned off at the annual meeting in San Antonio earlier in the year. A new trophy was designed by Shawn Askew and awarded at the competition this year. It contains parts of melted brass that was donated by weed science programs across the country.



Virginia Tech Competes at the NEWSS Weed Contest: In addition to hosting the 2024 SWSS Weed Contest, Virginia Tech traveled to Raleigh, NC to compete in the NEWSS Weed Contest that took place on July 30, 2024. In Raleigh, the team from Virginia Tech represented well with eight awards:

Team Results:

1st place graduate team: Eli Russell, Navdeep Godara, Wyatt Stutzman, Juan Romero Cubas

3rd place graduate team: Caleb Henderson, Elisabeth Kitchin, Ava Veith, Aaron Tucker

Individual Results:

1st place graduate individual: Eli Russell

2nd Place graduate individual: Navdeep Godara

1st place herbicide ID: Navdeep Godara

1st place Weed ID: Eli Russell

1st place farmer problem: Eli Russell

1st place written calibration: Eli Russell

Congratulations to all of those who placed!

Updates Corner

Michelle Brenton—New SWSS Business Manager

Michelle attended Champlain College in Burlington, Vermont, where she earned her Bachelor of Science degree in Marketing and spent a semester in Dublin, Ireland as the Special Olympics Fundraising Intern. After graduating in 2018, she began her career at iHeartRadio as a Sales Assistant, where she was able to master her time management skills with strict deadlines and scheduling clients radio advertisements. In

2020, Michelle left iHeartRadio and began working in organization management as a Membership Director, where she acted as the face of a women-focused organization.

By managing all communications, mastering multiple membership databases, developing user-friendly websites, and maintaining monthly finance reports, she gained the experience needed to advance her career. Joining IMI in June 2021, Michelle has utilized her professional experiences and

knowledge to act as an effective Account Executive. Michelle is the Business Manager for NCWSS, SWSS and a Surgical Assistant Client with IMI. She also assists with WSSA and other clients. You will likely recognize Michelle; she has been a fixture at WSSA events since 2022. In her free time, Michelle enjoys reading, painting, watching scary movies, and running for exercise.



Annual Meeting 2025 in Charleston, SC Info
Deadlines to remember:

- Paper Title Submission: October 11, 2024
- Abstract Submission: January 6, 2025
- Presentation Submission : January 13, 2025



Election Details

It's SWSS Officer Election Time! Please take the time to review the submitted bios for the candidates. Voting will open soon through the SWSS website in the Members Only tab.

Member at Large – Academia

Jenny Dudak - Oklahoma State Univerisy
Nick Basinger - University of Georgia

Member at Large – Industry

John Richburg - Corteva
Ken Hutto - FMC

Vice President

Matt Goddard - Bayer
Drew Ellis - Corteva

Endowment Foundation

Gary Schwarzlose - Bayer
Cody Gray - UPL



Member-at-Large—Academia

Jenny Dudak

Jenny Dudak is an Assistant Professor and Extension Cotton Specialist in the Plant and Soil Sciences department at Oklahoma State University. She grew up in a rural community in Northeast Iowa but spent much of her child and young adulthood on her family's farm in Northwest Illinois. They raised corn, alfalfa, beef cattle, horses, hogs, poultry, and ran a small dairy. She earned her Bachelor's in Plant and Environmental Soil Science from Texas A&M University in 2019. During this time, she also competed at the 2017 SWSS Weed Contest where her undergraduate team from Texas A&M University placed first overall. Following graduation with her B.S., Jenny pursued her Master's in Agronomy from Texas A&M University under the advisement of Dr. Reagan Noland. Her thesis research focused on cotton management practices to reduce reniform nematode populations and increase yields. After completion of her M.S. in 2021, she moved to Ardmore, Oklahoma to pursue her Ph.D. in Weed Science at Oklahoma State University under the direction of Dr. Todd Baughman. Her dissertation research included two projects focusing on herbicide performance of isoxaflutole in Axant™ Flex cotton systems conducted in collaboration with 13 Extension Weed Scientists, Cotton Specialists, and Agronomists across the Cotton Belt. During this time, Jenny also consulted for a group of cotton producers in Central Oklahoma. Throughout the duration of her Ph.D., Jenny competed in the Student Paper Contest at SWSS, where she placed second in 2023, the WSSA Student Presentation Contest and the 2022 SWSS Weed Contest. She accepted the Extension Cotton Specialist position with OSU in October of 2023 and officially assumed the role in May of 2024 after graduation.



Nick Basinger



Dr Basinger is an Associate Professor of Weed Science at the University of Georgia in the Department of Crop and Soil Science. Dr. Basinger received his Masters and Ph.D. from North Carolina State University where he studied the impacts of weed interference on biomass accumulation of weed and crop species as well as the impacts on crop yield under the direction of Drs. Katie Jennings and David Monks. Dr. Basinger has 55% research, 40% teaching, and 5% service appointments in the Department of Crop and Soil Sciences. His work focuses on altering and manipulating agroecosystems to minimize the effects of weeds. He is devoted to Integrated Weed Management (IWM) as a means to manage weeds, minimize the potential for herbi-

cide resistance, and improve the productivity of desirable crops in crop and noncrop systems. He teaches Weed Science (CRSS 4340/6340-CRSS 4340L/6340L), Herbicide Technology (CRSS 6350), and Experiential Weed Science Contest Preparation (CRSS 6360). He has been the UGA weed team coach since 2019 and continues to work to encourage students to view weed science through an integrated lens. He is currently the Coordinator of the Masters of Plant Protection and Pest Management program at UGA. He has been a member of SWSS since the beginning of his Masters degree in 2012, has served as the chair for the Outstanding Graduate Student Award for the WSSA and SWSS, and has served as a judge for student oral and poster contests since 2019. He looks forward to expanding his service to the SWSS as a Member at Large as a representative from academia.

Member-at-Large—Industry

John Richburg



John Richburg is an Integrated Field Scientist for AL and GA with Corteva agriscience. He is a native of Grove Hill, Alabama where his first agriculture experiences were on the family's cattle farm. He received his B.S. from Auburn University in Agronomy and Soils in 1988 and a M.S. under Dr. Harold Walker at Auburn in Weed Science in 1991. He completed his Ph.D. in Weed Science under the direction of the late Dr. John Wilcut at the University of Georgia in 1994.

John began his professional career with Dow AgroSciences in 1994 as a Weed Scientist at the company's Greenville, MS Field Station with emphasis on rice, soybeans and cotton. In 1999 he relocated to Dow AgroSciences's global headquarters in Indianapolis, IN as the lead biologist in Herbicide Discovery for rice herbicides. He held several other

Discovery and Field R&D roles before relocating back to Greenville, MS in 2003 as the Field Station Leader. In early 2009 he transitioned into a regional manager role for Field Development R&D then in 2010 to his current role. Throughout his career, he has helped develop products including Strongarm for peanuts, Clincher, Grasp, GraspXtra and RebelEX for rice and WideStrike/WideStrike3 insect protection in cotton. He was instrumental in the development of Enlist Cotton and the Enlist Weed Control System as well as several new insecticide, fungicide and nematicide products. He has authored or co-authored 27 refereed journal articles, 190+ abstracts, hundreds of internal project summary milestone reports and 6 patents.

John has been involved with SWSS since 1989 serving in various roles including judge for the weed contest, judge for the student paper contest, Chairman of the Student Awards Committee, the Finance Committee, Chairman of the Sustaining Members Committee and previously as an Industry Rep on the SWSS Board. He is active in numerous other professional organizations and also served as MWSS President 2007-2008.

Ken Hutto

Dr. Hutto, originally from Mississippi, received his Bachelor of Science degree in Microbiology from Auburn University. After graduating, he accepted a position with the U.S. Food and Drug Administration as a Microbiologist at the Southeast Regional Laboratory in Atlanta, GA working with food-borne microbial pathogens.

He returned to Mississippi for graduate school at Mississippi State University where he received his Master of Science in Weed Science specializing in Turfgrass Weed Management under the direction of Dr. Euel Coats. He continued his studies at Mississippi State for his Ph.D. in Weed Science advised by Drs. John D. Byrd, Jr. and David Shaw utilizing hyperspectral radiometry as a management tool to identify turfgrass stressors.

After receiving his Ph.D., Dr. Hutto began working for the University of Florida as a Post-Doctoral Research Associate at the West Florida Research and Education Center where he was responsible for managing turfgrass and agronomic crop herbicide efficacy and tolerance trials. Additionally, he continued to conduct research in turfgrass science both from a pest management and cultural aspect.

In May 2007, Dr. Hutto joined FMC Global Specialty Solutions as a Technical Service Manager – Midwest Region. Since beginning at FMC, he has continued to advance from regional technical service responsibilities to global product development roles. Currently, Dr. Hutto serves as the Associate Director – Product Development for the Global Specialty Solutions business.

Over the years, Dr. Hutto has remained active in regional and national societies. He is an active member of SWSS, WSSA, ASA, GCSAA, and several regional societies. He has assisted in judging posters at SWSS and ASA - Crop Science meetings. He served as Vice-Chair and Chair of the Crop Science C-5 Industry Committee. Dr. Hutto has provided technical training to end users across the country, which has been one his favorite experiences of his education.



Vice President

Matt Goddard



Matt Goddard grew up near Paris, TN on a small row crop farm. He received his B.S. in Plant and Soil Science from The University of Tennessee at Martin, a M.S. in Plant Science from The University of Tennessee at Knoxville, and a PhD in Weed Science from Virginia Tech. He currently serves as Agronomy Solutions Lead – Central Plains for Bayer Crop Science and is based in St. Louis, Missouri.

Matt began his 14-year career with Monsanto/Bayer as an Agronomic Research Manager at the Leland Agronomy Center in Leland, MS where he conducted field trials testing herbicide systems, formulation efficacy and crop tolerance for Monsanto's developmental chemistry and seed traits portfolio. He soon transitioned into a Testing Operations Manager role within the Global BioEvaluations Team where he managed the research program and personnel at the site. In 2013, Matt transitioned to Seeds and Traits Technology Development Representative for Arkansas, and the

Soybean Field Advancement Specialist for the Midsouth. In 2020, he moved to St. Louis becoming the North America Market Development Manager for Soybean Traits where he was the technical lead for current soy herbicide systems and supported pre-launch and launch efforts for new soy herbicide trait platforms in the US and Canada.

Matt has been a long-time member of the SWSS and has served the society as past Student Contest chair and Member-at-Large – Industry. In his spare time, Matt enjoys mountain biking, trail running, snow skiing, travel, and spending time with his family and friends

Drew Ellis



Drew Ellis works for Corteva Agrisciences as an Integrated Field Scientist for Arkansas, Missouri bootheel, and Tennessee. Drew grew up in Middle Tennessee and developed a passion for agriculture while working on his Grandfather's small horse and grain farm. He received a B.S. at University of Tennessee at Martin in Environmental Science. During such he was blessed with an opportunity to intern for BASF for two summers. This experience opened his eyes to a career in Weed Science. In 2005 he completed his M.S. in Weed Science at the University of Arkansas under Dr. Ron Talbert and then on to University of Tennessee as a Ph.D student and Research Associate working with Dr. Tom Mueller. He completed his Ph.D in 2009 and started working for Dow AgroSciences (now Corteva) at the Crop Protection Station in Greenville, MS.

Drew has spent time in both R&D and Commercial roles. As a Market Development

Specialist in the Commercial side of Corteva he will tell you was the most challenging yet rewarding experience getting to train Retail, Crop Consultants, and Growers on how to best manage pests on the farm. He has delivered key research results that were important in developing herbicides, insecticides, and nematicides. Major products like the Enlist Weed Control System (AAD-12 trait, 2,4-D choline), Rebel Ex, Transform, Elevore, Loyant, and Reklemel are just a few that he assisted in development and launching. He has been blessed to have been chosen by his commercial peers as the District MVP two times for significant contributions to Corteva's sales team.

Drew has made giving back to the SWSS a key priority over the 15 years as a Member (post graduate school). He has Chaired the Student Oral/Poster Competition, Summer Weed Contest, Herbicide Resistance Committee, and has served on the Board as Member at Large – Industry. He enjoys the opportunities to judge graduate student presentations and volunteering at the Summer Weed Contest every year possible. The most humbling part of his journey in the Society was the award of Outstanding Young Weed Scientist in 2016. He believes that the SWSS offers all members and students the greatest of opportunities to gain experience, grow professionally, and develop skills that will benefit our communities for many years to come.

Endowment Foundation

Gary Schwarzlose



Gary Schwarzlose, a Texan by birth, is a Principal Field Agronomist with Bayer Research and Development. He received his B.S. in Agronomy (1983) and his Master's of Ag in Agricultural Chemistry (1984), both from Texas A&M University.

Following graduation, Gary and his family moved to Leland, MS to work at the American Hoechst research farm. During his 39+ years in the industry, he has worked for Stauffer Chemical, American Hoechst, Hoechst-Roussel Agri-Vet, AgrEvo, Aventis, and Bayer CropScience. His job responsibilities have included Assistant Research Biologist, Herbicide Specialist, Field Development Rep, Technical Service Rep, Sales Rep, Principal Scientist, and now Principal Field Agronomist. His territories have included states from New Mexico to Alabama. In 1992, he moved back to Texas and is there to stay.

His current job responsibilities are to evaluate early phase product chemistry in various cropping systems throughout his territory. Trial disciplines include herbicide, insecticide, fungicide, and seed growth products. He is frequently involved with the evaluation and improvement of Bayer CropScience Field Solutions' business activities. He helps develop, evaluate, and maintain upcoming hardware and software as it relates to current and future business models. Gary serves as the North America lead for a Bayer CropScience team which evaluates new software and trains users on the use of these programs for trial and data management.

He is a Past-President of the Southern Weed Science Society (SWSS), the Texas Plant Protection Association (TPPA), and the American Peanut Research and Education Society (APRES).

Gary has been an active member of the American Peanut Research and Education Society, the Southern Weed Science Society, and the Weed Science Society of America, serving on numerous committees in those societies over the years. In the Southern Weed Science Society (SWSS) in addition to his SWSS Board of Director's responsibilities, he has chaired the Local Arrangements Committee, the Site Selection Committee, and the SWSS Endowment Foundation Committee.

Gary has received several awards, including being named a 2021 APRES Fellow, 2023 SWSS Fellow, and a 2021 Special Achievement Award from the West Texas Agricultural Institutes. He was recognized by the TPPA with an Industry Award, the Ray Smith Leadership Award, and the 2022 TPPA Norman Borlaug Life-

Cody Gray



Cody was raised on his grandfather's dairy farm near Ralston, OK. He received his Bachelor's degree in chemistry at Southwestern Oklahoma State University in 1998. He received his M.S. at Oklahoma State University in Weed Science in 2001. In 2005, Cody completed his graduate education with a Ph.D. in Weed Science at Mississippi State University. After completing his graduate education, he accepted an Assistant Professor position with the University of Florida at the Fort Lauderdale Research and Education Center located in Fort Lauderdale, FL where his appointment included research on invasive aquatic plants, aquatic extension specialist for the southern half of Florida and taught a pesticide application course. Cody joined United Phosphorus Inc. (UPI) as a Field Development Representative, in which, he oversaw all aquatic herbicide and algaecide technical service and research trials conducted in the United States, Canada, Australia, and New Zealand. Additionally, Cody was responsible for all UPI product development,

including herbicides, insecticides, fungicides, miticides and fumigants, for the following states: Oklahoma, Texas, Colorado, Kansas, and Nebraska until the Arysta LifeScience acquisition in April 2019. At that time, Cody became the UPL NA Inc. US Technical Development Manager - Herbicides until September 2021 when he became the Technical Development Lead - US. In April 2024, Cody was promoted to UPL North America Research and Technical Development Head.

Washington Report

August 2024
Lee Van Wychen

2024 Survey of the Most Common and Troublesome Weeds in Aquatic and Non-Crop Areas

We would appreciate your participation in the 2024 Survey of the Most Common and Troublesome Weeds in Aquatic and Non-Crop Areas in the U.S. and Canada. <https://www.surveymonkey.com/r/KDQJFQS>. The survey will close on Labor Day 2024.

EPA Adding Ecological Mitigation Menu to Certain to Pesticide Labels to Reduce Runoff

What is the ecological mitigation menu? The EPA Office of Pesticide Programs (OPP) hosted a webinar on June 18, 2024 to introduce their mitigation menu webpage (<https://www.epa.gov/pesticides/mitigation-menu>). The mitigation measures listed on the menu are designed to reduce pesticide movement out of a treated field due to runoff or erosion and will be part of future Federal Insecticide Fungicide Rodenticide Act (FIFRA) registration and registration review decisions. The mitigation measures presented on this website currently reflect the FIFRA Interim Ecological Mitigation (IEM) effort. Some proposed interim decisions for insecticides (e.g. dimethoate, dicrotophos) and the herbicide L-glufosinate have already incorporated interim ecological mitigation measures and we may see these mitigation measures proposed for herbicides. EPA decisions that propose label directions referencing EPA's runoff/erosion mitigation menu website can be found on www.regulations.gov

Are ecological mitigation measures the same thing as endangered species act mitigation strategies? The ecological mitigation measures are the first step in protecting endangered species. The EPA is incorporating ecological mitigation measures on labels using FIFRA regulations to protect nontarget species including endangered and threatened species. The EPA Workplan Update of November 2022 (<https://www.epa.gov/system/files/documents/2022-11/esa-workplan-update.pdf>) explained that they are using the FIFRA process to add additional mitigation measures to help the EPA compliance in the future with the Endangered Species Act (ESA). By adding these mitigation measures the EPA is reducing its legal vulnerability and providing farmers access to pesticides while the ESA review process takes place between multiple federal agencies (e.g., EPA, Fish and Wildlife Service, National Marine Fisheries Service, and USDA).

How do the ecological mitigation measures affect herbicide use? Some pesticides have the potential to move with water or soil off the treated field and may pose an environmental risk to adjacent areas. Following the mitigation requirements will permit use of the pesticide and allow the user flexibility in selecting ways to protect the environment. Pesticides with environmental concerns will have directions on the label directing the user to the mitigation menu website for a description of when mitigation measures are needed, and will provide a list of options to select from. The mitigation menu is on a website to allow rapid updating of new practices as additional data come into OPP. EPA intends to update this mitigation menu website annually in the fall so pesticide users can review any changes and prepare for the next growing season.

Who will be impacted? Not all users will be required to use additional runoff/erosion mitigation. Check the FIFRA Section 3 product label first. (Types of FIFRA pesticide registrations (i.e. Section 3, 5, 18, 24) <https://www.epa.gov/pesticide-registration/types-registrations-under-fifra>). Some pesticide labels contain a "Runoff/Erosion Mitigation" section which lists specific measures to reduce runoff/erosion concerns. Initially, only counties with high runoff vulnerability (Figure 1) will be subject to the mitigation measures described on the website. The mitigation menu website has two files: one with the list of counties with high runoff vulnerability and a second file lists counties with reduced runoff vulnerability. Areas with very low, low, and medium runoff vulnerability are currently not subject to additional mitigation.

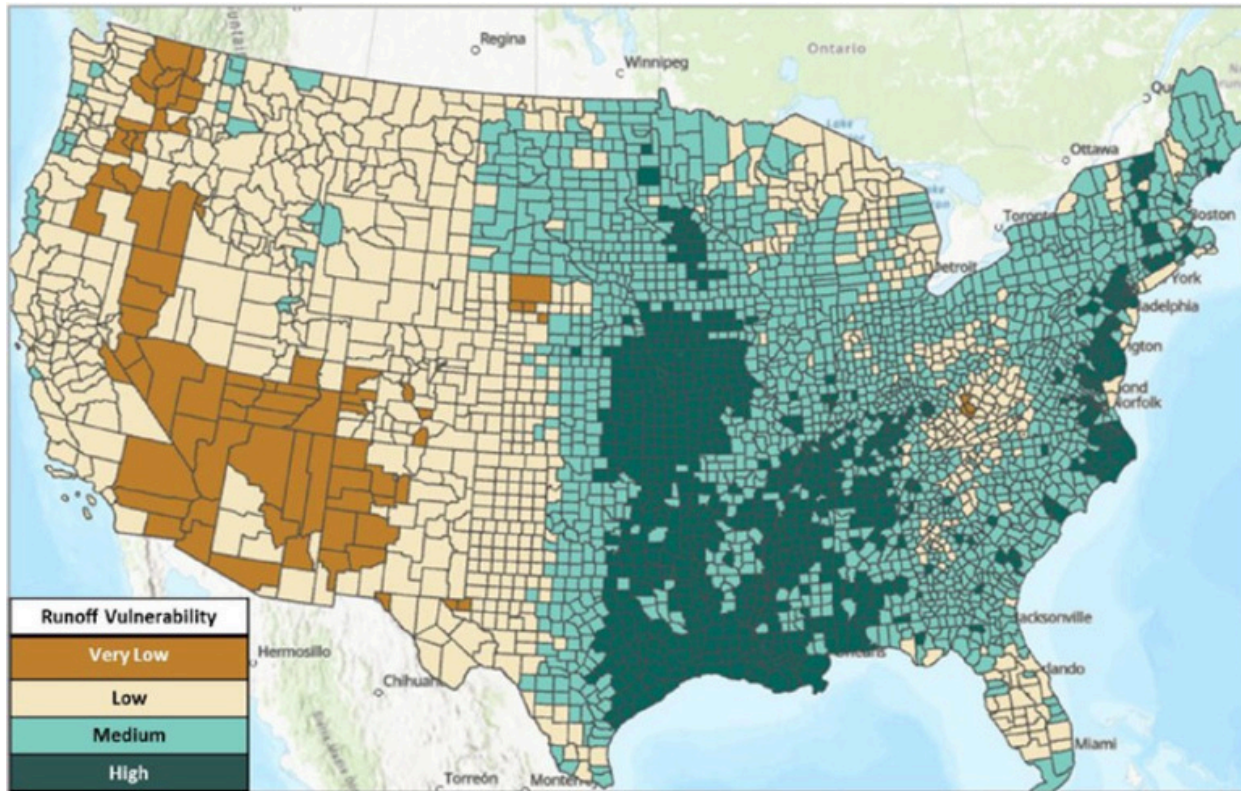


Figure 1. Runoff vulnerability at the county level. Only counties in the high (dark green) category will need additional runoff/erosion mitigation at this time.

Exceptions: In counties with high (dark green) runoff potential, runoff/erosion mitigation for interim environmental mitigation decisions are not required if any one of the following six parameters occur or can be met.

The soil in the application area is over 50% sand, a loamy sand, or sandy loam soil.

The application area has a slope of $\leq 3\%$.

3. The application is a partial field treatment (i.e., banded application, spot treatment, or backpack/handheld/precision sprayer application).
 4. The application is incorporated via irrigation or as a soil incorporation.
 5. The treated field has subsurface or tile drains installed with controlled drainage.
- The treated field has a perimeter berm system.

What are examples of ecological mitigation measures that I might have to use? If the application site is in a county with high runoff vulnerability and none of the field conditions or application parameters apply then you must choose at least one of the mitigation measures listed on the website if directed by the label. The number of measures required may vary based on pesticide and the county where the field is located. There are 20 different mitigation measures currently listed and described on the website.

- Contour farming
- Contour farming with in-field vegetation (e.g., contour buffer strips, contour strip cropping)
- Vegetative barriers
- Cover cropping/continuous ground cover
- Vegetative filter strip (20 ft minimum width, in-field or field-adjacent)
- Alley cropping
- Strip cropping
- Irrigation water management, including:
 - Center pivot, overhead sprinklers, flood, and furrow irrigation with runoff reducing technology (e.g., soil moisture sensors or evapotranspiration meters)
 - Micro irrigation (e.g., aboveground drip tape, drip emitters, or micro sprinklers)

- Subsurface Irrigation
- Mulching with natural materials
- Reduced tillage or no-tillage
- Terrace farming
- Reservoir tillage
- Erosion barriers (e.g., wattles)
- Riparian buffer zone
- Field border
- Grassed waterway
- Vegetative drainage ditch
- Constructed wetland
- Tailwater return systems
- Water retention systems (e.g., retention ponds, sediment basins)

Why is this a different website than Bulletins Live! Two? This mitigation menu is currently part of the FIFRA registration review process and the Interim Ecological Mitigation (IEM) effort. Bulletins Live! Two is part of the Endangered Species Act process. In the future, the EPA expects to expand the mitigation menu website to include mitigation options to protect endangered species under the Endangered Species Act (ESA) but currently this applies to interim environmental mitigation decisions under FIFRA.

What will we see in the future? Under FIFRA, EPA is proposing runoff/erosion mitigation measures to reduce the environmental impact of pesticides. EPA plans to use similar mitigation measures to protect endangered species. The ecological mitigation presented on this website currently reflects the FIFRA IEM effort, however, EPA intends to revise the ecological mitigation to reflect updates as its strategies to further endangered species protection are finalized, and as additional data on mitigation are submitted to the agency.

Note- A special thank you to Bill Chism, WSSA Endangered Species Act chair for compiling this information and his tireless work on these issues. Bill can be reached at carlysbarn@gmail.com; 301-351-3852. Also, many thanks to the members of WSSA’s ESA Committee for their comments and edits: Stanley Culpepper, Cameron Douglass, Leah Duzy, Aaron Hager, Brad Hanson, Carroll Moseley, Taylor Randell-Singleton, Emily Unglesbee, Mark VanGessel, Frank Wong, Nicole Zinn, Sarah Chu and Daewon Koo.

WSSA Endangered Species Act webpage: <https://wssa.net/endangered-species/>

Meet the 2024-2025 Science Policy Fellows

Sarah Ann-Drumm Chu



Sarah is a third-year PhD Student at Texas A&M University studying under Dr. Muthukumar Bagavathiannan. Sarah’s dissertation project is focused on developing methods to practice harvest weed seed control in cotton in addition to testing a new possible form of harvest weed seed control that uses blue light and mid-infrared wavelength. She received her B.S. in a dual degree of Horticulture and Agronomy at Michigan State University while working as an undergrad research assistant to Dr. Don Penner, where she was first exposed to weed science. She then earned a M.S. at Michigan State University under Dr. Erin Burns. Sarah has made strides to work on her science communication skills through the Foundation for Food and Agriculture Fellowship, allowing her to participate in congressional visits day to advocate for agricultural research. This training and congressional visits day launched her to pursue an application to the Weed Science Policy Fellowship, where she looks forward to engaging in

conversations about agriculture research funding.

Joshua Miranda



Joshua is a Ph.D. Candidate at Oregon State University under the supervision of Dr. Marcelo Moretti, where he studies a critical issue in hazelnut production: herbicide resistance in weeds. Joshua's research efforts involve conducting extensive field trials and employing both basic and applied research methodologies to understand weed dynamics and the mechanisms underlying herbicide resistance. Through his work, Joshua aspires to bridge the gap between scientific research and practical application, ensuring that innovations in weed management are accessible and beneficial to farmers, agricultural stakeholders, and the broader community. Joshua is very excited about the opportunity to be a Science Policy Fellow and is committed to making a positive impact on agriculture, farming communities, and the environment. His goal is to contribute to the committee by informing and shaping policies that promote sustainable agricultural practices and effective weed management strategies. Joshua is grateful to the WSSA

and Science Policy Committee for providing him with this invaluable learning opportunity.

Weed Science Presidents Travel to DC to Promote Ag Research Funding

During the week of May 6 – 9, five weed science society presidents visited Washington DC to advocate for federal agriculture research funding. They also attended the National Coalition for



From L to R: Lee Van Wychen, Executive Director of Science Policy; Dawn Refsell, NCWSS President; Todd Baughman, SWSS President; Tim Prather, WSWS President; Greg Dahl, WSSA President; and Erin Hitchner, NEWSS President

Food and Agricultural Research (NCFAR) annual meeting, which provided a great overview of federal agriculture spending and priorities. We also heard from USDA's Deputy Under Secretary for Research, Education, and Economics (REE), Sanah Baig and from the main House and Senate Ag Committee staff working on the Research Title in the Farm Bill. This included:

Brandon Honeycutt with Senate Ag Committee Chairwoman Debbie Stabenow
Jeremy Witte, with Senate Ag Committee Ranking Member John Boozman
Ricki Schroeder, with House Ag Committee Chairman G.T. Thompson
Emily Pliscott, with House Ag Committee Ranking Member Austin Scott

We visited 25 Congressional offices to discuss our top priority issues: 1) to restore funding for the USDA Crop Protection & Pest Management (CPPM) program and 2) increase funding for the IR-4 program.

Support the USDA NIFA Crop Protection and Pest Management (CPPM) program at \$21 million in FY 2025.

The President's Budget Request for FY 2025 slashed this program by 85% to \$3 million. The CPPM was funded at \$21 million in both FY 2023 and FY 2024. The CPPM tackles real world weed, insect, and disease problems with applied solutions through the concepts of integrated pest management (IPM). The CPPM funds Extension IPM personnel as well as a competitive IPM grants program.

Support the USDA NIFA IR-4 Project funding at \$25 million in FY 2025. The IR-4 Project was funded at \$15 million in FY 2024. The President's Budget Request for FY 2025 is \$15 million. There is a phenomenal need for specialty crop research and pest management solutions. The IR-4 Project conducts research and develops the data needed to facilitate the registration of crop protection products, including reduced risk and bio-based pesticides, for major food crops such as fruits and vegetables, as well as herbs, spices, ornamental plants and other horticultural crops. The IR-4 Project provides an incredible return on investment as it contributes \$8.97 billion to the annual U.S. GDP.

The Congressional visits were very successful. The House Appropriations Committee has restored the USDA NIFA CPPM program funding to \$21 million for FY 2025 and it appears the Senate will also do the same. The House Appropriations Committee also provided a \$750,000 increase for the IR-4 Program for FY 2025. We are waiting to see what Senate Appropriations Committee will do, but any increase in funding in this very difficult fiscal year is very much welcomed.

We also met with several other agricultural groups, including the National Alliance of Independent Crop Consultants (NAICC) and the National Farmers Union (NFU). One of the outcomes of those meetings is a tour that is being planned for EPA and FWS staff to review ESA issues. The tour is being co-sponsored by WSSA and NAICC during September 3-5 in Wisconsin. We will discuss mitigations for endangered species like the Massasauga Rattlesnake and the Rusty Patched Bumble Bee, view the unique challenges posed by the Central Sands hydrology and irrigated potato production, and view IPM practices being used in cranberry production. Finally, the group will tour the Winfield United Innovation Center in River Falls to the latest research in spray drift reduction technologies.



Steve Mirsky (back to camera) a weed scientist and research ecologist with USDA-ARS in Beltsville, MD, discusses the research involved in developing a weed image database for use in artificial intelligence and robotic precision sensor equipment. Todd Baughman (2nd from right) and Greg Dahl (4th from right) attended this NCFAR event on May 6. We also got to spend the day with USDA NIFA Director Dr. Manjit Misra (5th from right) touring various USDA ARS and University of Maryland agricultural research projects.

I want to personally thank each of the Weed Science Society presidents for their professionalism and leadership. Not to mention taking the time from their busy schedules to travel to Washington DC. I can assure you that each of their societies is well represented!

Weed Science Societies Support the Use of DRAs for ESA Mitigations

The six National and Regional Weed Science Societies sent a letter to EPA supporting the addition of Drift Reduction Adjuvants (DRAs) to the list of mitigation options available to pesticide users for Endangered Species Act (ESA) compliance. EPA's Draft Herbicide Strategy does not currently list DRAs as a tool to reduce spray drift and run off, even though DRAs are used on over 100 million acres every year.

The letter from the six Weed Science Societies supports a letter sent earlier this year on the same topic from many other stakeholder groups, including the Council of Producers & Distributors of Agrotechnology (CPDA), CropLife America (CLA), and the National Alliance of Independent Crop Consultants (NAICC). EPA has responded favorably to our request and we hope they include DRAs as a mitigation option in their Final Herbicide Strategy for ESA that is expected by August 30, 2024. The Weed Science Societies letter is at: <https://wssa.net/2024/07/national-and-regional-weed-science-societies-support-drift-reduction-adjuvants-dras-as-mitigation-options-for-endangered-species-act-esa-compliance/>

EPA Increases Atrazine CE-LOC From 3.4 to 9.7 µg/L

On July 7, the U.S. Environmental Protection Agency (EPA) announced an update to the level at which atrazine is expected to adversely affect aquatic plants. The new revised atrazine concentration of 9.7 micrograms per liter (µg/L), which was derived following an August 2023 FIFRA Science Advisory Panel (SAP) peer review, will be used to develop a revised regulatory decision to help protect aquatic plants as well as fish, invertebrates, and amphibians. Many thanks go to Jay Ferrell, John Madsen and Kurt Getsinger for their service on the FIFRA SAP.

The level at which atrazine is expected to adversely affect aquatic plants is also known as the concentration-equivalent level of concern or CE-LOC. Included in this announcement is an EPA memorandum that provides details on updates to EPA's database of aquatic plant community studies and revised exposure modeling. Also included is an updated map that shows where the level of concern is expected to be exceeded. Collectively, these updates resulted in the removal of millions of acres of land from the 2022 map of watersheds that were expected to exceed the level of concern and added a much smaller number of acres in other areas of the country. Later this year, EPA plans to update its 2022 atrazine mitigation proposal to reflect the revised level of concern and the corrections to the exposure modeling, as well as to incorporate feedback received during the 2022 public comment period. EPA will take public comment on the revised mitigation proposal and also release a response to comments on the 2022 proposed revisions to the interim decision at that time.

Letter to EPA on Improving Process for Assessing Potential Risks to ESA Species.

On July 22, 2024, the National and Regional Weed Science Societies were among 318 stakeholder organizations who endorsed a letter to EPA looking to work with the Agency on ways to improve their processes for assessing potential risks that pesticides may pose to endangered species and their critical habitats. We appreciate EPA's openness to discussing the Endangered Species Act (ESA) risk assessment process with stakeholders.

The current methods EPA uses to assess these risks are exceedingly conservative, often relying on unrefined models and very conservative assumptions, in lieu of considering available relevant and reliable scientific and commercial data. As a result, these assessments can significantly overstate risks to species, concluding that pesticide users must adopt more costly, stringent restrictions than are truly necessary to protect listed species. [Click here to read the full letter.](#)

Farm Bill Advances in the House, But Still Waiting on the Senate

The House Committee on Agriculture passed their version of the next Farm Bill on May 24, 2024. However, the Senate Agriculture Committee has yet to release their full draft of a Farm Bill. It appears that another one-year extension of the 2018 Farm Bill may be necessary if the House and Senate cannot get their bills passed before the August recess for Congress.

Some notable provisions included in the House Farm Bill:

Reauthorizes the Agriculture and Food Research Initiative (AFRI) to continue as a competitively awarded re-

search grant program through FY 2029 and adds additional topics to the scope of eligible research. Provides \$2.5 billion in mandatory funding for a competitively awarded agriculture research facilities grant program.
Mandates \$100 million in funding for student scholarships at land-grant colleges and universities.
Directs USDA to establish at least 15 Centers of Excellence, which were previously authorized to receive priority for funding. Changed the eligible areas of focus to include aquaculture, biosecurity, biotechnology, invasive species, water quality, and other topics.
Expands the scope of the High-Priority Research and Extension Initiative grant program by adding research on rangeland, tropical plant health, invasive species, biochar, soil health, microplastics and PFAS impacts on farmland, and wildfire smoke exposure on crops.

Lee Van Wychen, Ph.D.

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Meetings of the National and Regional Weed Science Societies

Dec. 9 - 12, 2024 North Central Weed Science Society (NCWSS), Kansas City, MO www.ncwss.org
Jan. 6 - 10, 2025 Northeastern Weed Science Society (NEWSS), Annapolis, MD www.newss.org
Jan. 20 - 23, 2025 Southern Weed Science Society (SWSS), Charleston, SC www.swss.ws
Feb. 24 - 27, 2025 Weed Science Society of America (WSSA), Vancouver, BC www.wssa.net
Mar 10-13, 2025 Western Society of Weed Science (WSWS), Seattle, WA www.wspeedscience.org
Jul. 14 - 17, 2025 Aquatic Plant Management Society (APMS), Providence, RI www.apms.org
