



PRESIDENT'S MESSAGE

I hope everyone is staying safe and productive as we move into mid-Autumn during these strange times. As hopefully everyone knows, our 2021 Annual Conference will be held *virtually* during the week of February 14. The *Call for Papers* was sent out on the same day I was working on this newsletter article. Dr. Anita Dille, our

Program Chair and President-Elect, and Eric Gustafson, our Executive Secretary, are making the final decisions selecting a virtual platform for the 2021 meeting. Here is what we are planning.

If possible, we would like for all WSSA standing committees to meet between February 8 and 11, 2021 (the week before our annual conference). Meeting format, Zoom or teleconference, would be determined and hosted by committee chairs. This would allow WSSA Board committee liaisons to attend committee meetings and then report important information back to the WSSA Board during its meeting on Friday, February 12 and part of Monday, February 15.

The annual meeting will start on Monday afternoon (Feb. 15) and the format will be similar to our past meetings with an opening session that will include honoring our society award winners. Throughout the week, we will host five symposia. The titles and symposia chairs include the following:

- Advances in Sensor-Based Weed Detection and Precision Management – Drs. Muthu Bagavathiannan and Vijay Singh
- Beyond the Boom – Benefits of Weed and Brush Management in Grasslands – Drs. Byron Sleugh, Scott Flynn, and Mark Renz
- Optimizing Invasive Aquatic Plant Management, Monitoring, and Outreach Efforts to Meet Regional Needs – Dr. Rob Richardson
- Sustainable Weed Management – What is It and How are We Doing? – Drs. Cara McCauley, Terry Wright, and Byron Sleugh
- A History, Overview, and Plan of Action on PPO Inhibiting Herbicides – Drs. John Pawlak and Franck Dayan

Member presentation opportunities will include oral paper and poster paper sessions. For students, the 3MT oral paper (three-minute thesis presentation) and

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**CALL FOR PAPERS
2021 GUIDELINES**
(details inside on pages 4-7)

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poster competitions will be available. Additional sessions will include the Women in Weed Science, a Graduate Student Organization meeting, our business meeting, and a wrap-up conclusion to the conference. The business meeting will be Thursday afternoon and will include the presentation of graduate student awards, while our concluding session will be Friday morning. Many presentations will be pre-recorded with live Q and A while a few sessions will be streamed live. Also, plan on visiting with some of your colleagues and friends through social activity events that will be offered at various times during the week. More details about the meeting will be provided in future announcements.

As a quick update, all annual meetings of affiliate and regional weed science societies will be held virtually. The dates and website links follow:

- Canadian Weed Science Society – Nov. 23–27, 2020
(<https://weedscience.ca/meeting-home/>)
- North Central Weed Science Society – Nov. 30–Dec. 2, 2020
(<http://ncwss.org/annual-meeting/>)
- Northeast Weed Science Society – Jan. 4–7, 2021
(<https://www.newss.org/meeting/>)
- Southern Weed Science Society – Jan. 25–26, 2021
(<https://www.swss.ws/annual-meeting/>)
- Western Society of Weed Science– Mar. 1–4, 2021
(<http://www.wsweedscience.org/annual-meeting/>)

Dr. Greg Kruger, our WSSA-EPA Liaison, has been challenged with travel restrictions but has made the best of a difficult situation participating virtually in activities with EPA staff. He has been developing and hosting webinars to inform EPA staff on key topics. For example, Dr. Anita Dille from Kansas State University presented on weed/crop competition. Some other suggested topics that Greg has been working on include weed management in perennial/orchard crops, nursery and ornamental weed control, and weed control in turf and landscapes. If you have any interest in working with Greg on these webinars, please let him know.

The WSSA-EPA Liaison appointment is a three-year commitment with an additional year to help mentor the incoming successor. Greg's third year is coming to an end and we will be seeking the next WSSA-EPA Liaison. We have formed an advisory committee that includes several WSSA officers, committee chairs, the Executive Director of Science Policy (EDSP) and past liaisons. We are developing a position announcement and will share that with the membership in the near future with the goal of the new liaison's term starting around the time of 2021 annual meeting. If you have any interest, please contact Greg Kruger or our EDSP, Lee Van Wychen, and they can provide more details.

Dr. Jim Kells, our WSSA-NIFA Fellow has also had to deal with travel restrictions but has been successful in getting several activities off the ground. Hopefully, you are aware of the webinar that Jim has organized for October 28, 2020 on Federal Funding Opportunities for Weed Scientists. The announcement has been sent out twice and is also posted on our website. There is no cost for WSSA members, but we would appreciate members registering for the webinar, so we can anticipate the level of participation (https://wssa.memberclicks.net/wssa_nifa_webinar). Jim is also organizing two additional webinars likely in 2021 with the first being a Grantsmanship Workshop and the second focused on Federal Career Opportunities for Weed Scientists. We really encourage graduate students and post-docs to participate in the webinars as they should be helpful in your

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WSSA FUTURE MEETING SITES AND DATES

February 15–19, 2021
61st Annual Meeting WSSA
(Virtual Meeting)
Anita Dille, Program Chair
www.wssa.net

WSSA HOME PAGE
ACCESSED AT:
www.wssa.net

THINK NEWSLETTER
Deadline for January issue
December 1, 2020

**SEND NEWSLETTER
MATERIAL TO:**
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WSSA NEWSLETTER

VOL. 48, NO. 3

October, 2020

Published quarterly by the Weed Science Society of America. Subscription included in the annual dues paid by members of the Society. Address correspondence and information to:

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current roles and also if your next step is an academic position. Stay tuned for additional information about these upcoming events.

Additionally, Jim has been working with several colleagues developing a NIFA-funded Weed Genomics Conference. He is pleased to announce that the conference proposal submitted to USDA-NIFA has been recommended for funding. The PI's on the proposal are Drs. Todd Gaines, Colorado State University, Mithila Jugulam, Kansas State University, Pat Tranel, University of Illinois, and Eric Patterson, Michigan State University. The conference is currently scheduled for April 7-9, 2021 assuming that travel restrictions are no longer in place. If the COVID pandemic situation has not improved, the conference will likely be postponed until later in the year. Like the WSSA-EPA Liaison, a WSSA-NIFA advisory committee has been formed that includes some WSSA Board members, the Science Policy Committee Chair, and the Research Priorities Committee Chair to assist the WSSA-NIFA Fellow in their planning activities.

Dr. Jill Schroeder, our WSSA-CAST Representative (Council for Agricultural Science and Technology), has been meeting regularly with the CAST reps from the regional weed science societies as well as APMS and the WSSA Chair of our Public Awareness Committee to discuss potential issue papers. This group, in cooperation with others, is helping to update two issue papers focused on Invasive Species that have become quite dated. Jill asked the WSSA Board of Directors as well as the membership to make her aware of any issues that you think are worthy of future issue papers. One of the benefits of CAST issue papers is that they tend to be broadly written addressing the many complexities that define some of our more controversial issues. The papers typically include recommendations for addressing the issues usually targeting policy makers as well as the general public. If you have ideas for Jill, please let her know.

The herbicide mode-of-action classification system improvement presented at the 2020 annual meeting in Hawaii by the Global Herbicide Resistance Action Committee (HRAC) has been approved by The WSSA Board of Directors. Details of the changes, including a new poster that was presented at the Hawaii meeting, can be found on www.hracglobal.com and www.wssa.net. Changes since the last HRAC update in 2010 include the addition of 14 new active ingredients, rationalization of chemical family names, and four new or updated modes of action including: inhibition of fatty acid thioesterase (cinmethylin), inhibition of homogentisate solanesyltransferase (cyclopyrimorate), inhibition of solanesyl diphosphate synthase (aclonifen), and inhibition of serine-threonine protein phos-

phatase (endothall). With this update, HRAC will transition from letter to numerical MoA codes. Global HRAC considered several numerical code options, but agreed to align with the current WSSA system, so that there is a single numerical code shared by WSSA and Global HRAC going forward. Growers around the world can now trust one code system to mix and rotate herbicide MoAs for resistance management. The new classification can also be searched using HRAC's updated mobile App available on the iOS App Store or Google Play Store. Additional information, including a Press Release, is being developed to help inform key federal and state agency personnel as well as agricultural professionals.

WSSA Herbicide Handbook revision underway. The Board of Directors approved a budget to support the development of an Herbicide Handbook database that will be made available on-line in the future. The last update for the Handbook was 2012 for the 10th Edition. Although many details are still under consideration, the Board has contracted Dr. Travis Gannon, North Carolina State University, as Editor who will help build the database. Dr. Gannon has been in contact with several companies that can provide a searchable platform as well as annual maintenance. We hope the on-line 11th Edition will be available sometime in late 2021 or early 2022. We are still thinking about pricing and distribution but are considering some type of annual subscription model. Dr. Chris Willenborg, WSSA Director of Publications, is the contact person for more information on this project.

WSSA website makeover in the works. Dr. Lauren Lazaro, Chair of the WSSA Website Committee (E14), Dr. Muthu Bagavathiannan, Website Content Manager, and Dr. Dawn Rufsell, Member-at-Large and Board Liaison, along with other members of the Website Committee have been exploring website redesigns and more efficient ways to share our content. The volume of content on the current site has grown significantly in recent years with the idea that we need to provide annual meeting and society information to our membership but also need to share important weed science information broadly to the general public. Some of you answered a recent website survey and your input will help the committee better determine the needs for the new website. Reach out to Lauren, Muthu, Dawn, or other Website Committee members if you have ideas.

Bill Curran
President, WSSA

CALL FOR PAPERS

VIRTUAL 2021 WSSA MEETING

Annual Meeting of the WSSA February 15–19, 2021

INVITATION

You are invited to submit titles and abstracts for oral paper and poster presentations to be shared at the Virtual WSSA Annual Meeting that will be held Monday, February 15 to Friday, February 19, 2021. *Volunteer papers may be presented orally in one of the sections listed below or as a poster. An individual may personally present only one volunteer oral paper presentation. In addition to the oral paper presentation, an individual may present one poster, may be co-author of papers presented by other authors, and may present an invited symposium paper.* For the student contest, see Student Contest rules below. These rules will be strictly followed. The title and abstract submission site will be open October 14, 2020 and titles/authors due November 9, 2020.

DUE DATES for TITLES and AUTHORS, ABSTRACTS

Titles and author information for all oral paper, poster, and symposium paper presentations must be submitted electronically no later than November 9, 2020 to be considered. Titles not submitted by this deadline will not be accepted. Abstract text for each title must be submitted by January 31, 2021. The program will be posted on the WSSA website (<http://www.wssa.net>) and members will be informed when it is available by email from Eric Gustafson.

MEETING SCHEDULES

Volunteer papers will be presented within a **15-minute timeslot**. In the virtual format, we are planning for all oral presentations to be pre-recorded (12 minutes in length) and uploaded to our virtual meeting site with live Q&A opportunities with presenter following playback of the recording (3 minutes). Concurrent sessions dictate that the time schedule will need to be strictly followed. Oral paper presentations should report results of completed research or other substantive information. Information should not have been presented at a previous WSSA national meeting. Ideally, research reported at the WSSA Annual Meeting should be publishable in *Invasive Plant Science and Management*, *Weed Science*, *Weed Technology*, or a similar scientific journal.

Please select your top three choices of sections where you wish to present your paper or poster. **Thematic groupings** will be created for the virtual meeting schedule, so your paper may be in a different section for the meeting.

SYMPOSIUM PAPERS

Speakers participate in symposia by invitation only. Deadlines and procedures for preparing and submitting titles and abstracts of symposium papers are the same as for volunteer oral paper presentations. Individual symposium presenters will submit their titles, co-authors, and abstract into the system. Each author must also send a copy of the abstract to their symposium organizer.

SUBMISSION OF ABSTRACT

Volunteer oral papers, posters, and symposium oral papers all require abstracts to be submitted electronically. To submit titles/authors and abstract texts electronically, go to the WSSA Abstract Submission website (<http://weedscimeetingabstracts.com>).

The Title/Abstract Submission Page will be accessible beginning October 14, 2020. Additional instructions will be provided on the Title/Abstract Submission Page.

The Program text will be printed exactly as submitted, other than format and font changes for uniformity; therefore, proofread 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 how the paper will be presented.

STUDENT CONTEST INFORMATION

A. ELIGIBILITY

1. Any student who is a WSSA member and has registered to attend the current annual meeting is eligible to compete in either the poster (MS or PhD sections) or oral 3MT contest (MS or PhD sections). In the virtual format, posters will be uploaded with no audio component, while chat features will allow for questions with the presenter. Oral 3MT presentations will be pre-recorded, uploaded to the virtual meeting site, and available for judging and viewing.
2. In 2021, the WSSA will host a Three-Minute Thesis Research Communication Competition (3MT™) as developed by the University of Queensland, Australia (<https://threeminutethesis.uq.edu.au/>). This format provides students with the opportunity to profile their research and enhance communication skills. A separate document will be available describing this activity in more detail including how students will be judged and the rules for the competition.
3. **A student can only participate in the oral 3MT contest or in the poster contest during the same annual**

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meeting, not both. Students are eligible for participation in the Student Poster Contest and in Three-Minute Thesis Competition multiple times during a M.S. program and a Ph.D. program.

4. A student can only win 1st place in the poster or oral 3MT contest once per degree program. Once a student places 1st in a given contest (i.e. oral, 3MT, or poster presentation), they are no longer eligible to compete in said contest during the course of their current degree program. A student may win 1st place in the poster presentation contest and 1st place in the 3MT contest while in a M.S. or Ph.D. program; however, a student may not enter both contests at the same annual meeting. A student may win 1st place in the poster or 3MT contest in the M.S. degree program and then compete and win 1st place for an oral or poster presentation while in a Ph.D. degree program.

B. RULES AND PROCEDURES

1. Notice of the student contests will be included with the Call for Papers.
2. A contestant may enter the poster or oral 3MT contest multiple years per degree program. Persons who have graduated from a degree program (M.S. or Ph.D.) and are actively pursuing an additional degree may only enter the contest for the previous degree program during the first annual meeting following graduation.
3. Contestants will indicate in the title submission that they wish to enter either the poster or oral 3MT contest. Title and contest declaration must be turned in by the deadline that title submissions are due (November 9, 2020). If a contestant does not turn in a title and contest declaration by the time that title submissions are due, they will be ineligible for the contest unless the Student Program Chairperson declares the student eligible based on student's situation. ABSTRACTS FOR CONTEST PRESENTATIONS must be submitted electronically by **January 31, 2021**. This allows time for the committee to prepare copies or e-mail abstracts to the appropriate judges prior to the contest.
4. Evaluation forms and rules will be posted to the WSSA website.

PREPARATION OF ABSTRACT

Following are the guidelines for the preparation and submission of an abstract. Be alert to additional instructions that may appear on the site itself.

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. Do not include statements such as “The results of the experiments will be presented” or “The significance of these results will be discussed.”
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**.

Title Example.

Role of Adjuvants on Sulfonylurea Herbicide Efficacy

3. **E-mail Address** – For better communication among researchers, place the e-mail address of the senior author following the last sentence of abstract.
4. **Herbicide nomenclature** – A list of common and chemical names of herbicides approved by the WSSA is available at <http://wssa.net/Weeds/Tools/Herbicides>. When the common name refers to the parent acid, salt or ester forms used in the experiments should be identified at the first mention of the common name (e.g., methyl ester of diclofop). At the first mention of an herbicide application rate, list whether the weight is acid equivalent (ae) or active ingredient (ai) (e.g., kg ai ha⁻¹). If no common name is available, use its designation (trade name or code) followed by the full chemical name. If the chemistry is confidential, identify the source (company) in parentheses after designation.
5. **Adjuvant nomenclature** – Where possible, use the WSSA *Herbicide Handbook*, 10th edition (2014), p. 479–481; *Weed Science* (1985) 33 (Suppl. 1): 22–23; or the WSSA *Monograph* (1982) *Adjuvants for Herbicides*. Otherwise, use the most complete available chemical description of the adjuvant.
6. **Weed nomenclature** – Identify weeds by common names. At first mention of a weed, whether in the title or text, follow the common name with the scientific name (underlined and in parentheses). Do not repeat the scientific name in the text if given in the title. A list of WSSA approved common and Latin names of common weed species can be found at <http://wssa.net/wssa/weed/composite-list-of-weeds/>. If there is no WSSA-designated common name, use common scientific names from another source such as *Hortus Third Dictionary*.
7. **Crop nomenclature** – Scientific names for crop plants are optional. They are not needed for well known crops, but should be included for less common crops and whenever needed for clarity. Place scientific names, underlined and in parentheses, following first mention of the common name, whether in the title or text.
8. **Soil nomenclature** – Include the soil series with textural classification and the subgroup name using the terminology of the U.S. Dept. Agric. Natr. Res. Conserv. Serv. publication, *Soil Taxonomy*, U.S. Gov. Printing Office, Washington, D.C. 1988. For soils outside the U.S.A., use the local official terminology.

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9. **Measurements** – Report all measurements in International System of units (SI). Abbreviate units of measure if preceded by a number. See *Weed Science* (2003) 51:1029–1033 for additional suggestions and *WSSA Herbicide Handbook*, 10th edition (2014), p. 488–491 for metric conversions.
10. **Abbreviations** – Use abbreviations as shown at <http://wssajournals.org/userimages/ContentEditor/135879>.
11. **Numbers** – Use Arabic numerals for all numbers with two or more digits and for all measurements such as time, weight-length, area, quantity, or degree except when the number is the first word in the sentence. Spell out numbers when they are the first word in a sentence or when they are less than 10 and not measurements.

POSTERS

The information presented as a poster is very similar to that presented as an oral paper, but presented on a single “slide” rather than orally. We are still deciding how posters will be presented virtually; however, we anticipate that your poster will be available to our membership for an extended period of time after the meeting.

There are key differences between a poster and a commercial exhibit. Commercial exhibits are presented by Sustaining Members of WSSA and consist of educational information that may be of a promotional nature about products and/or services. Posters may be presented by personnel of the same sustaining member companies and may concern commercial products, but they must present results of completed research with these products rather than promotional material about them.

POSTER SESSION

There may be split sessions for presentation of posters. In addition to specifying Poster Session, authors should indicate a category from one of the sections listed below (see page 7). Poster presentations will be grouped by these categories or by subject matter themes.

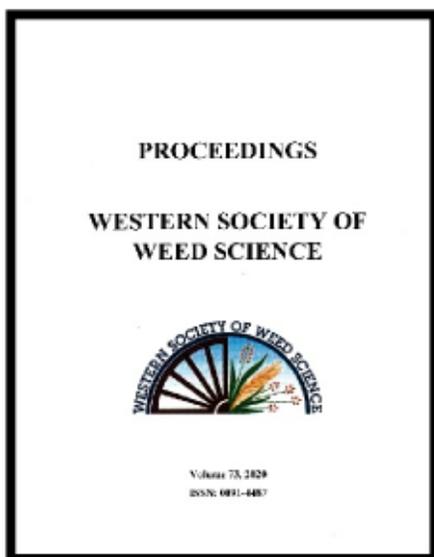
More information about the Poster Session will be made available as we finalize the virtual platform that will be used, and how posters will be submitted.

2021 Sections and Section Chairs with contact information found on page 7.

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The Western Society of Weed Science Proceedings Editor has announced that the Proceedings from the 2020 Maui, Hawaii 73rd annual Joint Meeting of the Western Society of Weed Science and the Weed Science Society of America have been posted to the WSWS website. You can view or download the Proceedings by following this link:

WSWS 2020 Proceedings



THINK NEWSLETTER

Deadline for January issue
December 1, 2020

WSSA HOME PAGE
ACCESSED AT:

www.wssa.net

SEND NEWSLETTER
MATERIAL TO:

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Program Committee Members:WSSA Chair: Anita Dille (contact: dieleman@ksu.edu)Ex-off: Eric Gustafson (contact: info@wssa.net)

Section	Section Chair 2021
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2. Horticultural Crops	Stephen Meyers slmeyers@purdue.edu
3. Turf and Ornamentals	Sandeep Rana Sandeep.rana@bayer.com
4. Pasture, Range, Forest, & Rights of ways, Wildland, and Aquatic Invasive plants	David Russell drp13@pss.msstate.edu
5. Regulatory Aspects	Cherilyn Moore cherilyn.moore@syngenta.com
6. Teaching and Extension	Parminder Chahal parminder.chahal@fmc.com
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12. Integrated Weed Management	Shilpa Singh shilpa.singh@tamu.edu
13. Sustaining Member Exhibits	Kyle Kepner kyle@gdmdata.com
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15. Student Contest	Darrin Dodds dmd76@msstate.edu
16. Student Travel Enrichment Experience	Wykle Green wykle@vt.edu

WASHINGTON REPORT

by Lee Van Wychen, Director of Science Policy

WSSA ALERT: UNSOLICITED SEEDS? DON'T PLANT THEM!

Have you received unsolicited packages of seed in the mail? If so, you're not alone. People from across the U.S. and Canada are reporting receipt of seeds they didn't order that appear to be coming from China.

Though you may be tempted to plant them, both government officials and weed scientists strongly advise against doing so. You may be spreading invasive weed species that could threaten our agriculture and environment.

Authorities have already discovered packets containing seeds for dodder (*Cuscuta L.*) and Chinese waterspinach (*Ipomoea aquatica*), also known as swamp morningglory. Both are on the Federal Noxious Weed list. They have also found seeds for *Sericea lespedeza*, which is listed as a noxious weed in Kansas and Colorado.

What should you do if you receive an unsolicited seed packet? The USDA's Animal and Plant Health Inspection Service (APHIS) is [spearheading an investigation](#). They ask that you support that effort by [submitting an online report](#) and mailing the seeds to the [designated USDA APHIS location in your state](#).

DICAMBA, ENLIST DUO & THE NINTH CIRCUIT COURT OF APPEALS

The Ninth Circuit Court of Appeals, headquartered in San Francisco, is the largest of the 13 Federal Circuit Courts with 29 Appellate judges. It has been the forum for two petitions challenging the EPA's registration decisions for XtendiMax, Engenia, and FeXapan in



one case and Enlist Duo in another. Petitioners in both cases were the National Family Farm Coalition (NFFC), Center for Food Safety (CFS), Center for Biological Diversity (CBD) and Pesticide Action Network North America (PANNA). The Natural Resources Defense Council (NRDC) was also a petitioner in the Enlist Duo case. EPA was the respondent in both cases and the respondent-intervenor was Monsanto in the dicamba case and Dow Agrosciences in the Enlist Duo case. The petitioners argued that EPA's registration decisions for these herbicides violated certain provisions in both the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Endangered Species Act (ESA).

Dicamba Case No. 19-70115. The court opinion and summary is available [HERE](#).

On June 3, a three judge panel ("the panel") unanimously agreed EPA violated various provisions within FIFRA and thus, vacated the registrations of XtendiMax, Engenia, and FeXapan. Because the panel's vacatur was based on its holding under FIFRA, the panel did **NOT** reach the question whether the registration decision also violated the ESA.

From the court summary: "The panel held that the EPA substantially understated three risks that it acknowledged."

- First, the EPA substantially understated the amount of dicamba-tolerant (DT) seed acreage that had been planted in 2018, and, correspondingly, the amount of dicamba herbicide that had been sprayed on post-emergent crops.
- Second, the EPA purported to be agnostic as to whether formal complaints of dicamba damage under-reported or over-reported the actual damage, when record evidence clearly showed that dicamba damage was substantially under-reported.
- Third, the EPA refused to estimate the amount of dicamba damage, characterizing such damage as "potential" and "alleged," when record evidence showed that dicamba had caused substantial and undisputed damage.

The panel also held that the EPA entirely failed to acknowledge three other risks.

- First, the EPA failed to acknowledge record evidence showing the high likelihood that restrictions on over-the-top (OTT) dicamba application imposed by the 2018 label would not be followed.
- Second, the EPA failed to acknowledge the substantial risk that the registrations would have anticompetitive economic effects in the soybean and cotton industries.
- Third, the EPA failed to acknowledge the risk that OTT dicamba use would tear the social fabric of farming communities."

Following the court's ruling, Bayer, BASF and Corteva filed separate petitions asking for an "en banc" review of the case, but those petitions were denied by the 9th Circuit Court in August. A final appeal to the Supreme Court is the last appeal option. Members of the weed science societies

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remain focused and committed on getting EPA the best available scientific data so that EPA can make a science-based decision this fall.

Enlist Duo. Case No. 17-70810. The court opinion and summary is available [HERE](#).

On July 22, a three judge panel (“**the panel**”) ruled in favor of EPA by rejecting three of the four arguments from the petitioners that the Enlist Duo registration violated FIFRA. The one provision of FIFRA where the panel agreed with the petitioners was that EPA failed to assess harm to monarch butterflies when milkweed was controlled in **target fields**. (More on this below).

From the court summary in regards to FIFRA violations:

- *The panel rejected the argument that EPA failed to consider that Enlist Duo would increase the use of glyphosate over time. The panel held that substantial evidence supported EPA’s conclusion that neither the initial 2014 registration of Enlist Duo – nor the subsequent approvals for new use – will increase the overall use of glyphosate.*
- *The panel rejected petitioners’ contention that EPA failed to properly consider 2,4-D’s volatility – i.e., its tendency to evaporate into a gas and drift to non-target plants. The panel held that EPA reasonably relied on studies to support its conclusion that the volatility of 2,4-D choline salt will not cause on unreasonable adverse effects on the environment. Accordingly, substantial evidence supported EPA’s findings.*
- *The panel rejected NFFS petitioners’ contention that EPA should have accounted for the potential synergistic effect of mixing Enlist Duo with a different chemical called glufosinate. The panel held that this concern was speculative.*
- *The panel agreed with petitioners that EPA failed to properly assess harm to*

monarch butterflies from increased 2,4-D use on milkweed in target fields. The panel held that given the record evidence suggesting monarch butterflies may be adversely affected by 2,4-D on target fields, EPA was required, under FIFRA, to determine whether any effect was “adverse” before determining whether any effect on the environment was, on the whole, “unreasonable.” The panel concluded that EPA’s failure to do so meant that its decision was lacking in substantial evidence on the issue.

As to the impact on the monarch butterfly population, the NRDC argued EPA should have considered how the destruction of milkweed on **target fields** would affect monarch butterflies. EPA acknowledged that it did not assess those risks because it was not required to do so. **Farmers will control milkweed on their crop fields through the use of herbicides or other means such as cultivation, with or without Enlist Duo.**

*“Despite the intuitive appeal of EPA’s argument, we (the three judge panel) must reject it. EPA did not assert this rationale as a reason for declining to assess the destruction of milkweed on **target fields**, so neither can we. Moreover, even had EPA asserted such a rationale, it would likely be premised on legal error. **That milkweed would likely be targeted in the same ways even absent Enlist Duo’s registration suggests that registering Enlist Duo may not be “unreasonable” under FIFRA. But it says nothing about whether an effect would be “adverse.”** Given the record evidence suggesting monarch butterflies may be adversely affected by 2,4-D on target fields, EPA was required, under FIFRA, to determine whether any effect was “adverse” before determining whether any effect on the environment was, on the whole, “unreasonable.” EPA’s failure to do so means that its decision was lacking in substantial evidence on this issue.”*

The three judge panel also ruled on the question of whether EPA violated any provisions of the **Endangered Species Act (ESA)** in registering Enlist Duo. Two of the three judges on “the panel” rejected the petitioner’s arguments that EPA violated the ESA. The lone dissenting judge held that EPA violated the ESA by failing to use the best scientific data to assess whether Enlist Duo would adversely affect threatened or endangered species.

From the court summary in regards to ESA violations:

- *First, the panel rejected NFFC petitioners’ challenge to EPA’s “no effect” findings for plants and animals. The panel held that the EPA did what the ESA required it to do: assess risks to determine whether the exposure of protected species and critical habitat to potentially harmful chemicals would have any possible effect. The panel concluded that EPA’s ultimate “no effect” findings, and adoption of mitigation measures, were not arbitrary, capricious, or contrary to law.*
- *Second, the panel rejected NFFC petitioners’ argument that EPA’s rationale for limiting the “action area” to the treated field was not sound. The panel accorded deference to the EPA in the way it chose to define the action area.*
- *Third, the panel rejected NFFC petitioners’ argument that EPA violated its duty to insure no “adverse modification” of “critical habitat” by relying on its 2016 risk assessment.*

The end result of all this is that the registration of Enlist Duo stands and that EPA has to “address the evidence that monarch butterflies may be harmed by the destruction of milkweed on **target fields**.” The panel did note that EPA’s error in failing to consider harm to monarch butterflies caused by killing **target milkweed** was not “serious”.

WEED SCIENCE PROVISIONS IN FY2021 HOUSE AG APPROPRIATIONS BILL

The FY 2021 House Ag Appropriations bill includes a number of good weed science provisions in addition to increases in funding for the IR-4 Program and the AFRI competitive grants program. Funding for the IR-4 program has been stuck at \$11.9 million for over a decade. We've been working to highlight the great work the program does and its value to the economy, so it was great to see the House Ag Appropriations Committee propose funding of \$15 million for FY 2021. Funding for the ag experiment stations (Hatch Act), university extension (Smith-Lever) and the Crop Protection & Pest Management (CPPM) program remain the same as the FY 2020 funding.

Weed Science Research. The House Ag Appropriations Committee "supports the establishment of a National Program Leader dedicated to Weed Science Research and Management in the USDA National Institute of Food and Agriculture (NIFA)".

Areawide Integrated Pest Management (AIPM) in NIFA. There are many strengths to effective AIPM projects, such as [TEAM Leafy Spurge](#) and [TAME Melaleuca](#), but funding has only been available through USDA-ARS. We've been trying to get AIPM funding established in NIFA for several years. The House Ag Appropriations Committee "supports the development and implementation of areawide integrated pest management (AIPM) projects and directs NIFA to establish within CPPM an organizational framework and funding plan to implement AIPM projects that are to be planned in coordination with ARS, APHIS, and other federal agencies and implemented by cross-institutional teams, including farmers, ranchers, and land managers, at the local level."

Tropical and Subtropical Weed Re-

search. The House Ag Appropriations Committee "directs ARS to coordinate with NIFA, the Forest Service, APHIS, and the USDA Climate Hubs to provide to the Committees on Appropriations of both Houses of Congress not later than 180 days after the enactment of this Act a report on research relevant to and efforts to assist Hawaii, Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Northern Mariana Islands ... in land and forest resource management ... and biology and control of invasive insects, plant diseases, and weedy plant species, and the development of integrated pest management strategies to control them".

Cogongrass. Of the 88 terrestrial weeds listed on the [Federal Noxious weed list](#), cogongrass is arguably one of the most widespread. The House Ag Appropriations Committee "continues to provide \$3,000,000 for APHIS to partner with state departments of agriculture and forestry commissions in states considered to be the epicenter of infestations, to assist with control and treatment of cogongrass in order to slow the advancing front of this invasive plant-pest species and its impact on forest productivity, wildlife habitat, and private landowners."

PARAG CHITNIS IS NIFA ACTING DIRECTOR



Dr. Parag Chitnis is serving as Acting Director of USDA-NIFA upon the departure of Dr. Scott Angle in July who became Vice President of Agriculture and Natural Resources at the University of Florida in Gainesville. Dr. Chitnis was named Associate Director for Programs earlier this year and leads implementation of NIFA's approximately \$1.7 billion research programs. Prior to joining NIFA, he was a research administrator at the National Science Foundation (NSF) – Division of Molecular and Cellular Biosciences, a professor in the De-

partment of Biochemistry, Biophysics, and Molecular Biology at Iowa State University, and an assistant professor in the Division of Biology at Kansas State University. Chitnis has a B.S. in botany/plant breeding from the Konkan Agricultural University in India, an M.S. in genetics/biochemistry from the Indian Agricultural Research Institute, and Ph.D. in biology from UCLA.

USDA-NIFA ESTABLISHES TWO ARTIFICIAL INTELLIGENCE RESEARCH INSTITUTES

Two artificial intelligence (AI) research institutes are being created by USDA-NIFA with a \$20 million investment in each to expand artificial intelligence research in farming and food processing over the next five years. NSF also announced the creation of five AI institutes. More institute announcements are anticipated in coming years. USDA's two AI institutes are:

- **Future Agricultural Resilience, Management and Sustainability:** This AI institute will be led by a team at the University of Illinois at Urbana-Champaign and will advance AI research in computer vision, machine learning, soft object manipulation, and intuitive human-robot interaction to solve major agricultural challenges including labor shortages, efficiency and welfare in animal agriculture, environmental resilience of crops, and the need to safeguard soil health. The institute features a new joint Computer Science + Agriculture degree and global clearinghouse to foster collaboration in AI-driven agriculture research.
- **Next Generation Food Systems:** This AI institute will be led by a

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team at the University of California, Davis, integrates a holistic view of the food system with AI and bioinformatics to understand biological data and processes, addressing issues of molecular breeding to optimize traits for yield, crop quality, and pest/disease resistance; agricultural production; food processing and distribution; and nutrition. Major emphasis is on inclusive education and outreach approaches to build a diverse, next-generation workforce.

1,172 FARMERS PARTICIPATE IN NATIONAL COVER CROP SURVEY

The 2019-2020 National Cover Crop Survey, conducted by the non-profit Conservation Technology Information Center (CTIC), with financial support from the Sustainable Agriculture Research and Education (SARE) program and the American Seed Trade Association (ASTA), includes perspectives from 1,172 farmers representing every state. This survey was the first to include detailed exploration of planting green—a tactic employed by 52% of the respondents—as well as crop insurance use among cover croppers and the impact of cover crops on the profitability of horticultural operations. The USDA Census of Agriculture has reported a 50% increase in cover crop acreage over the five-year period between 2012 and 2017. Details of the 2019-2020 survey can be found at: www.sare.org/covercropsurvey

“ANTI-FIFRA” LEGISLATION OPPOSED IN HOUSE, SENATE

In August, Sen. Tom Udall (NM) and Rep. Joe Neguse (CO) introduced legislation (H.R. 7940 and S. 4406) that would drastically amend the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and jeopardize the continued innovation and availability of pesticide products. The legislation would impose a politically driven process that would remove pest control options and undermine the science-based standards contained within FIFRA.

The legislation would ban organophosphate, neonicotinoid and paraquat pesticides, create a petition process to EPA for individual citizens, and alter the process for emergency exemptions, among other changes. In addition, the bills would enable local communities to enact policies without being vetoed or preempted by state law.

The National and Regional Weed Science Societies are opposed to this legislation and [joined more than 300 other agriculture and conservation organizations in a letter](#) to all members of the House and Senate affirming our support for FIFRA.

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EPA ANNOUNCES INTERIM RE-REGISTRATION DECISIONS FOR TRIAZINES

In September, EPA announced the interim re-registration decisions for atrazine, propazine and simazine. Details are available [here](#). EPA is requiring the following mitigation measures:

- Reducing the maximum application rate for atrazine and simazine when used on residential turf in order to protect children who crawl or play on treated grass
- Adding a requirement for irrigation immediately after simazine application to residential turf
- Requiring additional personal protective equipment for workers who apply atrazine and simazine to reduce occupational risks associated with certain uses
- Finalizing label requirements for all three triazines to include mandatory spray drift control measures, to minimize pesticide drift into non-target areas, including water bodies

Finalizing label directions for herbicide resistance to reduce the problem of weeds becoming resistant to atrazine

The reregistration announcement is interim because the triazines must still undergo an Endangered Species Act review. As part of this, the draft biological evaluations for the triazines are anticipated to be available for public comment in late Fall 2020. Final Endangered Species Determinations for each of the triazines are anticipated in 2021.

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NEPA RULE UPDATES SHOULD IMPROVE WEED MANAGEMENT ON FEDERAL LANDS

The Council on Environmental Quality (CEQ) announced a final rule July 15 to comprehensively update and [modernize National Environmental Policy Act \(NEPA\) regulations](#) for the first time in more than 40 years. CEQ is a division of the Executive Office of the President that coordinates federal environmental efforts in the U.S. and works closely with agencies and other White House offices on the development of environmental and energy policies and initiatives.

NEPA regulations control how the federal government processes environmental permits, but the law has often been used to block and delay federal projects and actions. More often than not, NEPA has been a roadblock to invasive species management. A classic example of this is with post-fire cheatgrass management in Wyoming. They have had several fires that burn on federal, state, and private land that is all interconnected. The state and private land owners were able to get in and treat cheatgrass within four months after the fire mitigating the potential invasion of cheat-

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grass onto adjoining lands. Meanwhile, it took the U.S. Forest Service four years to complete an environmental impact statement (EIS) for cheatgrass treatments, which by that time had allowed cheatgrass to invade an additional 2,000 acres and more than double its vegetation cover from before the fire.

The modernized NEPA regulations will accelerate the environmental review and permitting processes for management of our Federal lands and waters. The rule will establish a two-year limit for completion of environmental impact statements (EISs) and a one-year limit for completion of environmental assessments (EAs), and would also impose page limits.

The modernized NEPA regulations will also expand public involvement and improve coordination with States, Tribes, and Localities by requiring agencies to provide more information to and solicit input from the public earlier in the process to ensure and facilitate informed decision making by Federal agencies. The changes will also reduce duplication by facilitating use of documents already prepared by State, Tribal, and local agencies to be used by Federal agencies to comply with NEPA.

GREAT AMERICAN OUTDOORS ACT SIGNED INTO LAW

The Great American Outdoors Act will establish the National Parks and Public Land Legacy Restoration Fund to support deferred maintenance projects on federal lands. The National Park Service (NPS) accounts for 84 million acres of land at 400 different sites. But as of 2019, there was \$11.9 billion in deferred maintenance and repairs needed. The bill will direct up to \$6.65 billion to priority repairs and up to \$3 billion for other agencies like the Fish and Wildlife Service, Forest Service, and Bureau of Land Management.

While there are no direct provisions in the bill for invasive species management, the restoration fund will help alleviate fiscal pressures at the Department of the Interior so that invasive species funding is not redirected to maintenance projects.

The second part of the bill will permanently fund the Land and Water Conservation Fund at \$900 million per year. This was definitely the more controversial part of the bill and most of the Congressmen who voted against the bill did so because of this provision. The Senate passed the bill 73 to 25 and the House passed it 310 to 107. President Trump signed it into law on August 4.

None of the funding in the bill would come from taxpayer dollars. Instead, programs would be funded by royalties from energy developments on federal lands and waters. For fiscal years 2021 through 2025, 50 percent of all energy development revenues due to the U.S. would be deposited into the National Parks and Public Land Legacy Fund, up to \$1.9 billion each year.

To celebrate the signing of the bill, U.S. Secretary of the Interior David Bernhardt announced that August 4th will be designated "Great American

Outdoors Day." Henceforth, August 4 will be recognized as an NPS holiday, which means that in future years on August 4, you can visit national parks and public lands for FREE.

2020 STATE NOXIOUS WEED SEED REQUIREMENTS LIST UPDATED

The Seed Regulatory and Testing Division of the USDA Agricultural Marketing Service (AMS), which enforces interstate commerce provisions of the Federal Seed Act, recently updated the state noxious weed seed list. It is available online at <https://www.ams.usda.gov/rules-regulations/fsa> in two formats (PDF & Excel). The document contains information about state labeling requirements and prohibitions of noxious weed seeds, and shows the scientific names and common names according to the law and regulations of the state in which the seed is considered noxious.

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CALENDAR OF UPCOMING EVENTS

DATE	EVENT	LOCATION	CONTACT
November 23–26, 2020	Canadian Weed Science Society Annual Meeting (CWSS)	Gatineau, Quebec	www.weedscience.ca
November 30–December 2, 2020	North Central Weed Science Society Annual Meeting (NCWSS)	Minneapolis, Minnesota	www.ncwss.org
January 4–7, 2021	Northeastern Weed Science Society Annual Meeting (NEWSS)	Gettysburg, Pennsylvania	www.newss.org
January 24–28, 2021	Southern Weed Science Society Annual Meeting (SWSS)	Knoxville, Tennessee	www.swss.ws
February 15–18, 2021	Weed Science Society of America Annual Meeting (WSSA)	San Antonio, Texas	www.wssa.net
March 1–4, 2021	Western Society of Weed Science Annual Meeting (WSWS)	Boise, Idaho	www.wsweedscience.org

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

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