



Western Society of Weed Science Newsletter

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FALL 2018

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President's Report - by Andrew Kniss

Snow is falling here in Laramie, which reminded me that fall is approaching and that I need to submit a report for the WSWs newsletter. Our excellent (and persistent) newsletter editor Carl Libbey has also been calling and emailing me for a couple weeks to remind me of the same thing. As much as I'd love to tell you all

that the falling snow and the crisp autumn air inspired me to write this, it was really Carl's repeated voice mails that prompted me to finally take action. Certainly, Carl pestering me for my newsletter submission is not nearly as poetic sounding as fall approaching and snow falling. But I think it is an important reminder that things only get done when people make the effort to do them.

Among all the things our society does, recognizing our outstanding members with awards is among the most important. I would encourage you to nominate deserving individuals for one (or more) of our WSWs awards – submissions for the Fellows, Honorary Members, Outstanding Weed Scientists, and Distinguished Service Awards are all due by December 1st. Please think about all the deserving people you've worked with over the years and nominate someone. We have so many members who do great work for the society and the discipline, it would be nice to recognize as many as possible at our annual meeting. These awards mean a great deal to our society and to the people who receive them. Let's all make the effort to ensure we recognize our colleagues for their accomplishments.

I recently was able to notify three of our graduate student members that they were selected to receive the Elena Sanchez WSWs Outstanding Student Scholarships. The three awardees were Larissa Larocca de Souza (Oregon State University), Ramawatar Yadav (Montana State University), and Lucas Kopecky Bobadilla (Oregon State University). Thank you to all the students and mentors who applied and wrote support letters. Thank you also to the Awards Committee for the difficult task of selecting from a very qualified pool of students. This year, we did not receive any applications from undergraduate students. I would like to remind the society that if you have undergraduate students who are eligible, to please encourage them to apply.

At the summer board meeting, the board reviewed and approved a proposal from Elizabeth Mosqueda, a student WSWs member from the University of Wyoming, to represent WSWs at the recent Society for Advancement of

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WSWS Annual Meeting March 11-14, 2019 Denver, Colorado

President's Report – CONTINUED FROM PAGE 1

Chicanos and Native Americans in Science (SACNAS) annual meeting held in San Antonio. The SACNAS annual meeting is touted as the National Diversity in STEM Conference, and the WSWS purchased an exhibitor booth to spread the word to students and mentors about research and career opportunities in the weed science discipline. Elizabeth put together an eye-catching booth that generated quite a bit of interest from students and others who passed by. I helped Elizabeth staff the booth, and I was very pleased with the level of interest we received. We had many conversations with students and mentors who were interested in biology, ecology, environmental sciences, and engineering who were unaware of the varied opportunities in weed science. Some of the research being presented at SACNAS would have been equally at home at our WSWS meeting, yet many of these students and faculty were completely unaware of our society. Elizabeth will be submitting a full report to the Board, but my main takeaway was that we have many opportunities to diversify and grow our society and our discipline, but we need to figure out ways to better market and communicate what we do to non-traditional audiences.

I'm looking forward to our upcoming annual meeting in Denver – I think program chair Pat Clay is putting together a great program. Please consider submitting a title for the meeting. I hope to see you all there!

2019 Annual Meeting Update – Pat Clay, Program Chair

Get Registered and Submit your Titles

The 2019 Western Society of Weed Science (WSWS) Annual Meeting will be held March 11-14 in Denver, Colorado at the Grand Hyatt. As mentioned in the summer newsletter, the location and facilities are top notch. Early regular registration will be \$250 and student registration will be \$125. Take advantage of early registration!

Title and abstract submission site is open ([WSSA Abstracts](#)) so please consider submitting a paper and sharing with WSWS your research and education and regulatory results.

Symposia

There will be two symposia at the annual meeting in Denver. Included as part of regular registration and timed during the regularly planned program; Amanda Crump, Matt Baur, and Kassim Al-Khatib have prepared a half-day session titled "*Integrated Pest Management Research in the West*". This session will focus on weed science research and extension efforts funded via the Western Integrated Pest Management Center.

The second symposium will be on Thursday and will be included as part of the full registration but will also have a single day registration available. Sandra McDonald and a team of University and Industry representative will deliver a symposium titled "*Rights-of-Way – Beyond Integrated Vegetation Management to Integrated Habitats!*"

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Student Liaison Report - Clint Beiermann

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Greetings Students,

I would like to thank everyone who applied for the Elena Sanchez Memorial Outstanding Student Scholarship. I was informed by the awards committee that we had six applications this year. That's not bad, but let's work on keeping the application number up in the coming years. Applicants should expect a response from the awards committee by the end of October. Funding for this scholarship is supported by our student silent auction. Each year our goal is to raise \$3,000 to fully fund the scholarship program. I will soon be sending out requests for donations for our upcoming student silent auction. Please contact Lucas or myself if you know of any possible groups that would want to donate items to our silent auction.

I will again take this opportunity to promote student involvement in the society. If you plan to be involved in the WSWS for the next two years I would strongly recommend running for the student liaison position. The first year is spent in the chair elect position, so there is time to learn this role by assisting the chair. The second year is spent as chair, with the main responsibility as representing the concerns of student members to the WSWS board. Serving in this position has been a wonderful experience and has helped me to learn even more about the society. I will be sending out a call for nominations for the student liaison position before the annual meeting.

There are other ways to be involved as well. Consider serving as student representative to the judging committee. This is a one year commitment and the purpose is to bring the student's perspectives before the judging committee. Students also have the opportunity to sit in on any committee of interest. There was discussion at the summer board meeting about forming an invasive plants committee, this may be of interest to some students.

Please take a minute and like WSWS student section on Facebook (www.facebook.com/WSWSStudentSection) and Twitter ([@WSWSstudents](https://twitter.com/WSWSstudents)). I will be sending out more information on important deadlines as our annual meeting approaches. I hope everyone had a successful field season and are excited to prepare research for the annual meeting in 2019.

Best regards,

Clint Beiermann, Student Chair

clint.beiermann@huskers.unl.edu

Lucas K. Bobadilla, Student Chair (elect)

lucas.kopecky-bobadilla@oregonstate.edu

Local Arrangements Report – Sandra McDonald

As the 2019 Local Arrangements Chair, I am really excited to welcome the Western Society of Weed Science to Denver, Colorado in March.

The WSWS venue is the Grand Hyatt in downtown Denver, located at 1750 Welton Street, Denver, CO, 80202. The Grand Hyatt is in the heart of it all, just steps from the best things to do in Denver. The 16th Street Mall - where a 12-block pedestrian walkway houses the best in shopping, dining, and entertainment, with complimentary shuttles for added convenience. The Grand is minutes from Coors Field (home of the Colorado Rockies) and the Pepsi Center (home of the Denver Nuggets and Colorado Avalanche). Plus from Denver it is an easy trip to world class skiing!

Plan to fly to Denver International Airport. Domestic arrivals are located in the center of the main terminal on Level 5. International arrivals are located at the north end of the main terminal. Baggage claim is also located on Level 5. The A Line trains departs from Level 1 of the airport's Transit Center, under the Westin Denver International Airport. To get to Denver Airport A Line Station, follow signs to the "Transit Center" and proceed to the south end of the main terminal on Level 5. Exit the terminal through the sliding glass doors and take the escalator located in the center of the plaza down to Level 1.

Travel to Downtown Denver. To get to Downtown Denver you can take the University of Colorado A Line train from the airport to Union Station. Then you can make your way to the Grand Hyatt using the Free Mall Shuttle, walking, taxi or other ride share service. Shuttle services are also available from the airport, as are taxis and ride share services.

Tickets for the A Line may be purchased at the ticket vending machines located on the train platform using cash or credit cards. The A Line is 23 miles from the airport to downtown's Denver Union Station and takes 37 minutes. There are six stops and Union Station is the final stop. The airport fare is \$10.50 per day from any of the stations along the A Line and includes unlimited rides on the A Line as well as the entire RTD Light Rail system during a single business day. Visit the RTD website to learn more <http://www.rtd-denver.com/a-line.shtml>

The Grand Hyatt Denver is located about one mile from Union Station. The 16th Street Shuttle (Free Mall Shuttle) departs from Union Station and stops 1 block from the Grand Hyatt. When you get off the train turn right (west) and walk about a block to the Free Mall Shuttle stop on the corner of 16th St. and Wynkoop St. (please note you must cross the street - in front of Office Depot). The Grand Hyatt stop is Welton St. (On stop past California St.) The Grand Hyatt is east (cross 16th St.) and continue on Welton St. The Grand Hyatt will be on your right after you cross 17th St. To learn more or get a map please visit <http://rtd-denver.com/FREEMallRide.shtml>. The Free Mall Shuttle operates from 4:59 am on weekdays, 5:30 am on Saturdays and 6:30 am on Sundays. Service continues throughout the day and ends at 1:00 am.

See you in March!

Sandra McDonald

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WSWS ONLINE EDUCATION

<http://passel.unl.edu/pages/index2col.php?category=weedscience#>

WSSA Journals Website Online

www.wssa.net/publications/

CALENDAR OF EVENTS

Alaska Invasive Species Workshop

Nov. 13-15, 2018

Homer, Alaska

<http://www.uaf.edu/ces/pests/cnipm/annual-invasive-species-c/>

72st Annual Meeting of the Canadian Weed Science Society

Nov. 19-22, 2018

Niagara Falls, Ontario

www.weedscience.ca

North Central Weed Science Society Annual Meeting

Dec. 3-6, 2018

Milwaukee, Wisconsin

www.ncwss.org

Northeastern Weed Science Society Annual Meeting

Jan. 7-10, 2019

Baltimore, Maryland

www.newss.org

Southern Weed Science Society Annual Meeting

Feb. 3-7, 2019

Oklahoma City, Oklahoma

www.swss.ws

Weed Science Society of America Annual Meeting

Feb. 11-14, 2019

New Orleans, Louisiana

www.wssa.net

Western Society of Weed Science Annual Meeting

March 11-14, 2019

Denver, Colorado

www.wsweedscience.org

Aquatic Plant Management Society Annual Meeting

July 14-17, 2019

San Diego, California

www.apms.org

*Beyond Integrated
Vegetation Management
to Integrated Habitats!*

Rights-of-Way Symposium

March 14, 2019
9 am – 3 pm

Please plan to join us!



Annual Meeting
March 11 – 14, 2019
Denver, Colorado
www.WSWeedScience.org

Recently Retired or Planning to Retire?

Please let us know of WSWS members who may be planning to retire soon or have retired that have not been recognized at our annual meeting. In a change from the past, at the last meeting we recognized these folks during the Wednesday Awards Luncheon. This was well received by nearly all members, and this was discussed at the summer board meeting. The board would like to try this again and see how it goes particularly if we have a full complement of awards to hand out. It also depends on how many retirees are able to attend to be formally recognized. So please let us know by March 1st of these individuals so we can plan and properly recognize their contributions to the WSWS. You can contact me at (509) 443-8749 or monte.anderson@bayer.com.

Monte Anderson
WSWS Immediate Past President

The WSWS Rita Beard Endowment Foundation Announces Four Scholarship Recipients.

The Rita Beard Endowment Foundation Board of Trustees has selected four recipients of travel scholarships for 2019. They are Christie Hubbard, an M.S. student at the University of Idaho; Rory O'Connor, a Ph.D. candidate at Kansas State University; Rachel Seedorf, an M.S. student at Colorado State University; and Travis Sowards, a Ph.D. student at Brigham Young University. The Rita Beard Endowment Foundation is a 501 (c) (3) non-profit that was created from a generous donation by Rita Beard's family and friends. Funds are awarded to support educational opportunities of students and early career invasive species managers by providing registration and travel to professional meetings including Society for Range Management, Western Society of Weed Science, Western Aquatic Plant Management Society and the North American Invasive Species Management Association. Christie Hubbard and Rachel Seedorf will be attending the Western Society of Weed Science annual meeting in March, and Rory O'Connor and Travis Sowards will attend the Society for Range Management annual meeting in February. To read more about the Foundation, learn how to apply for the 2020 scholarships, or make a donation go to: <http://www.wsweedscience.org/rita-beard-endowment-foundation/>.



Christie Hubbard I started my journey to becoming a weed scientist by investigating the ability of a native parasitic plant, dodder, to suppress the vigor of Johnsongrass. This broadened my knowledge of invasive plants, parasitic plants, and experimental design. The experiment led to a plant survey opportunity in Costa Rica where I learned the art of plant identification. The research demonstrated the importance of human intervention after catastrophe (natural or manmade). I am currently using aerial imagery and GIS tools to build plant community susceptibility models for a portion of the Greater Yellowstone Ecosystem to focus ground survey efforts on susceptible areas. My professional ambition is to minimize invasive species impacts and restore habitats to functioning, native communities.

Rory O'Connor I became interested in invasive species management during my range management class of my undergraduate program. The following summer I worked for the USDA-ARS in Burns, Oregon, as a rangeland aid on juniper expansion. In graduate school, I have worked on becoming an invasion rangeland ecologist. During my M.S. degree, I studied how annual grass invasions in the Great Basin and Mojave Desert occur after fire. I decided to return to investigating woody plant encroachment for my Ph.D., but to elucidate drivers and mechanisms of encroachment in the tallgrass prairie. I see myself working in the federal government and with land owners/managers to answer questions and solve problems by creating collaborative, science informed, land management prescriptions.





Rachel Seedorf Having grown up on a farm and ranch, I have been surrounded by agriculture my whole life and understand the challenges that invasive plants can present to land managers in many different settings. I have grown more interested in the dynamics of natural area landscapes, as well as the biology of the weeds and the effects herbicides have on them. My own research involves working closely with Denver International Airport to help develop an invasive management plan. As a municipality that owns 50 square miles, there is a challenge to maintain the landscape in a timely and effective manner. The environment is continually changing, and I hope that through any career path I have taken, I will be able to continue learning and informing others about the importance of managing invasive plants in all kinds of natural areas.

Travis Sowards John Muir observed that earth's organisms are so entangled that we cannot understand a single entity without studying the entirety of the system in which it is found. The seed of land stewardship had been planted, cultivated through my life experiences, and has blossomed into a deep desire to understand and care for degraded ecosystems. The experiences I gained in Hawaii with the US Forest Service opened my eyes to the detrimental impacts that invasive exotic species can have on native ecosystems. My Ph.D. research has focused on seed enhancement technologies to provide greater restoration success. I am developing both theoretical knowledge and practical skills in restoration ecology that I believe will enable me to provide novel perspectives of the interrelated complexities of ecological restoration, conservation of natural resources, and the impacts from future uncertainties of a changing climate.



Friends and Colleagues,

I am pleased to share with you the first in a series of reports on the agricultural and economic benefits of 2,4-D.

Chapter 1: The Regulatory History of 2,4-D in the United States

The first report comprises an overview of the regulatory history of 2,4-D, a history 70 years in the making. 2,4-D is now used in over 90 countries worldwide, where its safety has been reviewed multiple times over the years by agencies such as the U.S. EPA, Health Canada's PMRA, and Germany's BFR.

The full study, comprising 14 reports, will be released throughout Fall 2018. Collectively, they will serve as an update to the 1996 study *"Biologic and Economic Assessment of Benefits from Use of Phenoxy Herbicides in the United States"*.

Jim Gray, Executive Director
2,4-D Research Task Force

Learn more at www.24D.org

STUDENT PAPER AND POSTER CONTEST INFORMATION Ed Peachey – Chair

The Student Paper and Poster contest at the Western Society of Weed Science Annual Meeting offers students an opportunity to improve their presentation skills and increase their visibility within the Society. The top students in each division of the contest will be recognized with a plaque and receive a cash award to honor their achievement.

- All graduate students are encouraged to enter one paper **AND/OR** one poster in the contest.
- Undergraduate students may enter one poster **OR** one paper in the contest. ALL undergraduate students please notify me at ed.peachey@oregonstate.edu with your choice of contest.
- If students entering the contest do not wish to be judged (i.e. considered for awards), but still would like to receive feedback on their presentations, please notify me ahead of the annual meeting at ed.peachey@oregonstate.edu.

Judges Invitation

As the chair of the 2019 Student Paper and Poster contest, I am asking for non-student volunteers to participate as judges for this competition. Everyone who has been involved with the student contests will agree the volunteer judges are the foundation for a successful contest. Your assistance as judges is of great value. Volunteering your time and support helps to insure we are providing the students every opportunity to excel in Weed Science.

If you are interested in volunteering, please contact me by email or phone: (ed.peachey@oregonstate.edu) or (541) 740-6712.

Attention to all Advisors and Students:

The WSWs Student Paper and Poster contest committee will be again enforcing the below policies. The committee is focused on making the contest a fair and enjoyable experience for students;

- **Information presented in the WSWs Student Paper and Poster Contest is to be original and unique.** If a topic has been used by the author in another presentation at a different weed science society meeting, additional data **must** be included to constitute a unique presentation.
- Additionally, oral and poster presentations entered for competition by the same person should be substantively different from each other (not just changing the title or simply adding more data to the poster.) There should be no overlap between the data presented in the poster and oral format by the person (if entered in a competition).
- Students attending institutions in states that are not WSWs members may enter and receive evaluation but will not be considered for awards.
- All students entering the contest are required to submit an abstract not to exceed 250 words (word count in Microsoft Word). All abstracts exceeding this word total will be docked points accordingly depending on the number of words in excess.

Information regarding the scoring of papers and posters is listed in the tables below. If further clarification by students or advisors is needed, please contact me at ed.peachey@oregonstate.edu.

Paper Contest*	Points	Criteria
Abstract	10	Format, grammar, and content
Introductions	10	Rational, hypothesis, and objectives
Methods	15	Experimental design, treatments, measurements, and statistical analysis
Results & Discussion	25	Results, interpretation, conclusions, future directions, and implications
Visual Aids	15	Easily read; uncluttered; in focus; balance to text, tables, figures, and photographs
Oration	20	Voice, confidence, enthusiasm, enunciations, and response to questions
Time	5	Allowed 2 to 4 minutes for questions (all-or-nothing points)
Total	100	
*Previous first place winners in the paper contest are ineligible for the paper contest, but may enter the poster contest.		

Poster Contest*	Points	Criteria
Abstract	10	Format, grammar, and content
Introductions	10	Rational, hypothesis, and objectives
Content and Mechanics	15	Grammar, style, and quantity of information
Development	20	Rationale, hypothesis, objectives, organization, and methods
Analysis of Results	20	Results, interpretation, conclusions, future directions, and implications
Appearance	20	Easily read, uncluttered, well-designed tables and figures, clear and relevant photographs, and balanced layout
Oration	10	Voice, confidence, enthusiasm, enunciations, and response to questions
Physical Presence	5	Interaction with audience and mannerisms
Total	100	
*Previous first place winners in the poster contest are ineligible for the poster contest, but may enter the paper contest.		

REQUEST FOR WSWs FELLOW AND HONORARY MEMBER NOMINATIONS

Joan Campbell, Committee Chair

Now is your chance to nominate deserving colleagues as a WSWs Fellow or Honorary Member!

WSWS FELLOW

WSWS Guidelines for Nominating Fellows:

Fellows of the society are members who have given meritorious service to the Western Society of Weed Science.

The nominator must contact the member to be nominated and request them to prepare a concise [2-3 page] resume.

- a. The nominee must be involved in the process. The most pertinent information about the nominee can only be obtained from the nominee.
- b. The nominee's resume should be based on the WSWs guidelines approved by the Board of Directors (see below).
- c. Information from the resume will be used by the nominator in writing the letter of nomination.
- d. The nominator also is responsible for soliciting two letters of support for the nominee. The letters should be sent to the nominator and included in the nomination package sent to the committee.
- e. The nomination package should include the nominee's vita, the nominator's letter of nomination, and two support letters.

SERVICE TO WSWs – Please address the following points in the resume:

1. **Officer:** President; Vice-President; Secretary, Research Section Chair; Education & Regulatory Section Chair; Editor; Other.
2. **Committees:** Standing; Special; Ad Hoc.
3. **Presentations and Publications:** WSWs – Papers, Proceedings, Research Progress
4. **Service to other Weed Science Societies:** Weed Science Society of America; State Organizations.
5. **Academic Weed Science Endeavors:** Teacher; Graduate Students; Refereed Publications; Extension Publications, Books; Popular Publications; Academic Weed Science Pursuits; Other.
6. **Industry Weed Science Endeavors:** Sales and Marketing; Research and Development; Regional Manager; Product Manager.
7. **Other Meritorious Weed Science Service**

WSWS HONORARY MEMBER

WSWS Guidelines for Nominating Honorary Members

Honorary members are selected from individuals whose activities have been largely from outside the Western Society of Weed Science, but who have significantly contributed to the field of weed science.

- The nominator must contact the person to be nominated and request them to prepare a vita.
- The nominator will then prepare a letter summarizing the nominee's contribution to the area of weed science with emphasis on how the interests of the WSWs have been served by this non-member.
- Include the vita with the letter of nomination to provide all pertinent information to the Committee.

NOMINATIONS FOR FELLOW AND HONORARY MEMBER PACKAGES ARE DUE BY **DECEMBER 1, 2018**

Send To:

Joan Campbell
(208) 885-7730
jcambel@uidaho.edu

Save the Date – April 15-18, 2019 – Western Invasive Weed Short Course

The 9th Annual Western Invasive Weed Short Course will be held April 15-18, 2019 at the Sylvan Dale Guest Ranch in Loveland, Colorado.



The continued partnership with the Sylvan Dale Guest Ranch allows us to provide some unique training opportunities. One of the truly unique features of the Short Course is the ability to have a long-term restoration plot. Sylvan Dale has worked with us to establish a fenced site where we have been able to demonstrate weed management combined with native grass establishment. A twilight weed walk on the first night is a great way to see the ranch and start learning some weeds.

The WIWSC is an intensive study of current technologies and best management practices associated with noxious and invasive weeds in the western United States. Participants gain up-to-date knowledge specific to invasive weed management with interactive sessions that include:

- Classroom lecture
- Hands-on demonstration
- Field plots
- Facilitated discussion
- Live weed and herbicide symptomology specimens
- Small group projects
- Educational games
- Time for individual interaction with instructors



The 2019 WIWSC will be similar to the previous Courses, to see agendas please visit http://www.mountainwestpest.com/Past_Courses.php. The Organizing Committee builds the final agenda based on a pre-course survey of registered participants to assess specific areas of participant interest. The pre-course survey will not be sent to participants until they have completed the registration process.



Our target participants are local, state, federal government, and other land managers throughout the western region desiring a better understanding of weed management. WIWSC is designed to benefit both those new to invasive plant management and experienced professionals seeking a comprehensive update in western invasive weeds and their management. The WIWSC instructors are members of the Western Society of Weed Science.

The registration fee includes the educational program, course manuals, laboratory sessions and related course materials, other supplies and daily refreshment breaks. Three lunches and three dinners are also included in the registration. Registration will open in November 2018.

Please contact Sandra McDonald, Course Coordinator, for additional information at 970-266-9573 or Sandra@MountainWestPest.com.



CALL FOR 2019 RESEARCH PROGRESS REPORTS

The WSWS Research Progress Report is published to make significant new weed science research in the West available with the least possible delay. Early dissemination of weed research data is an important aid in formulating recommendations and in planning research. We encourage members of WSWS to submit pertinent new research data for publication in the Research Progress Report.

The Research Progress Report is produced on a very tight schedule. In order to expedite publication, all reports must be submitted in a “camera ready” condition. The report must be prepared according to the specific directions outlined below. Reports that do not strictly adhere to the requirements will be returned to the author. The report will be rejected if there is not time to make the necessary changes.

Each contributor must:

1. Follow instructions carefully and completely.
2. Obtain two additional reviews of each report and have each reviewer *print their name* at the bottom of the index outline. The two reviewers can be anyone other than the senior author of the report. The two reviews are a requirement for publication.
3. Send the report(s) via e-mail with an index outline for each report. An index outline form will be available on the website. Remember, the report will be printed as received.
4. Adhere strictly to the submission **deadline of January 8, 2019**. **Send an electronic copy** as a Microsoft Word file (doc or xdoc) or as an Acrobat file (pdf) attached via e-mail to trauch@uidaho.edu. **After submission, a reply will be sent upon receipt of a report. No reply means no report was received.**

Questions? Please contact: Traci Rauch
(208) 885-9709
trauch@uidaho.edu

GUIDELINES FOR RESEARCH PROGRESS REPORTS

WSWS will not retype or make typographical corrections on papers submitted for the WSWS Research Progress Report. It is the responsibility of the author to submit each report in a ready for publication condition following these guidelines:

FORMAT: Paper must be white 8.5 by 11 inch. Margins must be one inch on all sides. Please use **full justification** (this means both right and left margins are aligned). Type all text using **10 pt (Times New Roman)** font. All text should be single spaced. Either English or metric units are acceptable. However, do not mix English and metric units (Some exceptions may apply – e.g., CEC is expressed best in metric units as meq/100g). Do not type page numbers. Reports will be printed as received.

TITLE: Begin title at the left margin. Capitalize only the first letter of the first word. Underline the entire title. End the title with a period.

AUTHORS: Begin the authors name (first, middle initial, last) following the title of the paper. End list of authors with a period. Briefly list the author’s affiliation and mailing address in parentheses - e.g. (Weed Research Laboratory, Colorado State University, Fort Collins, CO 80523)

BODY OF TEXT: The report should clearly present the objectives of the research, methods, and results. Double space or indent between paragraphs.

Abbreviations: Use abbreviations as shown in the Scientific Style and Format: The *CBE Manual for Authors, Editors, and Publishers* and as commonly used in *Weed Science* or *Weed Technology*. Abbreviations for weeds can be used in the tables. **Do not abbreviate the word inch.** Do not place a period after the abbreviation unless its omission could cause confusion. Abbreviations not shown in the *CBE Manual* (**including Bayer codes**) should be introduced in parentheses immediately after their first use in the text or footnoted if used in a table.

Numbers: Use Arabic numerals for numbers with two or more digits and for measurements of time, weight, and degrees, except when the number is the first word of a sentence. Spell out numbers less than 10 or when they are the first word of a sentence, except when they constitute a series in which one number has two or more digits. Write 10 by 20 rather than 10 x 20 and 1 to 5 rather than 1-5 except in tables where space is limited. Use decimals instead of fractions (0.5, not ½). Place zero at left of decimal (0.5, not .5).

Plant names: Weeds can be appropriately identified in the text by using the WSSA-accepted common names [*Weed Science*, 32 (Supplement 2): 1984 with *Weed Science* 36:850-851, 1988; Composite List of Weeds, available from WSSA; or WSSA.net].

Chemical names: Herbicides can be properly identified by the WSSA-accepted common name (appears in the back of *Weed Science* Vol. 54 issue No. 6). Other herbicides may be identified by giving the code number followed by the chemical name in parentheses. Do not use trade names in the title of the paper. If the trade name of a chemical (herbicide or adjuvant) appears in the paper, the author must supply a suitable justification statement for using the trade name; this statement is to be given on the index outline.

Herbicide rates: Express rates as active ingredient (ai) or acid equivalent (ae) (whichever applies), not as formulated material. When necessary, it is appropriate to mention a specific formulation, such as the specific ester or salt utilized in the research.

TABLES AND FIGURES: Use **10 pt (Times New Roman)** font. If space is limiting, font size may be reduced to as low as 8 pt. Single-space all tables. **Table width should be the size of the paper with margins one inch on all sides.** Tables may be landscape or portrait. Type the word "Table" with an uppercase "T" at the top of the table and follow it with a period. Do not use a table number unless the report has more than one table. Please note the following in the example table at the end of the guidelines: a) the unit designation for each column is below the line; b) only the first letter in each column heading and treatment is capitalized; c) a zero precedes each decimal (0.5, not .5); d) herbicide common names are written out when possible and necessary herbicide abbreviations are spelled out in a footnote; and e) use + to indicate herbicide tank mixtures and / to indicate herbicide premixtures. Use superscript numbers (^{1,2,3}, etc.) to indicate footnotes for tables. Begin the word "Figure", **below the Figure**, with a capital "F" and follow it with a period. Do not number the figure unless the paper has more than one figure. Figures that will reproduce well are acceptable.

INDEX OUTLINE: To enhance the publishing procedure, an index outline for each paper must be prepared by the author and submitted to the editors. The outline will include: Title of paper, author(s), Project, list of crops, list of weeds, list of herbicides, keywords, and reviewers' names. Choose the appropriate Project for your report. Projects are: 1. Weeds of Range and Natural Areas; 2. Weeds of Horticultural Crops; 3. Weeds of Agronomic Crops; 4. Teaching and Technology Transfer; and 5. Basic Biology and Ecology. Authors must identify **weeds and crops by common and scientific binomial name and authority on the index outline.** Chemicals (herbicide and adjuvant) must be listed by common name **and trade name** or code number. Papers submitted without a **current** index outline will be returned. Attach the completed electronic index outline to the e-mail.

REJECTED REPORTS: Any report submitted that does not conform to the guidelines will not be published. Editors may, at their discretion, work with the author to correct the report if time permits.

INDEX OUTLINE FOR WSWs RESEARCH PROGRESS REPORTS
Complete one for each report.

1. TITLE:

2. AUTHOR'S NAMES:

3. CORRESPONDING AUTHOR:

Email

Phone number

Address

4. PROJECT (see choices under **INDEX OUTLINE**):

5. CROP(S) INVESTIGATED (List alphabetically by common name. **Include scientific binomial name plus authority**):

6. WEED(S) INVESTIGATED [List alphabetically by WSSA-approved common name. **Include scientific binomial name plus authority**. Many weeds can be found in COMPOSITE LIST OF WEEDS, Weed Science 32 (Supplement 2): Revised 1989 or at WSSA.net]:

7. HERBICIDES AND **ADJUVANTS** INVESTIGATED (List alphabetically by common name or code number AND include **trade name**):

8. KEYWORDS (examples biocontrol, direct-seed, herbicide resistant). Do not include words listed above in crop, weed, herbicide or adjuvant:

REVIEWS BY TWO PERSONS IN ADDITION TO SENIOR AUTHOR: I have reviewed the attached report and find the content to be appropriate and presented in the proper style for publications in the WSWs Research Progress Report.

Name _____

Name _____

Title _____

Title _____

Affiliation _____

Affiliation _____

EXAMPLE: RESEARCH PROGRESS REPORT

Weed control in imidazolinone-resistant winter wheat with imazamox. Traci A. Rauch and Joan Campbell. (Plant Science Division, University of Idaho, Moscow, ID 83844-2339) A study was established in 'Fidel' imidazolinone-resistant winter wheat to examine weed control in 2001 and herbicide soil persistence in 2002 with imazamox. Wheat was seeded on October 3, 2000. Plots were 16 by 32 ft arranged in a randomized complete block design with four replications. All herbicide treatments were applied using a CO₂ pressurized backpack sprayer calibrated to deliver 10 gpa at 30 psi and 3 mph (Table 1). Wheat injury and weed control were evaluated visually on June 7, 2001. Wheat seed was harvested with a small plot combine on August 7, 2001. In spring 2002, each plot will be planted to spring barley and yellow mustard to evaluate soil persistence of imazamox.

Table 1. Application and soil data.

		Moscow, Idaho	
Location			
Application date	November 2, 2000		April 24, 2001
Wheat growth stage	1 leaf		3 to 5 tiller
Volunteer barley growth stage	2 leaf		2 to 3 tiller
Air temperature (F)	50		50
Relative humidity (%)	73		86
Wind (mph, direction)	2, E		4, E
Cloud cover (%)	30		10
Soil temperature at 2 in (F)	44		40
pH		4.7	
OM (%)		2.8	
Texture		loam	

No treatment visibly injured wheat on June 7, 2001 (data not shown). All treatments controlled volunteer barley 98% or better (Table 2). Wheat grain yield (89 to 99 bu/A) was better with all treatments compared to the untreated check. Test weight (56 to 60 lb/bu) did not differ among treatments or from the untreated check.

Table 2. Weed control, wheat yield and test weight with imazamox near Moscow, Idaho in 2001.

Treatment ¹	Rate lb ai/A	Application timing	Volunteer barley control %	Wheat	
				Yield bu/A	Test weight lb/bu
Imazamox	0.04	fall	99	96	60
Imazamox	0.08	fall	98	95	60
Imazamox	0.04	spring	99	99	59
Imazamox	0.08	spring	99	99	56
Imazamox + MCPA amine	0.04 + 0.25 ²	spring	99	95	59
Imazamox + thifensulfuron/tribenuron	0.04 0.016	spring	98	97	59
Untreated check			--	89	59
LSD (0.05)			NS	5	NS
Density (plants/ft ²)			1		

¹All treatments were applied with 90% nonionic surfactant (R-11) at 0.25 % v/v and 32% urea ammonium nitrate (URAN) at 1qt/A.

²MCPA amine rate is expressed as lb ae/A.

(EXAMPLE)

INDEX OUTLINE FOR WSWR RESEARCH PROGRESS REPORTS
Complete one for each report.

1. TITLE: Weed control in imidazolinone-resistant winter wheat with imazamox

2. AUTHOR'S NAMES: Traci Rauch and Joan Campbell

3. CORRESPONDING AUTHOR:

Email trauch@uidaho.edu
Phone number (208) 885-9709
Address University of Idaho
PSES Dept.
PO Box 442339
Moscow, ID 28244-2339

4. PROJECT (see choices under **INDEX OUTLINE**): 3. Weeds of Agronomic Crops

5. CROP(S) INVESTIGATED (List alphabetically by common name. **Include scientific binomial name plus authority**):

wheat, winter (*Triticum aestivum* L.)

6. WEED(S) INVESTIGATED [List alphabetically by WSSA-approved common name. **Include scientific binomial name plus authority**. Many weeds can be found in COMPOSITE LIST OF WEEDS, Weed Science 32 (Supplement 2): Revised 1989 or at WSSA.net]:

barley, volunteer (*Hordeum vulgare* L.)

7. HERBICIDES AND **ADJUVANTS** INVESTIGATED (List alphabetically by common name or code number AND include **trade name**):

imazamox (Beyond)	thifensulfuron (Harmony Extra XP)
MCPA (MCPA 4 Amine)	tribenuron (Harmony Extra XP)
non-ionic surfactant (R-11)	urea ammonium nitrate (URAN)

8. KEYWORDS (examples biocontrol, direct-seed, herbicide resistant). Do not include words listed above in crop, weed, herbicide or adjuvant:

persistence
plantback

REVIEWS BY TWO PERSONS IN ADDITION TO SENIOR AUTHOR: I have reviewed the attached report and find the content to be appropriate and presented in the proper style for publications in the WSWR Research Progress Report.

Name _____

Name _____

Title _____

Title _____

Affiliation _____

Affiliation _____

A New Tool to Combat an Old Problem

Joseph Milan, Biological Control Specialist
BLM/ISDA

Hoary cress (*Lepidium draba*), also known as whitetop, was introduced into North America from Eurasia in the late 1800's. Now listed as a noxious weed in 24 states, hoary cress is a deep-rooted perennial mustard that spreads both vegetatively and by seed. Hoary cress aggressively invades rangelands, riparian areas, crops and disturbed, irrigated areas.

In 2001, the Hoary Cress Consortium was founded under the direction of the University of Idaho and overseas collaborator CABI Bioscience Switzerland Centre. In addition to the work done at U of I, Montana State University has been working on host specificity testing of a promising mite species, *Aceria draba*.

The consortium was established 17 years ago, so why don't we have anything to use in our quest to control hoary cress, you ask? Quite simply, there has been red-tape gridlock in the regulatory process that has resulted in (up until recently) no new biological control agents for release since 2009. The good news is the regulatory bodies in charge of approving biological control agents have rectified their internal issues and the gridlock experienced by the Technical Advisory Group (TAG), Animal Plant Health Inspection Service (APHIS), and US Fish and Wildlife Service (USFWS) seems to be less of an issue as of 2018.

One of the first biological control agents scheduled for release is *Aceria draba* for hoary cress. This biological control agent has been officially approved and will be released in 2019. The gall mites reduce the plant's ability to flower and go to seed, thus reducing plant vigor and ability to spread. Gall mites are ideal biological control agents because they are extremely host-specific. Pre-release monitoring for potential hoary cress sites began in 2009 with locations identified throughout the range of hoary cress. In addition to this newly approved biological control agent, work continues to focus on additional potential agents that attack different parts of the plant such as *Ceutorhynchus cardariae*, a stem galler currently under study at the University of Idaho. It looks like we'll soon have a few new options to control hoary cress.

For further information contact Joseph Milan, jmilan@blm.gov.

2019 CALL FOR NOMINATIONS: DISTINGUISHED ACHIEVEMENT AWARDS

Everyone knows of some skilled and outstanding weed scientists in the western region who have contributed a great deal over the years and deserve our recognition and appreciation. One way to recognize such persons is to nominate them for a WSWs award. Please take the time and nominate an individual for one of awards listed below.

CRITERIA USED FOR EVALUATING NOMINATIONS: Awards are based on merit and impact on weed science and weed management practices. Applicants **MUST BE** a member of WSWs. Professional achievements and their impacts are the principal criteria for receiving these awards. There is no requirement that an award be given in any or every category. Past winners are not eligible again in the same category. An award may be given each year in both the private and public sectors for Outstanding Weed Scientist and Outstanding Weed Scientist – Early Career. Only one award may be given each year for Weed Manager and Professional Staff. Within the guidelines for each category, there is flexibility to fit the nominee.

I. OUTSTANDING WEED SCIENTIST

This award recognizes outstanding achievements in weed science from individuals in both the public and private sectors. Principle criteria for this award includes innovative or unique approaches that result in learning, ability to clearly communicate ideas, motivation of the intended audience, demonstrate excellence and creativity in research accomplishments, applying results to solve problems in weed science, the impact on weed management practices and principals of weed science, and recognition of accomplishments by peers and intended audiences.

II. OUTSTANDING WEED SCIENTIST – EARLY CAREER

This award is to be given to members in the private and public sectors with no more than 10 years of service after completion of their terminal degree. This award recognizes outstanding achievements in weed science early in the individual career with the same criteria as the outstanding weed scientist above.

III. WEED MANAGER

This award recognizes outstanding and sustained contributions in support of weed science activities. This award is intended for those paid by taxpayers and that are working in the public sector, such as employees of state departments of agriculture, weed boards, public land managers, and vegetation management personnel. The nominee must have been involved in the WSWs and weed science for at least five years at the time of nomination.

IV. PROFESSIONAL STAFF

This award recognizes outstanding and sustained contributions in support of weed science activities. Nominees will be restricted to individuals that work under the direction of university, federal, or industry scientists. These individuals may have titles such as researcher, research associate, technician, support scientist, or specialist. The nominee must have been involved in the WSWs and weed science research, extension, or resident education for at least five years at the time of nomination.

NOMINATION DEADLINE: Nominations must be received by **December 1, 2018**.

NOMINATOR'S RESPONSIBILITY: The nominator will submit a nomination document following the "Instructions for Nomination" guideline. The nominator is responsible for obtaining three letters of support and including them with the nomination package. Unsuccessful nominations will remain active for three years; however, an updated nomination packet of holdover candidates is encouraged.

The nomination package, including the supporting letters, should be sent, by email, to the chair of the Awards Committee by **December 1, 2018**:

Prashant Jha
Montana State University
Southern Agricultural Research Center
748 Railroad Highway
Huntley, MT 59037
pjha@montana.edu



2018 Membership Renewal Form for the Western Society of Weed Science

(To pay by credit card, please go to www.wsweedscience.org and login to your account)

IF YOU DID NOT ATTEND THE ANNUAL MEETING BUT WANT TO REMAIN A MEMBER, FILL IN THE INFORMATION BELOW AND SEND \$ 30.00 FOR DUES TO THE ADDRESS GIVEN.

<hr/>	<hr/>	<hr/>	<hr/>
Last name	First name	Affiliation	
<hr/>			
Mailing address	City	State	Zip code
<hr/>			
Phone # w/area code		e-mail address	

Classification: Student ___ University ___ Federal Agency ___ State Agency ___
 Private Industry (manufacturing and sales) ___ Private Industry (consulting) ___
 Unemployed ___ Retired ___ other (specify) _____

Send to: WSWS/IMI
 12011 Tejon St., Ste 700
 Westminster, CO 80234

Questions? info@wsweedscience.org or (303) 327-8016

Publications Available from the Western Society of Weed Science

(All prices include shipping and handling; bulk orders may be discounted, see below)

_____ Aquatic and Riparian Weeds of the West.....	\$45.00
_____ Weeds of California and Other Western States.....	\$85.00
_____ Weed Control in Natural Areas in the Western United States	\$40.00
_____ Interactive Encyclopedia of North American Weeds DVD.....	\$50.00
Total_____	

All publications can be ordered online at www.wsweedscience.org (click on **WEED BOOKS**)

To order by mail and pay by check, send this completed form with payment to:

WSWS Business Manager, 12011 Tejon St., Ste 700, Westminster, CO 80234.

Contact the Business Manager (Kala Travis) at (303) 327-8016 for bulk order prices.

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WSWS Objectives

- ❖ To foster and encourage education and research in weed science.
- ❖ To foster cooperation among state, federal and private agencies in matters of weed science.
- ❖ To aid and support commercial, private and public agencies in the solution of weed problems.
- ❖ To support legislation governing weed control programs and weed research and education programs.
- ❖ To support the Weed Science Society of America and foster state and regional organizations and agencies interested in weed control.



Western Society of Weed Science
12011 Tejon St., Ste. 700
Westminster, CO 80234