



Newsletter



PRESIDENT'S MESSAGE

Our 61st WSSA annual meeting was a great success and celebrated many firsts: 1) We were able to conduct our meeting in a virtual setting, everyone participating from their 'home office'; 2) Greatest number of graduate student participants that shared their science and gave excellent 3MT® and poster presentations; 3) All of our committee meetings completed prior to the conference and shared excellent reports; and 4) Ability to view archived presentations for an additional 30 days after the annual meeting; and 5) The conference opened with an excellent presentation by the Peterson Farm Brothers (www.petersonfarmbrothers.com), three brothers that farm together with their families near Assaria, Kansas. We were also entertained with an excellent recap of the past year by our 2020 WSSA President Bill Curran, and celebrated with our Award winners with the help of Dwight Lingenfelter as host. Congratulations to all the WSSA award winners.

With the virtual format, we were able to compile data on actual attendees for all sessions as both live and archival viewers. A total of 487 unique attendees participated in the live sessions with an additional 247 unique attendees that viewed archived presentations (this would include all the 3MT MS and 3MT PhD presentations, as well as after the conference). Across all sessions during the week, a total of 3406 live views of sessions and an additional 695 views of archived sessions were reported.

The graduate student contests had excellent participation. For the 3MT contest, there were a total of 28 PhD student presentations and a total of 15 MS student presentations. The PhD Poster contest had 32 submissions, while the MS Poster contest had 35 submissions. Thank you to Darrin Dodds and Marty Schraer for identifying judges, compiling the results, and conducting another excellent learning experience for our graduate students. Thank you to all the judges that took time in the week prior to the annual meeting to watch 3MT and read poster presentations (some doing both contests) and provide feedback to the graduate students.

We had five excellent symposia during the week. Thank you to the organizers for identifying leading experts to share their science and for moderating their ses-

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**CALL FOR
2022 SYMPOSIA**
(see inside, page 3)

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sions in the unique virtual format. We enjoyed the following focused topics: 1) Sustainable Weed Management – What is it and How are we Doing?; 2) A History, Overview, and Plan of Action on PPO Inhibiting Herbicides; 3) Optimizing Invasive Aquatic Plant Management, Monitoring, and Outreach Efforts to Meet Regional Needs; 4) Beyond the Boom – Benefits of Weed and Brush Management in Grasslands; and 5) Advances in Sensor-based Weed Detection and Precision Management.

The WSSA Board of Directors met prior to and after the annual meeting to conduct business on behalf of the membership. Members of the BOD and WSSA are actively engaged in Strategic Planning activities with Dawn Refsell, member-at-large, leading the effort. We have key individuals that are liaisons with important organizations and connecting to them on our behalf. This past year Dr. Jim Kells, our liaison with USDA-NIFA, organized and moderated an excellent series of webinars for our WSSA membership to learn more about: 1) federal grant opportunities, 2) grant writing and how to be competitive, and 3) federal career opportunities. They were well attended and the members gained a lot of value from these learning opportunities. Dr. Jill Schroeder is the WSSA representative to CAST and is part of the Plant Working group. This subgroup is looking at a potential update to previous CAST papers on invasive species. Dr. Mark VanGessel has recently accepted the role as the EPA liaison for WSSA as of mid-March 2021. There is an announcement elsewhere in this newsletter. Dr. Lee Van Wychen is our Executive Director of Science Policy, and is our connection to folks in Washington, DC and anything related to science policy. He mentored two Science Policy Fellows over the past year that made important contributions to his work. See Lee's report in this newsletter.

Official changes to the WSSA BOD occurs during the annual business meeting. We want to acknowledge the leadership, contributions, and energy that the following individuals have provided to the WSSA this past year and in their service on the BOD: Larry Steckel (Past-President), Phil Banks (Treasurer), Darrin Dodds (Secretary), Wykle Greene (Graduate Student member), Greg Elmore (NCWSS representative to WSSA), and Marty Schraer (WSWS representative to WSSA). We are excited to welcome new BOD members: Carroll Moseley (Vice-President), Greg Elmore (Treasurer), Lauren Lazaro (Secretary), Delaney Foster (Graduate Student member), Brett Miller (NCWSS rep), and Alan Helm (WSWS representative).

Planning for our joint annual meeting with CWSS in Vancouver, British Columbia, Canada for 2022 has already begun. President-elect and Program Chair, Stanley Culpepper, has put forward a call for symposia (see call in this newsletter). We look forward to having this as an in-person meeting, but we will have to wait and see how the global pandemic shakes out before then.

I look forward to working with all of our WSSA members over this next year. We have wonderful volunteers that provide scientific support, leadership, and respond to the many questions and issues we face in our weed management efforts. Let me and our WSSA leadership know how we can help you. Our spring season will be upon us soon, and I wish everyone all the best.

Take care,
Anita Dille
WSSA President

WSSA FUTURE MEETING SITES AND DATES

February 21–24, 2022
WSSA-CWSS Joint Meeting
Vancouver, British Columbia
www.wssa.net
and www.weedscience.ca

WSSA HOME PAGE
ACCESSED AT:
www.wssa.net

THINK NEWSLETTER
Deadline for Junel issue
July 1, 2021

SEND NEWSLETTER
MATERIAL TO:
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CALL FOR SYMPOSIA

2022 Annual Meeting of WSSA

**The 62nd Annual Meeting of the Weed Science Society of America
Sheraton Vancouver Wall Centre
Vancouver, British Columbia • February 21–24, 2022**

WSSA members are invited to submit proposals for symposia at our annual meeting. **The proposal deadline is June 11, 2021.** The board will evaluate the proposed symposia based on the justification, the target audience, publication plans, and the completeness of the proposal agenda and budget. Symposia organizers are strongly urged to consider publication of the symposium papers in one of the WSSA's journals and publication will be one of the factors considered in selecting symposia for the meeting. We also encourage symposia organizers to consider building in a discussion period to further increase audience participation.

Please see the guidelines below for symposia funding from the WSSA. Requests for travel support can be made for non-members only.

Symposium proposals should be emailed directly to the WSSA President Elect and Program Chair Stanley Culpepper (stanley@uga.edu) and copied to the Vice President Carroll Moseley (carroll.moseley@syngenta.com) by **June 11, 2021**. *You will receive an email confirmation that your proposal has been received.* If you have any questions, feel free to email Stanley.

SYMPOSIUM PROPOSAL FORM

Title:

Organizers:

Contact Person:

Phone:

Email:

Justification and Objectives (approximately 300 words):

Target Audience:

Publication or Outreach Plans associated with symposium presentations:

Associated Section(s):

Length of Proposed Program:

Proposed Titles and Speakers:

Budget Requested: **(Please specify the expenditure of the funds as opposed to submitting an overall amount. The more detailed the budget, the better the WSSA Board of Directors can evaluate the proposal.)**

GUIDELINES FOR DISPOSITION OF WSSA FUNDS FOR SYMPOSIA EXPENSES

Funds are available to support symposia approved by the WSSA Board of Directors for the upcoming meeting. These funds can be used by the symposium organizers, working in conjunction with the Program Chair, for expenses incurred in securing speakers. The intent of these funds is to support travel of non-member speakers.

The following guidelines are intended to help the symposia organizers and the Program Committee in allocating available funds. For a half-day symposium, the maximum allowable budget will be \$5,000 of which up to \$1,000 can be used for symposium publication costs. For full day symposia, the maximum allowable budget will be \$6,000 of which up to \$2,000 can be used for symposium publication costs. The funds will be allocated as necessary to partially cover travel speaker expenses.

Members of the WSSA who agree to present symposia papers **will not** be offered travel funds except in extreme emergencies to be determined by the Program Chair. An example of such a circumstance would be a WSSA member who is a renowned expert in the field of the symposia topic, but who has no source of funds to attend the annual meeting.

No honoraria will be offered to any speaker. No more than three nights lodging will be offered to non-member symposium speakers. All symposium speakers who are not members of the WSSA will be offered free registration at the annual meeting and a free ticket to society events (other than tours) during that week. Funds for reimbursement of some, or all, travel expenses (travel, meals, and lodging) will be made available to non-member symposium speakers based on need, availability of funds, and the value of the speakers to the program.

Room rates at the Sheraton Wall Centre for the 2022 meeting will be \$159 per night plus taxes for students and start at \$209 per night plus taxes for regular members in CAD (in US dollars, currently, that would be \$125.65 student and \$165.17 regular members).

If less than the maximum allowable funds (\$5,000 for the half-day; \$6,000 for a full day) are used for speaker travel expenses, the difference cannot be used for other purposes.

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CALL FOR SYMPOSIA CONTINUED from pg 3

Chairs should contact their intended speakers and determine their financial needs for participation. This information should be incorporated into the detailed budget for the proposed symposium.

Symposium proposals must be submitted to the President Elect and Program Chair (stanley@uga.edu) and Vice President (carroll.mosely@syngenta.com) by **June 11, 2021**. The WSSA Board will evaluate the submitted proposals and decide which symposia will be funded. The WSSA Program Chair will inform the organizers of the symposia selected for funding. Symposium organizers that receive funding can then proceed with offers of funding to non-member speakers. In no event should symposium or-

ganizers make commitments for more funding from WSSA than what was approved by the board. Symposium organizers are free to seek additional or alternate funding sources if symposia budget limits are insufficient to cover travel expenses for non-member speakers. Symposia organizers should strongly consider publication of symposium papers in *Weed Science*, *Weed Technology* or *Invasive Plant Science Management*.

Stanley Culpepper
2022 WSSA Program Chair



WSSA 2021 Student Contest Winners

3MT® M.S. Presentation Contest Winners

Section 1

1st Place: Tristen Avent – University of Arkansas
2nd Place: Rodger Farr – University of Arkansas
3rd Place: Haylee Schreier – University of Missouri

Section 2

1st Place: Daniel Priddy – Michigan State University
2nd Place: Jasmine Mausbach – University of Nebraska
3rd Place: Maggie Wasacz – Rutgers University

3MT® Ph.D. Presentation Contest Winners

Section 1

1st Place: Jacob McNeal – Mississippi State University
2nd Place: Ramawatar Yadav – Iowa State University
3rd Place: Wykle Greene – Virginia Tech

Section 2

1st Place (Tie): Camp Hand – University of Georgia
1st Place (Tie): Taylor Randell – University of Georgia
3rd Place: Shandrea Stallworth – Mississippi State University

Section 3

1st Place: Nicole Berardi – University of Guelph
2nd Place: Edinaldo Borgato – Kansas State University
3rd Place: Hannah Wright – University of Georgia

M.S. Poster Contest Winners – Sections 1, 2, 3, 4

Section 1

1st Place: Estefania Gomiero Polli – University of Nebraska
2nd Place: Pamela Carvalho Moore – University of Arkansas
3rd Place: Jose Nunes – University of Wisconsin

Section 2

1st Place: Bodie Cutter – University of Arkansas
2nd Place: Isidor Ceperkovic – Texas A&M University
3rd Place (Tie): James Beesinger – University of Arkansas
3rd Place (Tie): Lindsey Orphan – Southern Illinois University

Section 3

1st Place: Justine Fisher – Michigan State University
2nd Place: Alexis Meadows – Iowa State University
3rd Place: Sarah Chu – Michigan State University

Section 4

1st Place: Joshua Miranda Teo – University of Nebraska
2nd Place: Hannah Lindell – Oklahoma State University
3rd Place: Adam Constine – Michigan State University

Ph.D. Poster Contest Winners – Sections 1, 2, 3

Section 1

1st Place: Levi Moore – North Carolina State University
2nd Place: Matthew Kutugata – Texas A&M University
3rd Place: Kyle Russell – Texas Tech. University

Section 2

1st Place: Aniruddha Maity – Texas A&M University
2nd Place: Chandrima Shyam – Kansas State University
3rd Place: Olivia Oberland – University of Illinois

Section 3

1st Place: Bishwa Sapkota – Texas A&M University
2nd Place: Jose de Sanctis – University of Nebraska
3rd Place (Tie): Maria Zaccaro – University of Arkansas
3rd Place (Tie): Chengsong Hu – Texas A&M University
3rd Place (Tie): Jesaelen Gizotti de Moraes – University of Nebraska

2021 WSSA AWARDS



David L. Jordan
WSSA Fellow Award



Scott Senseman
WSSA Fellow Award



Bhagirath Singh Chauhan
WSSA Honorary Member Award



Jane M. Mangold
Outstanding Extension Award



Mithila Jugulam
Outstanding Research Award



Aniruddha Maity
Outstanding
Graduate Student Award



Michael Walsh
US-HRAC Herbicide
Resistance Management Award



Chenxi Wu
Outstanding Early Career
Weed Scientist



Sarah Ward
Outstanding Reviewer Award



Charlie Cahoon
Outstanding Reviewer Award



Nithya Subramanian
Outstanding Reviewer Award



Katie Jennings
Outstanding Teacher Award



David E. Ervin
WSSA Public Service Award



Peter J. Porpiglia
Outstanding Industry Award



Outstanding Paper Award, Invasive Plant Science and Management
Evaluation Landscape Characteristics of Predicted Hotspots for Plant Invasions *Invasive Plant Sci Manag* 13 (3): 163-175
ADRIAN LAZARO-LOBO

Adrian Lazaro-Lobo, Kristine O. Evans, and Gary N. Ervin

Outstanding Paper Award, Weed Science
Phenotypic Diversity of Weedy Rice (*Oryza sativa f. spontanea*) Biotypes Found in California and Implications for Management

Weed Science doi: 10.1017/wsc. 2020.43

WHITNEY BRIM-DEFOREST

Whitney Brim-DeForest, Elizabeth Karn, Teresa De Leon,
Luis Espino, and Kassim Al-Khatib



Outstanding Paper Award, Weed Technology
Tillage Based, Site-Specific Weed Control for Conservation Cropping Systems *Weed Tech* doi 10.1017/wet20.20.34

MICHAEL WALSH

Michael J. Walsh, Caleb C. Squires, Guy R. Y. Coleman,
Michael J. Widderick, Adam B. McKiernan, Bhagirath S. Chauhan,
Carlo Peressini, and Andrew L. Guzzomi



For more information on the
2021 Weed Science Society of America awards:

[Awards Program](#)



WASHINGTON REPORT

by Lee Van Wychen, Director of Science Policy

REGAN CONFIRMED AS EPA ADMINISTRATOR



Michael S. Regan (pronounced REE-gan) was confirmed by the Senate on March 10 by 66–34 vote to serve as the 15th Administrator of the U.S. EPA.

Regan is a native of Goldsboro, NC and received a B.S. in earth and environmental science at North Carolina A&T State University. He received a Master of Public Administration from George Washington University and worked at EPA from 1998 to 2008 working on air pollution issues. He then joined the Environmental Defense Fund (EDF) for eight years before being selected by NC Governor Roy Cooper in 2017 to serve as the secretary of the NC Department of Environmental Quality.

HAALAND CONFIRMED AS SECRETARY OF THE INTERIOR



Rep. Deb Haaland (pronounced HAH-lend) was confirmed by the Senate on March 15 by a 51–40 vote to lead the Department of the Interior. She is the first Native American to run the Department of the Interior in its 171 year history, and the first Native American Cabinet secretary in U.S. history.

Haaland was born in Winslow, Arizona and is an enrolled member of the Laguna Pueblo. At 28, she enrolled at the University of New Mexico, where she earned a Bachelor of Arts in English in 1994. She earned her J.D. in In-

dian law from the University of New Mexico School of Law in 2006 but is not a member of the New Mexico State Bar. Haaland served as the tribal administrator for the San Felipe Pueblo from 2013 to 2015 and was elected to a two-year term as chair of the Democratic Party of New Mexico before being elected to the U.S. House of Representatives in 2018 for New Mexico's 1st District. She was subsequently re-elected for a second term in the House in 2020 before being nominated for Interior Secretary

CASTILLE APPOINTED AS NEW USDA-NIFA DIRECTOR



On Dec. 22, 2020, the Trump administration named Dr. Carrie Castille as the new director to USDA's National Institute of Food and Agriculture (NIFA). The NIFA director position is a six year appointment and she will be the first female to serve in this role in a non-acting capacity.

Dr. Castille served as Assistant Professor and Agriculture and Natural Resource Leader at Louisiana State University prior to serving as Associate Commissioner and Senior Advisor to the Commissioner for the Louisiana Department of Agriculture and Forestry. She was currently serving as coordinator for USDA's Farm Production and Conservation mission area in the mid-south.

Dr. Castille was appointed by USDA Secretary Vilsack to the National Agriculture Research, Extension, Education, and Economics (NAREEE) advisory board from 2010–

2017. During this period, she served as Chair of the NAREEE board, and also contributed to many organizations, including the American Public and Land Grant University (APLU) Council on Agriculture Research, Extension, and Teaching.

She holds a Ph.D. in Renewable Natural Resources and M.S. in Environmental Studies from Louisiana State University, and a B.S. degree in Industrial Engineering from the University of Louisiana at Lafayette.

BLAZEK NAMED NEW WHITE HOUSE AGRICULTURE ADVISOR



The White House recently announced that Kelliann Blazek will serve as special assistant to the President for agriculture and rural policy. Blazek most recently served as the first director of Wisconsin's Office of Rural Prosperity, which was created by Governor Tony Evers in 2020 to support the state's rural communities. Previously, Blazek worked as counsel to Rep. Chellie Pingree (D-ME) and taught food law and policy at the Antonin Scalia Law School. She has also worked at the Harvard Food Law and Policy Clinic and the National Sustainable Agriculture Coalition. Blazek holds a JD degree from the University of Wisconsin Law School and grew up on her family's farm in Wisconsin.

SCIENCE GROUPS CALL FOR INCREASED FEDERAL INVESTMENT IN AGRICULTURAL RESEARCH

The National and Regional Weed

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Science Societies joined more than 130 scientific, academic, and agricultural stakeholders in urging newly confirmed USDA Secretary Tom Vilsack to increase public investment in food and agricultural research.

A recent study found that U.S. public agriculture R&D spending from 1910 to 2007 returned, on average, \$17 in benefits for every \$1 invested. However, the federal share of overall ag R&D spending as a percentage of GDP is now at its lowest point since the 1950s, and food and agriculture lags even further behind most other federal R&D areas. Agricultural research funding at the USDA has remained fairly flat over the last fifty years. In contrast, funding for other Federal research agencies, such as the National Institutes of Health and the National Science Foundation, has increased 10- to 20-fold during the same period. Additionally, other countries, including Brazil, China, and India, are investing heavily in agricultural R&D, while the United States is falling behind.

that were not in the House passed version. The 2020 WRDA:

- Authorizes **\$25 million** for a **Harmful Algal Bloom (HAB)** demonstration program to “determine the causes of, and implement measures to effectively detect, prevent, treat, and eliminate, harmful algal blooms associated with water resources development projects.” The HAB demonstration program will be carried out by ACOE with focus areas in the Great Lakes, the tidal and inland waters of New Jersey, the coastal and tidal waters of Louisiana, the waterways of the counties that comprise the Sacramento-San Joaquin Delta, California, the Allegheny Reservoir Watershed in New York, and Lake Okeechobee, Florida.
- Requires ACOE to add “**prevention**” to its aquatic invasives species research, in addition to its research on the management and eradication of aquatic invasive species.
- Directs ACOE to conduct a **terrestrial noxious weed control** pilot

program in consultation with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) “to identify and develop new and improved strategies for terrestrial noxious weed control on federal land under the jurisdiction of the Secretary (of the Army).”

- Authorizes **\$50 million** per year for FY 2021–2024 for ACOE to “enter into partnerships with applicable States and other Federal agencies to carry out actions to prevent the introduction of, **control, or eradicate invasive species that adversely affect water quantity or water quality**” in the Platte River Basin, the Upper Colorado River Basin, the Upper Snake River Basin, and the Upper Missouri River Basin. ACOE shall give priority to projects that are intended to control or eradicate **Russian olive** (*Elaeagnus angustifolia*) or **saltcedar** (of the genus *Tamarix*).
- Authorizes **\$10 million** for the Secretary of the Interior, acting through

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2020 WATER RESOURCES DEVELOPMENT ACT BECOMES LAW

The 2020 Water Resources Development Act (WRDA) was included in the massive 5000+ page Consolidated Appropriations Act of 2021 that was signed into law (P.L. 116-260) on Dec. 27, 2020. WRDA bills are authorization bills enacted by Congress, analogous to “Farm Bills.” WRDA bills deal with various aspects of water resources such as environmental, navigational, and flood protection issues that are mostly administered by the U.S. Army Corps of Engineers (ACOE). This is the 14th WRDA bill enacted since 1974 and the fourth since 2014.

The Aquatic Plant Management Society (APMS), along with the weed science societies, supported passage of the Senate version of WRDA which had many invasive species provisions

FINAL APPROPRIATIONS FOR FY 2021 AND WEED SCIENCE SOCIETY REQUESTS FOR FY 2022

	FY19 Final	FY20 Final	FY21 Final	FY22 Request
	----- Millions -----			
USDA – ARS*	\$1,303	\$1,414	\$1,492	\$1,721
USDA – NIFA	\$1,471	\$1,527	\$1,570	
- AFRI Competitive Grants	\$415	\$425	\$435	\$600
- Hatch Act (Exp. stations)	\$259	\$259	\$259	
- Smith Lever (Extension)	\$315	\$315	\$315	\$335
- IR-4 Program	\$12	\$12	\$12	\$20
- Crop Protection and Pest Management	\$20	\$20	\$20	\$25
USDA – APHIS: Cogongrass eradication**			\$3	\$4
Army Corps – Aquatic Plant Control research	\$6	\$6	\$7	\$13
EPA – Great Lakes Restoration Initiative	\$300	\$320	\$330	\$375
DOI – Wildland Fire: Fuels Management	\$189	\$194	\$220	\$240
DOI – BLM: Rangeland Management	\$104	\$106	\$106	\$116
DOI – FWS: National Wildlife Refuge System: Wildlife and Habitat Management	\$234	\$239	\$240	\$250

* The \$1.721 billion request for USDA-ARS in FY 2022 includes a 5% increase over the FY 2021 enacted level, plus \$102.6 million for the National Bio and Agro-Defense Facility and \$15 million for ARS’s “Big Data” Initiative, which is a 1% assessment on all its intramural and extramural programs to develop high performance computing infrastructures for modern agricultural research.

** The final FY 2021 appropriation directs APHIS to reallocate \$3 million from its Field Crop and Rangeland Ecosystems Pests account to create a pilot program to partner with states (AL, GA, MS, and SC) for the control and eradication of cogongrass.

the Director of the U.S. FWS, to establish a pilot program *“to remove invasive plant species in riparian areas that contribute to drought conditions”* in the Lower Colorado River Basin; the Rio Grande River Basin; the Texas Gulf Coast Basin; and the Arkansas-White-Red Basin; and where appropriate, to replace the invasive plant species with ecologically suitable native species and to maintain and monitor those riparian areas.

- Authorizes **\$25 million** for the Secretary of the Interior, acting through the Director of the U.S. FWS, to establish a pilot program *“to develop and carry out effective measures necessary to prevent, control, or eradicate aquatic invasive species in alpine lakes that are not located within a unit of the National Park System.”*

WSSA COMMENTS ON ENDANGERED SPECIES ACT ASSESSMENTS FOR TRIAZINES AND GLYPHOSATE

Last fall, EPA released its draft biological evaluations (BEs) for the [triazines](#) and [glyphosate](#) for review and comment. Biological evaluations (BEs) are the beginning of EPA’s Endangered Species Act (ESA) consultation review process for pesticides where they determine if an endangered or threatened species or critical habitat could be affected by the use of that pesticide.

The WSSA submitted separate comments for the triazines and glyphosate. In general, EPA’s biological evaluations (BEs) lack a workable and consistent approach to endangered species assessments. An assessment process which essentially equates any exposure to a pesticide as a possible concern to any species does little to advance appropriate options which could be tailored to improve species protection. The implications of unrealistic analyses will result in unjustified restrictions on the use of both triazine

and glyphosate products which remain critical weed management tools across the U.S.

The WSSA would like to thank the many weed scientists who submitted comments documenting actual use rates and patterns for these herbicides. WSSA understands the complexity of ESA and respects the challenges that ESA poses to the EPA. The WSSA is committed and hopeful for the opportunity to work directly with EPA to provide scientific input to assist in the development of recommendations that protect the pesticide user, the environment, and the consumer while effectively feeding and clothing the world.

NATIONAL INVASIVE SPECIES AWARENESS WEEEL (NISAW)

NISAW Part I was February 22-26, 2021 and included a policy focused webinar series during the week in which over 1,900 people registered. The U.S. federal agencies responsible for invasive species management in aquatic and terrestrial ecosystems, in general, have sufficient legislative authority from Congress to manage invasive species. However, federal invasive species programs remain **extremely underfunded**. In FY 2020, the Department of the Interior estimated it spent \$143 million to manage invasive species for 400+ million acres of public lands. That’s roughly 35 cents per acre for all invasive species research, prevention, EDRR, management and restoration. As invasive species stakeholders, we need to seek full appropriations as authorized for these programs. That was the central theme of the NISAW webinar I presented on Feb. 26 titled “Show Me the Money.” The recorded presentations are available at: www.nisaw.org/nisaw-2021/. Many thanks to the North American Invasive Species Management Association (NAISMA) for organizing and hosting the webinar series.

NISAW Part II – Outreach and Education – is **May 15-22, 2021** and will

focus on local invasive species prevention, removal, and educational events. If you are coordinating or aware of invasive weed removal or educational events, please add it [here](#). The North American Invasive Species Forum is also being held virtually during NISAW Part II. The Forum is an international event encompassing the interests of professionals involved in invasive species management, research, and regulation across North America. To learn more and register for the North American Invasive Species Forum, click [here](#).

NEW HOUSE AND SENATE APPROPRIATIONS SUBCOMMITTEE LEADERS AND MEMBERS FOR AG; INTERIOR & ENVIRONMENT; ENERGY & WATER; AND COMMERCE/JUSTICE/SCIENCE

This [powerpoint presentation](#) from NISAW reviews the leaders and members of the following four appropriations subcommittees:

- Agriculture, Rural Development, FDA & Related Agencies
- Commerce, Justice, and Science & Related Agencies
- Energy and Water Development, & Related Agencies
- Interior, Environment & Related Agencies

The first 10 slides review Federal Agency spending on invasive species activities, however, the remaining 38 slides take a more in-depth look at the leaders and members of these subcommittees in both the House and Senate (and the invasive species programs they fund). Every state except CO, SD, and WY has a member on the House or Senate Appropriations Committees in the 117th Congress.

Lee Van Wychen, Ph.D.
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“Up-and-Comers” and Timeless Weeds: 2020 Weed Survey Results and More

Camp Hand, University of Georgia, 2020-2021 WSSA Science Policy Fellow

Since 2015, the Weed Science Society of America (WSSA) has surveyed public and private weed scientists, extension agents, crop consultants, and other land and water managers on the most common and troublesome weeds in the U.S. and in Canada. Common weeds are defined as the weeds you most frequently see, while troublesome weeds are those that are most difficult to control, but not necessarily widespread.

The first year was a “baseline” survey, which surveyed weeds in 26 different crops and non-crop/aquatic areas. Following the baseline year, WSSA divided the crop and non-crop areas into three groupings: 1) broadleaf crops; 2) grass crops; and 3) aquatic and non-crop areas. Since then, the survey has been on a three-year rotation with those three groupings.

In 2020, the survey included the most common and troublesome weeds in seven categories of grass crops in the U.S. and Canada.

2020 Grass Crops Surveyed	Number of Survey Responses
Corn	71
Pastures, Rangeland, & other Hay	94
Rice	6
Sorghum	26
Spring Cereal Grains	30
Turf	39
Winter Cereal Grains	52
TOTAL	317

When all survey responses are combined for all seven categories of grass crops, the top five most common weeds reported were *Setaria* spp., *Digitaria* spp., common lamb-quarters (*Chenopodium album*), *Bromus* spp., and *Lamium* spp. The top five most troublesome weeds reported were Palmer amaranth (*Amaranthus palmeri*), *Poa* spp., *Bromus* spp., horseweed (*Erigeron canadensis*), and Italian ryegrass (*Lolium perenne* spp. *multiflorum*).

Looking back to the 2017 survey of weeds in grass crops, we can compare which weeds are new to the top five most common or most troublesome list in 2020 for a particular grass crop (Table 1). In other words, these common and troublesome weeds

were reported more frequently in a particular grass crop in 2020, compared to 2017.

Another area of interest when comparing the 2017 to the 2020 survey is weeds that were barely mentioned in 2017 but were reported more in 2020, or potential “up and comers.” These weeds include medusahead, ventenata, dog-fennel, Scotch thistle, vaseygrass, Lehmann lovegrass, milkweed species, and *Lepidium* spp.

The Southern Weed Science Society (SWSS) has historical weed survey data dating back to the 1960s. In the SWSS survey in corn for 1984, Palmer amaranth was grouped into the *Amaranthus* spp., indicating that it was not listed much as a troublesome weed in corn. In the same year it was classified as a problematic “up and coming” weed in cotton, soybean, and peanut (Webster and Coble 1997).

In the SWSS survey in 1994, Palmer amaranth was only the 25th most problematic weed in corn in the south (Webster and Nichols 2012). In the grass crops survey for the SWSS in 2000, Palmer amaranth was only listed as a problematic weed in two out of 13 states, and it wasn’t the most problematic weed in those two states (Webster 2000). In the SWSS survey in 2008, Palmer amaranth was the 7th most problematic weed in corn in the southern United States, and it is now the number one most problematic weed in corn (Webster and Nichols 2012). These data and historical data paint an intriguing picture of weed shifts and a weed’s rise to prominence.

There are also weed species whose presence appears more “timeless.” In corn, particularly in the SWSS region, weeds that have remained troublesome over many decades include johnsongrass and morningglories. These species were problematic in the SWSS 1983 survey as well as the WSSA 2020 survey.

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Common name	Scientific name	Crop	Common or Troublesome
johnsongrass	<i>Sorghum halepense</i>	Corn	Troublesome
buttercup species	<i>Ranunculus</i> spp.	Pasture, rangeland, and other hay	Common
musk thistle	<i>Carduus nutans</i>	Pasture, rangeland, and other hay	Troublesome
kochia	<i>Bassia scoparia</i>	Sorghum	Common
bluegrass species	<i>Poa</i> spp.	Turf	Troublesome
crabgrass species	<i>Digitaria</i> spp.	Turf	Troublesome
kochia	<i>Bassia</i> spp.	Spring cereal grains	Common
foxtail species	<i>Setaria</i> spp.	Spring cereal grains	Troublesome
horseweed	<i>Erigeron canadensis</i>	Spring cereal grains	Troublesome
Italian ryegrass	<i>Lolium perenne</i> spp. <i>multiflorum</i>	Spring cereal grains	Troublesome
horseweed	<i>Erigeron canadensis</i>	Winter cereal grains	Troublesome

Mark VanGessel Assumes WSSA-EPA Liaison Role



Dr. Mark VanGessel is our new WSSA-EPA Liaison. Mark is a Professor of Weed Science and an Extension Specialist at the University of Delaware based in Georgetown, DE. Mark is responsible for extension and applied research on weedy species that impact agronomic and commercial vegetable crop production in the Mid-Atlantic region.

Mark has been active in the WSSA, NEWSS, and a number of other ag/weed-related organizations. Mark may be best known for documenting the first glyphosate (Group 9) resistant horseweed biotype back in 2000. But he is also a recipient of the NEWSS Fellow Award in 2018, WSSA Outstanding Extension Award in 2017, NEWSS Outstanding Educator Award in 2015, and NEWSS Outstanding Researcher Award in 2003.

Mark has worked on many weed problems in many different crops over

the years including investigating the effects of tillage systems, irrigated and dryland production, cover cropping, mechanical and organic weed control, and plasticulture. His research has addressed a number of issues including herbicide resistance, herbicide stewardship, nonchemical control, and basic weed biology. Working with the Delaware Department of Agriculture and industry registrants, Mark has helped secure twenty-three 24(c) labels for the state of Delaware.

As our WSSA-EPA Liaison, Mark will facilitate a close working relationship between the weed science community and the US-EPA Office of Pesticide Programs (OPP). He will assist OPP staff by providing scientific information, expertise, and education relevant to crop and non-crop weed control challenges. In addition, he will advance our weed science community's understanding of EPA regulations and procedures that can help our membership understand how the EPA functions and all the work that goes

into pesticide regulation and management. Mark may reach out to you requesting help in developing educational programs for EPA staff.

Mark's appointment is for three-years plus an additional year to mentor the next liaison. Mark follows an esteemed group of liaisons including Dr. Greg Kruger, who completed his three-year term at the end of 2020, preceded by Drs. Mike Barrett, Jill Schroeder, and Steve Dewey.

Please congratulate Mark and thank him for volunteering as our newest WSSA-EPA Liaison!

THINK NEWSLETTER

Deadline for June issue

July 1, 2021

“UP-AND-COMERS” CONTINUED from pg 10

The first case of herbicide resistance in Palmer amaranth was in 1989 in South Carolina to the WSSA Group 3 herbicides, which is likely why it was an “up and coming” problematic weed in cotton, soybeans, and peanuts, but not corn according to Webster and Coble (1997). However, today, there are Palmer amaranth populations resistant to eight mechanisms of action: WSSA groups 2, 3, 4, 5, 9, 14, 15, and 27. This does not include the recently confirmed WSSA group 10 resistance from Arkansas. WSSA Groups 2, 4, 5, 9, 15, and 27 are all heavily utilized in corn, which means in some areas control options may be limited, leading to Palmer amaranth becoming one of the most troublesome weeds, even in grass crops like corn and sorghum.

Alternatively, common cocklebur (*Xanthium strumarium*) is an example of a weed that has decreased in importance. In the SWSS survey, common cocklebur was the seventh most problematic weed in corn in the southern U.S. in 1994, while in 2008 it was the 28th most problematic weed (Webster and Nichols 2012). Common cocklebur was almost absent from the 2020 weed survey in the southern U.S. with only one mention in Virginia and one in Oklahoma. This

could be due to a number of factors including the shift to glyphosate-based management systems, which also resulted in a heavier emphasis on reduced/no-till production.

This is just a subsample of how weed populations change over time, and this can be demonstrated in many other crops. The WSSA weed survey data and results from 2015 to present are available at:

<https://wssa.net/wssa/weed/surveys/>

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A Highlight of my WSSA Science Policy Fellowship: Previewing and Providing Input on Invasive Species Strategy for our Federal Lands

Vasiliy Lakoba, Virginia Tech, 2020-2021 WSSA Science Policy Fellow

One of the goals of the Weed Science Society of America (WSSA) is to provide science-based information to policymakers. The deliberations of the Congressional appropriations committees, presidentially appointed heads of land management agencies, and other stakeholders in Washington, DC have direct consequences on how weeds and invasive plants across the country are regulated, researched, and managed. Graduate students in weed science are often supported by research funds from the US Department of Agriculture (USDA) and many aspire to conduct research and management work at the federal level. However, the forces that govern the federal funds central to many weed scientists' careers are difficult to grasp, especially during graduate education, when students are focused on developing research proficiencies. The WSSA's Science Policy Fellowship (WSPF) program is a tremendous opportunity to fill this void in graduate education, led and organized by Executive Director of Science Policy, Dr. Lee Van Wychen.

I was one of two WSPFs in 2020-21, along with Camp Hand at the University of Georgia. As a PhD candidate in Dr. Jacob Barney's lab at Virginia Tech, I use johnsongrass (*Sorghum halepense*) to study invasive plants' rapid adaptation to the climates and land uses that shape their habitats. I am also an Interfaces of Global Change Fellow and member of the Invasive Species Working Group at Virginia Tech, both of which have helped fuel my interest in invasion policy throughout my graduate school experience. This year's WSPFs collaborated with Dr. Van Wychen and others remotely due to the COVID-19 pandemic. The virtual format of the experience took advantage of the greater ease of meetings with Congressional staffers, science policy committee members, and other professionals in this space.

One of the most interesting projects I was fortunate to contribute to as a WSPF was submitting comments on the Department of the Interior's (DOI) draft Invasive Species Strategic Plan. A key element of the draft plan, and one that the WSSA comments strongly supported, was an emphasis on the cost efficiency of managing invasive species. WSSA members will recognize that judiciously drawing from a broad spectrum of control methods and relying on best management practices is vital to controlling invasive plants both in agricultural and natural settings. This emphasis remained in the final plan that was published in January 2021 and will continue to be a touchpoint for WSSA's contact with DOI in the future. As Dr. Van Wychen showed in a presentation during National Invasive Species Awareness Week (NISAW) invasive species management efforts are ex-

tremely underfunded, especially in DOI. For example, the Bureau of Land Management only spends approximately \$15 million per year on invasive species management activities on the 245 million acres of land that it manages. This is only 6 cents per acre for invasive species prevention, early detection/rapid response (EDRR), control and management, restoration, research, and education.

Two other foci of WSSA's comments on the DOI Strategic Plan are near and dear to me in my invasive species research. First is a shift of attention toward invader introduction pathways and spread vectors, more so than control or eradication of individual species. Contemporary invasion science recognizes the accelerating arrivals and impacts of invasive species with globalization and a need to understand and manage invasion as interconnected with other types of global change. Second is strong support for DOI's plans to modernize and centralize data management on invasive species distributions and impacts, which will be vital to robust research and decision-making tools in the decades to come.

This exercise was a great opportunity for me to learn, at a basic level, what a federal agency strategic plan on invasive species looks like – its scope, structure, and evidence-based priorities. I got a glimpse into the invasions that have garnered the most attention at DOI, including ones in the western states and aquatic systems, which are not a regular part of my current work. In drafting the comments for WSSA with input from Society stakeholders, I also learned how multiple interests from across the country come together to shape a united message to our federal scientists and administrators.

In late February's confirmation hearings of Rep. Debra Haaland (D-NM) for the Secretary of the Interior, invasive plants of the desert Southwest received mention, amidst deliberations on fossil fuels and renewable energy. In response to a question from Sen. Roger Marshall (R-KS) on prescribed burning and grazing, Haaland reflected on the salt cedar (*Tamarix* spp.) invasion in her former home of Laguna Pueblo, NM. Granted Haaland's confirmation, this personal connection with the reality and complexity of invasive plants and their management could serve as a point of shared understanding with WSSA constituents and allies striving for improved invasive species funding.

This commentary on DOI's Invasive Species Strategic Plan was just one of the many assignments I got to work on as a WSPF. Others included comments to USDA Animal

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New Podcast Focuses on the “War Against Weeds”

In a year upended by the COVID pandemic, three WSSA members specializing in extension work have found a new socially distanced way to share information. They’ve launched the [War Against Weeds](#), a new podcast devoted to weed management.

The mastermind behind the project is Sarah Lancaster, an assistant professor and extension weed scientist at Kansas State University. “I have childhood memories of riding in the tractor and grain truck with my dad and listening to a lot of radio,” Sarah says. “I wanted to use the podcast platform to take advantage of that ‘windshield time.’”

Sarah pitched the idea to two colleagues who also work in extension weed science roles – Mandy Bish at the University of Missouri and Joe Ikley at North Dakota State University. By January 2021, the three had their new War Against Weeds podcast up and running.

Weekly episodes have covered a wide range of topics – from the latest on herbicide resistance to tips for minimizing the weed seed bank. Weed scientists and other stakeholders from around the country have become featured guests. For example, University of Delaware extension specialist Mark VanGessel joined an episode focused on marestail/horseweed control, while Maryland producer Trey Hill of Harborview Farms joined an episode focused on cover crops.

Mandy says that regardless of the topic at hand, the goal is to present information in an authentic, conversational way that keeps the audience engaged. “Listeners not only hear about data-driven research, but also about varying experiences and perspectives – often with some laughter peppered in,” she says.

Most episodes average 20-40 minutes in length and are drawing upwards of 150 listeners a week. In April as the prime growing season approaches, the team plans to move to shorter “from the field” updates on timely topics. Full-length episodes and guest interviews will return in the fall.

“There have been limited extension opportunities during the COVID pandemic, and a podcast is one way to help fill that void,” Joe says. “It’s also a way to extend our reach once social distancing is no longer required.

We hope our audience will develop a deeper understanding of weed management and why we as extension specialists make the recommendations we make.”

Want to listen?

You can subscribe to the War Against Weeds through your podcast provider of choice – or can listen online at <https://waragainstweeds.libsyn.com>. There is no fee. The War Against Weeds is funded by a grant from the North Central Integrated Pest Management Center (NCIPM).



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THINK NEWSLETTER

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HIGHLIGHT OF MY WSPF CONTINUED from pg 12

and Plant Health Inspection Service (APHIS) and the EPA on various issues, meetings with Congressional staff and WSSA and Aquatic Plant Management Society (APMS) presidents, and research on personnel attached to relevant appropriations committees in both the 116th and 117th Congress. I would like to thank Dr. Van Wychen for leading and curating this invaluable learning experience, my fellow WSPF Camp Hand for the friendly collaboration and virtual visits we shared throughout the year, and the WSSA and regional Societies’ leadership and members for supporting this program. I wholeheartedly recommend this fellowship to any and all other students in weed science, invasion ecology, and related fields, especially those interested in policy and diving into the complex network of interests and stakeholder that influence our research and management work.

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CALENDAR OF UPCOMING EVENTS

DATE	EVENT	LOCATION	CONTACT
July 11–14, 2021	Aquatic Plant Management Society Annual Meeting (APMS)	New Orleans, Louisiana	www.apms.org
December 13–16, 2021	North Central Weed Science Society Annual Meeting (NCWSS)	Grand Rapids, Michigan	www.ncwss.org
January 3-6, 2022	Northeastern Weed Science Society Annual Meeting (NEWSS)	Gettysburg, Pennsylvania	www.newss.org
January 23–27, 2022	Southern Weed Science Society Annual Meeting (SWSS)	Austin, Texas	www.swss.ws
February 21–24, 2022	Weed Science Society of America (WSSA) and Canadian Weed Science Society (CWSS) Joint Annual Meeting	Vancouver, British Columbia	www.wssa.net and www.weedscience.ca
March 7–10, 2022	Western Society of Weed Science Annual Meeting (WSWS)	Newport Beach, California	www.wsweedscience.org

Additional Weed Science Meetings and Events can be found at <http://wssa.net/meeting/calendar-of-meetings/>

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Farmers' freedom to operate is being threatened by the increase and spread of pesticide resistance. The consequences include short and long-term economic challenges, decreasing land values, the uncertain regulatory pathway to access crop protection tools, crop losses and other challenges. Take Action is a farmer-focused, soybean checkoff-funded, education platform designed to help farmers manage herbicide, fungicide and insect resistance. The goal is to encourage farmers to adopt management practices that lessen the impacts of resistant pests and preserve current and future crop protection technology. Take Action is an industry-wide collaboration between major ag chemical companies, land-grant university weed scientists, plant pathologists and entomologists, professional scientific organizations, and soy, corn, cotton, wheat and sorghum commodity groups.