



PRESIDENT'S MESSAGE

I am sure that many of us were excited and planning to be outdoors more as spring and summer 2021 arrived ... and it is even better as we move out of many COVID-19 restrictions that were imposed over a year ago in March 2020. Our 'post-pandemic' environment is starting to sort itself out with many individual and group activities being planned.

In previous years, the WSSA President, together with regional Weed Science Society presidents, would have an opportunity to travel to Washington, DC and participate in congressional visits, with the Science Policy team and Lee Van Wychen leading the effort. As travel was not permitted, our visits were conducted virtually, and I had the opportunity to visit with legislative staff for my Kansas senators and representatives. It turned out that one of the staffers was a former student in my Weed Science class, and several others were K-State College of Agriculture graduates. It was great to hear about their work in the congressional offices on behalf of agriculture! Lee will report on the key topics we presented during these visits in another report in this newsletter.

As we are now moving slowly out of the pandemic ... our 2021 group of Travel Enrichment Experience Scholarships for Graduate Students have been selected. We had an excellent pool of 26 outstanding MS and PhD students from around the USA and Canada that had applied. We wish we could offer opportunities to more, but the five successful students are eager to travel and get together for a five-day, four-night learning experience with professionals in different WSSA regions. We look forward to hearing about each TEE graduate student's experience as they will present on it at the upcoming annual conference in February 2022.

We are still anticipating an in-person annual conference that will be joint between the WSSA and the Canadian Weed Science Society (CWSS) and it will be hosted at the Sheraton Vancouver Wall Centre in Vancouver, BC, Canada on

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**International Weed
Genomics Consortium**
(see page 5 for information)

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PRESIDENT'S MESSAGE CONTINUED from pg 1

February 21 to 24, 2022. We have been participating in regular planning sessions with the local arrangements chair, Victoria Brookes, and her committee in setting up opportunities for the attendees, such as tours, identifying keynote speakers, and planning sessions.

Stanley Culpepper is the WSSA 2022 Program Chair and President-elect, and he is beginning to plan out the program. He has received a great slate of symposia proposals to be reviewed. We learned a lot from planning the WSSA 2021 Virtual Annual Conference and may incorporate some of the successful parts into our 2022 meeting. We saw that more graduate students were able to 'attend' the WSSA when it was in a virtual format, as well as increased chances for members outside of the USA and Canada to participate. We may provide some virtual options / post-meeting recordings for our members that could not attend in-person. We also plan to have all WSSA committee meetings conducted prior to the annual conference and receive their reports to share with the Board of Directors and membership.

The summer WSSA Board of Directors meeting will be virtual and is planned for half days on July 21 and 22, 2021. Please reach out to Eric Gustafson or myself with any topics that we should know about for discussion at the BOD meeting. Current agenda items include:

- a) updates on our Strategic Planning process. Bill Curran, Past-President, called together a special Strategic Plan Advisory Team at our October 2020 quarterly BOD meeting. This committee is chaired by Dawn Refsell with several sub-groups of very engaged WSSA BOD and regular members. Our current WSSA Strategic Plan expired in 2020, so this group was tasked with developing a new plan. Their goal has been to vision our future direction and identify opportunities for WSSA to provide key needed services for our members, and for the public and other stakeholders.
- b) updates from our liaisons between WSSA and EPA, Mark VanGessel, between WSSA and NIFA, Jim Kells, and our CAST representative, Jill Schroeder. These individuals connect us to these important organizations and allow us to stay informed and share our science.

Thank you to all our WSSA members for your engagement and contributions, as you are what makes this society function and remain relevant. I look forward to seeing you in Vancouver in 2022. Until then, please do not hesitate to reach out to me, Eric Gustafson, Lee Van Wychen, or any of the WSSA board members if you have questions, suggestions, or concerns regarding WSSA business or activities.

Anita Dille
President, WSSA

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 October issue
September, 2021

**SEND NEWSLETTER
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WASHINGTON REPORT

by Lee Van Wychen, Director of Science Policy

SEEKING YOUR EXPERTISE FOR THE 2021 WEED SURVEY

The 2021 survey of the most common and troublesome weeds in aquatic and non-crop areas in the U.S. and Canada is here! <https://www.surveymonkey.com/r/2021WeedSurvey>

We invite you to participate in this year's weed survey to list the five most common and troublesome weeds in at least one of the following areas:

- 1) Aquatic: irrigation, flood control
- 2) Aquatic: lakes, reservoirs, rivers
- 3) Aquatic: ponds
- 4) Forestry
- 5) Natural Areas: parks, wildlife refuges
- 6) Ornamentals: field nursery crops, outdoor containers, Christmas trees
- 7) Right-Of-Ways: railways, roads, public utilities

Common weeds refer to those weeds you most frequently see, while troublesome weeds are those that are most difficult to control, but may not be widespread. Your expertise is important and will be invaluable in highlighting weed species trends over time.

Survey: <https://www.surveymonkey.com/r/2021WeedSurvey>

SUPPORT FOR \$11.5 BILLION IN AG RESEARCH INFRASTRUCTURE

The Weed Science Societies joined over 350 other national, regional, and state organizations and companies in a letter to House and Senate Agriculture Committee leadership to request their support for \$11.5 billion in ag research infrastructure investments over five years. This investment in our 1862, 1890, and 1994 land grant and non-land grant schools of agriculture

is necessary in order to ensure the U.S. remains a global leader in food and agricultural innovation. A recent Gordian/APLU study assessed the state of facilities at U.S. colleges and schools of agriculture this year and reported that 69% of these buildings are at the end of their useful life. [Click here](#) to read the letter and see the signatories.

LEGISLATION TO BOOST USDA RESEARCH FUNDING REINTRODUCED

Senators Dick Durbin (D-IL) and Jerry Moran (R-KS) reintroduced the America Grows Act, S. 1371, that would require a five percent annual funding increase each year for the next 10 years for research activities at USDA's ARS, NIFA, NASS, and ERS. The U.S. share of total agriculture research investments among high-income countries as a group has declined from 35 percent in 1960 to less than 25 percent by 2013. By comparison, in the past 30 years, Chinese investments in agriculture research have risen eight-fold.

The six National and Regional Weed Science Societies [joined over 120 other organizations](#) in a letter to Senate Agriculture and Appropriations Committee members supporting the America Grows Act of 2021.

EAGLE KILLING NEUROTOXIN LINKED TO HYDRILLA IDENTIFIED

Bald eagles, as well as other wildlife, have been succumbing to vacuolar myelinopathy (VM) in the southern U.S. since the 1990s. In a March 2021 issue of *Science*, researchers finally identified the neurotoxin, aetokthonotoxin (AETX), which is produced by the cyanobacterium

Aetokthonos hydrillicola that is the cause of VM deaths. The cyanobacterium, *A. hydrillicola*, grows very well on hydrilla covering 20-90% of its leaf surfaces. *A. hydrillicola* has also colonized hydrilla in more than half the watersheds in the southeastern US.

Reference: "Hunting the eagle killer: A cyanobacterial neurotoxin causes vacuolar myelinopathy" by Breinlinger et al., 26 March 2021, *Science* 371. DOI: [10.1126/science.aax9050](https://doi.org/10.1126/science.aax9050)

There was some controversy created by inaccurate media reports that linked the herbicide diquat dibromide as a possible cause. AETX biosynthesis relies on the availability of bromide. The authors recognize that a number of conditions may increase or even decrease bromide availability such as environmental conditions (e.g., lake turnover, agitation), natural sources (e.g., geologic), as well as anthropogenic sources (e.g., power plants, water treatment plants, gasoline additives, chemicals, plant management). Breinlinger et al. (2021) state that "the consequences of elevated bromide from geologic and anthropogenic sources (e.g., water treatment and power plants) on VM should be further investigated."

It should be noted that there are VM-positive water bodies with AETX where diquat has never been used. Likewise, diquat controlling hydrilla is desired because hydrilla is the source of the problem. Furthermore, the water concentration of bromide after a diquat application is 25 to 125 times below the optimum water concentration of bromide required for AETX production.

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The bigger travesty in all of this is that hydrilla is a federally listed noxious weed, and without question, the most widespread aquatic noxious weed on the federal list. APHIS Plant Protection and Quarantine (PPQ) has limited funding for managing and preventing the interstate spread of federal noxious weeds under the Plant Protection Act. While APHIS has active permits for two hydrilla biocontrol agents, *Hydrellia balciunasi* and *Hydrellia pakistanae*, unfortunately, APHIS confirmed that they do not have a current program for the control and management of hydrilla. WSSA has ongoing conversations with APHIS on this important issue.

EPA ANNOUNCES PLAN TO REVISE WOTUS DEFINITION

The EPA and the Army Corps of Engineers have announced plans to revise the definition of “waters of the U.S.” or WOTUS to determine which waterways and wetlands federal agencies can regulate under the Clean Water Act.

The agencies also intend to initiate a new rulemaking process to restore the pre-2015 definition of what constitutes WOTUS and have requested a federal judge to remand the Trump Administration’s 2020 Navigable Waters Protection Rule. The 2020 rule, which replaced the Obama Administration’s 2015 Clean Water Rule, moved WOTUS back towards Congress’s original intent of “navigable waters” and removed ephemeral streams that flow only after heavy rainfall or snowmelt as well as wetlands without surface water connections to intermittent or perennial streams from the agencies definition of WOTUS.

Many agricultural groups are opposed to changing the current Navigable Waters Protection Rule because they feel it provided long-overdue certainty and clarity for landowners

affected by the scope of WOTUS’ jurisdiction. There is concern about government overreach and regulatory confusion in how federal agencies decide which waters of the United States they can regulate.

The Biden Administration eventually plans to draft its own definition of which waterways, wetlands and groundwater they can regulate by “drawing from the lessons learned from the current and previous regulations, as well as input from a wide array of stakeholders, so we can better protect our nation’s waters, foster economic growth, and support thriving communities.” More information about the new rulemaking is forthcoming.

NATIONAL INVASIVE SPECIES AWARENESS WEEK (NISAW) PART II

NISAW Part II was May 15–22, 2021 and focused on local invasive species prevention and removal events, plus included five educational webinars. The [North American Invasive Species Forum](#) was also held virtually during NISAW Part II and led by the Canadian Council on Invasive Species.

The webinars from NISAW part II are now available. Click a link to begin watching.

- May 17: The Climate Crisis and Invasive Species
- May 18: Biological Threat Surveillance Tools (US Geological Survey Special Event) and The Model Legislative Framework for State Aquatic Nuisance Species (ANS) Programs and Resource Toolkit for Local Governments
- May 19: The Regulatory Process for Classical Weed Biological Control
- May 20: Aquatic Plant Management Priorities
- May 21: A Comparison of State Noxious Weed Lists and The Western Weed Action Plan

The May 20th webinar was led by **Ryan Wersal**, an assistant professor at Minnesota State University and president of the Aquatic Plant Management Society (APMS). Wersal provided an overview of APMS and current aquatic plant management issues. He also discussed the need for increased research funding.

The May 21st webinar was presented by **Jacob Barney**, an associate professor at Virginia Tech and chair of WSSA’s Noxious and Invasive Weed and Biocontrol Committee. He discussed his recent work that focused on variations in how states regulate noxious weeds, the challenges those variations pose and ways to bridge the gap.

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INTERNATIONAL WEED GENOMICS CONSORTIUM

The International Weed Genomics Consortium (IWGC) is organizing a Weed Genomics Conference scheduled to be held in Kansas City in 2021. Due to the Pandemic and its related effects, and to protect the safety and health of our members and community, the IWGC decided to have a hybrid meeting (i.e., in person and virtual). The event will take place from September 22–24, 2021, at the Sheraton Crown Plaza in Kansas City, Kansas.

Meeting logistics:

- ▶ Training: Molecular Biology 101
- ▶ RNA-Seq pipelines
- ▶ Mapping herbicide resistance and quantitative traits
- ▶ Command Line 101
- ▶ Population Genomics
- ▶ KeyGene session on CropPedia
- ▶ Keynote speakers: plant genomics experts, applications of weed genomics
- ▶ Poster session
- ▶ Workshop to define future priorities of weed genomics research

Please register for the conference before September 15 at <https://conferencereg.colostate.edu/IWGC2021>

Paper (Poster) Submission

IWGC is inviting titles and abstract submissions for poster presentations to be shared at the conference. Volunteer papers may be presented as a poster. An individual may personally present only one poster paper presentation. In addition, an individual may be co-author of poster papers presented by other authors. The titles and abstracts are required to be submitted electronically.

The title and abstract submission site will be open **June 15 through August 15, 2021.**

To submit abstract titles/authors and abstract texts electronically, go to <http://weedscimeetingabstracts.com>

The Program will be printed exactly as submitted, other than format and font changes for uniformity; therefore, proof-read your submission very carefully. Primary contact authors will receive an email indicating their abstract was received and a later email confirming the section/day/time when and where the paper will be presented.

Preparation of Abstract

Following are the guidelines for the preparation and submission of an abstract.

1. **Contents:** The abstract should include a brief overview of essential aspects of experimental procedures and should highlight significant results and their interpretation. Write the abstract so it consists entirely of information.

2. **Formatting:** Typing and format instructions will be provided on the Title/Abstract Submission Page of the website. Capitalize the first letter of all major words in the title and end the title with a period. Include both the common and scientific names of weeds and uncommon crop plants in the title (authorship of plants is not necessary), but only the common names of herbicides and well-known crop plants. You do not need to type the title in bold-face; the system will do that automatically. The site will provide a method for indicating the presenter, be sure to specify the presenting author.

3. **E-mail Address:** For better communication among researchers, place the e-mail address of the senior author following the last sentence of abstract.

Poster Preparation and Presentation Guidelines

1. Authors are expected to be at their poster (either in person or virtually) during the period reserved for viewing the poster to answer questions and to discuss their research with interested parties.

2. **Poster Boards:** In person: One space 48 x 48 inches will be provided for each poster. There will be no exceptions to the rule of one space per paper. Posters should be no larger than this size. Virtual: poster preparation instructions will be provided for compatibility with the online poster viewing format.

3. **Content of Paper:** Text, graphs, and tables must be easily read from a distance of 6 feet. Titles and headings should be larger and readable from a greater distance.

4. Groups of authors may present more than one poster, but at least one author must be present at each poster during the time designated exclusively for viewing the poster.

Early Career Travel Awards

IWGC will sponsor up to 10 travel awards through a competitive process. The Awards Committee will select seven (7) senior graduate students who are in their final year of degree program and three (3) postdoctoral fellows (any stage in their profession) or faculty/professionals within three years in a permanent or tenure-track position. The awards are funded at \$1500 each, which would cover registration, three (3) nights hotel stay, per diem and up to \$500 to cover travel to Kansas City (if attending in person). These awards are supported by the USDA-NIFA conference grant.

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WSSA Graduate Student Organization Update

It's been nearly a year and a half since we had the opportunity to meet face-to-face in Maui, and I dearly miss shaking hands with my peers and mentors. As students, we were met with many challenges last year including labs and offices shut down, classes abruptly going virtual, many presented defense seminars from their kitchen tables via Zoom, job hunting during a pandemic and much more. I am incredibly proud of the WSSA student body for their resilience during these difficult times and I think many of us are starting to catch a glimpse of the light at the end of the tunnel.

Since the annual meeting in February, the GSO has been busy! In an effort to better keep in touch with students, the GSO created a monthly newsletter sent to all students and WSSA members. Each newsletter includes a student and GSO alumni spotlight as well as a featured interview or article. Some of these features have included the Women in Weed Science event, the War Against Weeds podcast, and most recently the need for good weed scientists to join APHIS. The officer team works hard each month to contact students and alumni to put the newsletter together, as this is no small task. Students and alumni are chosen by nominations and then randomly selected if there is more than one nomination. If you know of a student or recent gradu-

ate of the GSO you'd like to see featured, please let us know! Our officers Sarah, Pamela, and Meghan are the backbone of this project, and I'm grateful they met the idea with enthusiasm so that we can improve how we serve the WSSA.

The society recently announced the winners of the 2021 Travel Enrichment Experience (TEE) awards. This award allows five students the opportunity to visit professionals in different WSSA regions and broaden their knowledge of weed science. Congratulations to Ramawtar Yadav, Justine Fisher, Cynthia Sias, Matthew Osterholt, and John Fluttert on being named the top five students for the TEE program out of 26 applicants! I wish you all the best in your travels and look forward to hearing about your experiences at the 2022 annual meeting. Thank you, WSSA, for making such opportunities available to students!

I hope you all have a wonderful rest of summer and start of fall semester as many universities have announced plans for in-person instruction to broaden. Please don't hesitate to contact myself or any of the GSO officers if you ever need anything!

Delaney C. Foster
WSSA GSO President

INTERNATIONAL WEED GENOMICS CONSORTIUM CONTINUED from pg 5

APPLICANT: The applicant is a graduate student, postdoctoral fellow, or professional beginning their careers in weed science. The awardees are expected to present a poster at the conference.

TO APPLY:

- an abstract (250 words) of the research that they intend to submit for poster presentation at the conference
- a paragraph expressing why attending the Weed Genomics Conference would enhance their career
- a current resume or CV

SUBMISSION: The completed application should be submitted as a SINGLE PDF document to Dr. Mithila Jugulam at the following email address: mithila@ksu.edu. Applicants will be notified by email to confirm successful submission of the package.

If proposals cannot be submitted electronically, packages may be mailed to the following address:

Mithila Jugulam, Professor (Weed Physiology)
Department of Agronomy; Kansas State University
1721 Claflin Road; Manhattan, KS 66506-0110, USA

The deadline for submission is **July 16, 2021**. Funding decisions will be notified to awardees by **August 1, 2021**.

and announced at the conference inaugural ceremony. The awardees must register for the conference by **August 15, 2021**.

For further information, please check www.weedgenomics.org

Questions:

Please contact
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Phone: 785-320-3279

Dr. Todd Gaines
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Funding sources: USDA-NIFA funding; FFAR funding; IWGC industry funding



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CALENDAR OF UPCOMING EVENTS

DATE	EVENT	LOCATION	CONTACT
September 22–24, 2021	International Weed Genomics Consortium	Kansas City, Kansas	Email: mithila@ksu.edu or todd.gaines@colostate.edu
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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