



# Western Society of Weed Science Newsletter

12110 N Pecos Street, Ste. 220, Westminster, CO 80234  
(303) 327-8016  
info@wsweedscience.org

SPRING 2019

## IN THIS ISSUE:

- President's Report
- Note from the Business Office
- Student Liaison Report
- Elena Sanchez Scholarship
- Retirees Announced
- 2019 Fellow Awards
- Awards Committee Report
- Outstanding Weed Scientists
- Professional Staff
- President's Award of Merit
- 2019-2020 Officers and Executive Committee
- 2019 Student Awards
- Why Use Bio-Control?
- Washington Report
- Membership Renewal Form
- Weed Science Short Course
- Publication Order Form

## Sidebar highlights:

- [Contact Us](#)
- [Officers & Executive Committees](#)
- [Publications](#)
- [Calendar of Events](#)



## President's Report - by Pat Clay

The 72<sup>nd</sup> meeting of the Western Weed Science Society was "the bomb". It's a play on words that I hope that you appreciate given the arrival of the "bomb cyclone" that blessed us on Wednesday in Denver. I will echo past Program Chairs in the thought that there are a lot of nerves going into the meeting and not sure exactly what

to expect but it seems to work out in the end. It's hard not to have a successful meeting with all the support that happens from the Society as a whole to make the meeting happen. I owe a big thank you to the Board of Directors, Project Chairs, Moderators, and Committees. Also, a very special shout out to our Local Arrangement Chair, Sandra McDonald who worked tirelessly with the hotel so that everything flowed smoothly in the lead up to and during the meeting. Thanks to Brad Hanson and Brian Schutte for all the coordination of the sections, handling the symposia setup and certainly all of the hard work that goes into securing CEU credits for the meeting.

We have had a bit of turnover over the last year and a half in the business manager position. I want to give another very special thanks to Eric Gustafson. Eric stepped in during the final stages of gearing up for the annual meeting in Denver and provided outstanding support and a "gentle nudge" from time to time when I was approaching or past a deadline.

I have had the pleasure of being a member of the Society for the last 20 years and developed a tremendous respect for the membership. It was bitter sweet when Monte Anderson recognized four pillars of our society who have retired or will be retiring soon. Don Drader (Syngenta), Carol Mallory-Smith (Oregon State University), Tim Miller (Washington State University), and Don Morishita (University of Idaho) all have made tremendous contributions as individual WWS members, to the WWS as a Society, and weed science as a whole. Congratulations to you all and don't be a stranger!

Andrew Kniss served us "pretty good" as President for this past year and delivered a Presidential address during the General Session that will be remembered. His combination of humor and insight into Growing Weed [Science] in the West that hit the mark. Elizabeth Mosqueda delivered a spirited and informative presentation "Possibilities for a more inclusive society". It was a joy to have a student perspective on this important issue during the general session. It is always interesting and sometimes concerning to hear about the

**CONTINUED ON PAGE 2**

**WWS Annual Meeting March 2-5, 2020 Maui, Hawaii**

## President's Report – CONTINUED FROM PAGE 1

issues in Washington DC and as usual Lee Van Wychen provided a snapshot of a small part of what he faces on a day to day basis. Big Impacts were delivered by Sarah Lupis and the importance of successful impact writing (public or private sector) was on display.

Paper and Poster numbers rebounded this year to numbers like the joint meeting with WAPMS and that was encouraging to see. With that said, we did have two very good and well-planned symposia that were organized by Kassim Al-Khatib and Sandra McDonald. Both were well attended and provided timely information to the attendees.

A highlight this year was the number of students attending and presenting in the Student Paper and Poster competition. I am not sure that Ed Peachey felt the same way when I called him to tell him that we had 54 entrants this year. Ed and his team of 24 judges did an amazing job. Equally, thank you to all the students that participated in the meeting this year. Your contributions help make the Society stronger. The Student silent auction and Student Night Out (Bomb Cyclone be darned) were a success and thanks to Clint Beiermann and Lucas Bobadilla for all the work that you put in - it was evident.

Next year we can look forward to a joint meeting with the WSSA on Maui! Corey Ransom (President Elect/Program Chair) is already working with Bill Curran his WSSA partner program chair to have a successful meeting. Thank you to the WSWs membership for making the 2019 Annual Meeting a success and we look forward to seeing you in Maui in 2020.

---

## Notes from the Business Office

The 2019 WSWs Annual Meeting in Denver at the Grand Hyatt was a success thanks to the hard work and dedication of many Society members and the Board of Directors. The weather created some travel issues for those making their way home at the end of the event and the Student Night Out had a new option of pizza thanks to Sandra McDonald. This year Sandra was the local arrangements chair and was instrumental to the success of the event, we are lucky to have her in the Society. The 2020 meeting will be a joint meeting with the Weed Science Society of America in Maui, more details to come.

If you were not able to attend the 2019 Annual Meeting, it is time to renew your WSWs membership. To pay by credit card, simply log in to the Members Only Section on the [www.wsweedscience.org](http://www.wsweedscience.org) website. If you have forgotten your username and/or password, please give us a call at the IMI office (303) 327-8016 or drop us an email at [info@wsweedscience.org](mailto:info@wsweedscience.org). To send a check, simply fill out the Membership Form at the end of the newsletter and send that in with the check for \$30.00.

Eric Gustafson, WSWs Business Manager/Treasurer

### Contact Us Newsletter Editor

**Carl Libbey**  
225 S. 10<sup>th</sup> ST  
Mount Vernon, WA 98274  
(360) 336-5286

[wswsnewslettereditor@gmail.com](mailto:wswsnewslettereditor@gmail.com)

### WSWS Officers and Executive Committees

#### President

**Pat Clay**

Valent

7498 N. Remington Ave  
Suite 102

Fresno, CA 93711

[Pat.Clay@valent.com](mailto:Pat.Clay@valent.com)

**Awards, Site Selection**

#### President-Elect

**Program, Poster, Publications,  
Student Paper Judging, Local  
Arrangements**

#### Immediate Past President

**Andrew Kniss**

University of Wyoming

1000 University Ave

Laramie, WY 82071

[akniss@uwyo.edu](mailto:akniss@uwyo.edu)

**Fellows & Honorary Members,  
Sustaining Members,  
Nominations**

#### Secretary

**D. Chad Cummings**

Dow AgroSciences

382 W FM 1753

Bonham, TX 75418

[dcummings@dow.com](mailto:dcummings@dow.com)

**Necrology**

#### WSSA Representative

**Marty Schraer**

Syngenta Crop Protection

152 E Cassidy Drive

Meridian, ID 83646

[marty.schraer@syngenta.com](mailto:marty.schraer@syngenta.com)

**Legislative**

# Student Liaison Report — Lucas Bobadilla

## **CAST Representative**

**Brian Jenks**

North Dakota State University  
5400 Hwy 83 S.  
Minot, ND 58701  
[brian.jenks@ndsu.edu](mailto:brian.jenks@ndsu.edu)

## **Member-At-Large Public Sector**

**Lynn Sosnoskie**

University of California - Davis  
Dept. of Plant Sciences  
Davis, CA 95616  
[lynn.sosnoskie@gmail.com](mailto:lynn.sosnoskie@gmail.com)  
**Finance**

## **Member-At-Large Private Sector**

**Ryan Rapp**

Bayer CropScience  
40660 252<sup>nd</sup> St  
Mitchell, SD 57301  
[ryan.rapp@bayer.com](mailto:ryan.rapp@bayer.com)  
**Herbicide Resistant Plants**

## **Research Section Chair Brian Mealor**

University of Wyoming  
3401 Coffeen Ave  
Sheridan, WY 82801  
[bamealor@uwyo.edu](mailto:bamealor@uwyo.edu)

## **Research Section Chair-Elect**

**Mithila Jugulam**

Kansas State University  
Dept. of Agronomy  
2004 Throckmorton  
Manhattan, KS 66506  
[mithila@ksu.edu](mailto:mithila@ksu.edu)

## **Education Section Chair Joel Felix**

Oregon State University  
595 Onion Ave  
Ontario, OR 97914  
[joel.felix@oregonstate.edu](mailto:joel.felix@oregonstate.edu)

## **Education Public Relations**

## **Education Section Chair-Elect**

**Todd Neel**

USDA Forest Service  
26 Fort Missoula Rd  
Missoula, MT 59806  
[toddaneel@fs.fed.us](mailto:toddaneel@fs.fed.us)

Hello WSWS students,

What a meeting! I hope that all of you had a great time in Denver this year; this meeting will be positively remembered due to the fantastic quality of the student papers and posters presented. We had an incredible number of student presentations this year, 58 students total and the majority participated in the student contest. Congratulations to all of you for your presentations, especially for the ones who brought an award home! Great job everyone and let's keep in mind that if you are in the student contest you need to make sure to present data that wasn't previously presented in another meeting.

Please remember to thank Bayer and Syngenta representatives for sponsoring the student luncheon and student reception. These events are an excellent opportunity to connect with the industry and create a network for your career. Regarding the student night out, most of you had a "student night in" instead, due to the weather conditions in Denver; however, I am sure that everybody had a good time and was able to meet both people from academia and industry as well.

The silent auction this year was great! I want to thank in the name of all students everybody that participated, donated items and gave monetary donations for our event. An especial thanks to Eric Gustafson and to Sandra McDonald for all their help and great support. This year we were able to raise \$2,027.00 that will be converted to the Elena Sanchez Memorial Outstanding Student Scholarship; I also would like to say a big thank you in the name of all WSWS students to Carol Mallory-Smith who offered to cover the rest of the costs to give three Elena Sanchez Memorial Outstanding Student Scholarship.

I would like to congratulate the recipients of the Elena Sanchez Memorial Outstanding Student Scholarship. We had a good number of applicants this year. However, let's work to keep the application numbers up to show the board that we as a student group are taking advantage of this great opportunity. Please keep applying and encourage other students to do so as well.

I would like to give a special thank you to Clint Beiermann for his fantastic contribution to the society as the student liaison; he made a great job raising donations for our silent auction and for representing the students from our society. Thank you, Clint! I also want to give a big thank you to Larissa Larocca de Souza from Oregon State University for serving as the student representative to the judging committee this year.

Congratulations to Mirella F. Ortiz from Colorado State University for being elected as the next student liaison and to Chloe M. Mattilio from the University of Wyoming for being elected as the next student representative to the judging committee. Please, consider to be a candidate for both of these positions next year; it is a great chance to get to know the society better and to return everything the society provides to us.

Since next year will be a joint meeting with WSSA, some details still need to be

**CONTINUED ON PAGE 4**

## Student Liaison's Report – CONTINUED FROM PAGE 3

decided regarding our student contest and silent auction. I am in touch with the WSSA GSO president, Nick Steppig, and should have more information about it soon. Please communicate with Mirella or me about any concerns or advices that you might have before the summer board meeting, taking place at the end of July 2019. Let's all get ready to show the quality of the WSSWS students and represent our society next year! See you in Hawaii!

Mahalo!

Lucas K. Bobadilla, Student Chair (elect)  
[lucas.kopecky-bobadilla@oregonstate.edu](mailto:lucas.kopecky-bobadilla@oregonstate.edu)

Mirella Ortiz, Student Chair (elect)  
[mirella@colostate.edu](mailto:mirella@colostate.edu)

## Elena Sanchez Memorial Scholarship

Prashant Jha, Awards Committee Chair announce the recipients of the Elena Sanchez Memorial Scholarship were Larissa Larocca de Souza (MS student, Oregon State University), Ramawatar Yadav (PhD student, Montana State University), and Lucas Kopecky Bobadilla (MS student Oregon State University). A big thanks to their advisors for bringing along such great promising talent for the future of weed science.



## Retirements in the Society

We received notice that four members of the society retired since the 2018 Annual Meeting or will retire later this year. We are grateful to these individuals for many years of service to the society and professional leadership in their respective positions.

Don Drader, Syngenta  
Carol Mallory-Smith, Oregon State University  
Don Morishita, University of Idaho  
Tim Miller, Washington State University

Monte Anderson, WSSWS Immediate Past President

### Business Manager-Treasurer

**Eric Gustafson**

IMI

12110 Pecos St, Suite 220  
Westminster, CO 80234  
[info@wsweedscience.org](mailto:info@wsweedscience.org)

### Constitution & Operating Procedures Representative

**Tim Miller**

Washington State University  
16650 SR 536  
Mt. Vernon, WA 98273  
[twmiller@wsu.edu](mailto:twmiller@wsu.edu)

### Webmaster & Web Editor

**David Krueger**

Apex WebStudio LLC  
PO Box 91235  
Raleigh, NC 27675  
[david@apexwebstudio.com](mailto:david@apexwebstudio.com)

### Student Liaison

**Lucas Bobadilla**

Oregon State University  
3227 NW Orchard Ave  
Corvallis, OR 97330  
[lucas.kopecky-bobadilla@oregonstate.edu](mailto:lucas.kopecky-bobadilla@oregonstate.edu)

### Student Liaison Chair-elect

**Mirella Ortiz**

Colorado State University  
1179 Campus Delivery  
Fort Collins, CO 80523  
[mirella@colostate.edu](mailto:mirella@colostate.edu)

### Executive Director of Science Policy

**Lee Van Wychen**

National and Regional Weed Science Societies  
5720 Glenmullen Place  
Alexandria, VA 22303  
(202) 746-4686

[Lee.VanWychen@WSSA.net](mailto:Lee.VanWychen@WSSA.net)

### Publications

#### WSSWS ONLINE EDUCATION

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

#### WSSA Journals Website Online

[www.wssa.net/publications/](http://www.wssa.net/publications/)



## CALENDAR OF EVENTS

### WEED DAY 2019

July 11, 2019

UC Davis, California  
<http://wric.ucdavis.edu>

### Aquatic Plant Management Society Annual Meeting

July 14-17, 2019

San Diego, California  
[www.apms.org](http://www.apms.org)

### WEED SCIENCE SCHOOL 2019

Aug. 20-22, 2019

UC Davis, California  
<http://wric.ucdavis.edu>

### Asian Pacific Weed Science Society Annual Meeting

Sep. 3-6, 2019

Kuching, Sarawak, Malaysia  
[www.apwss2019.org](http://www.apwss2019.org)

### Canadian Weed Science Society Annual Meeting

Nov. 18-21, 2019

Kelowna, British Columbia  
[www.weedscience.ca](http://www.weedscience.ca)

### North Central Weed Science Society Meeting

Dec. 10-13, 2019

Columbus, Ohio  
[www.ncwss.org](http://www.ncwss.org)

### Northeastern Weed Science Society Annual Meeting

Jan. 6-9, 2020

Philadelphia, Pennsylvania  
[www.newss.org](http://www.newss.org)

### Southern Weed Science Society Annual Meeting

Jan. 26 -30, 2020

Biloxi, Mississippi  
[www.swss.org](http://www.swss.org)

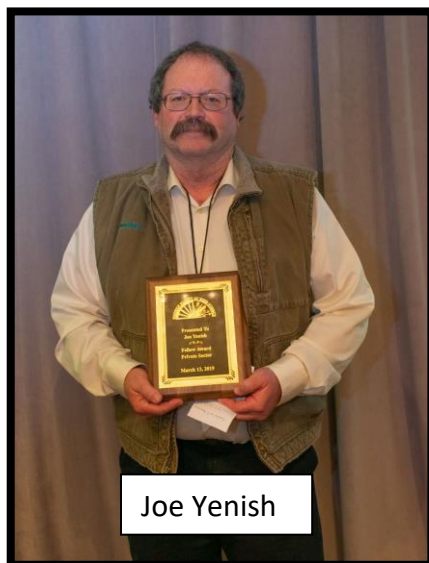
### Weed Science Society of America and the Western Society of Weed Science Joint Annual Meeting

Mar. 2- 5, 2020

Maui, Hawaii  
[www.wssa.net](http://www.wssa.net)  
[www.wsweedscience.org](http://www.wsweedscience.org)

## WSWS 2019 Fellow Awards — Joan Campbell, Chair

The WSWS Fellows and Honorary Member Committee is pleased to announce the Fellow Awards for 2019 were presented to Dr. Joe Yenish and Dr. Drew Lyon.



Joe Yenish

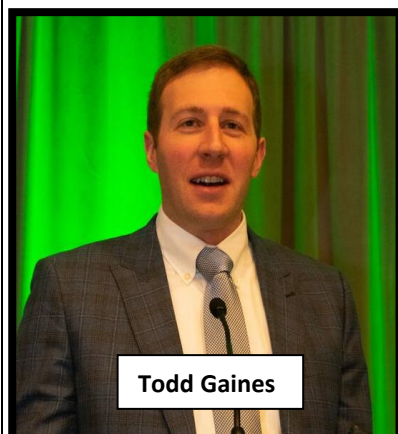


Drew Lyon

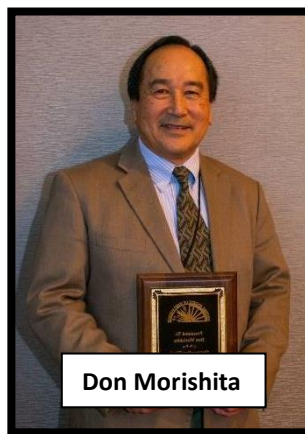
The 2019 committee members were Joan Campbell (Chair), Jill Schroeder, and Bill Cobb. Jill will assume the role of committee chair for 2020. Please submit nominations for the Fellow and Honorary member Awards for 2020 to Ms. Schroeder by December 1, 2019 (see future newsletter announcements).

## Awards Committee Report — Prashant Jha, Chair

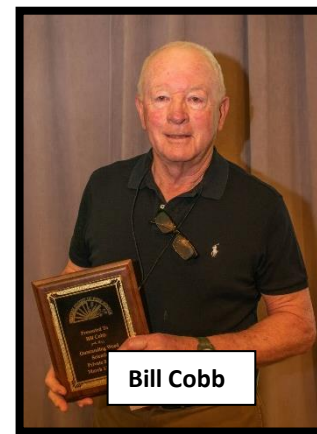
The Outstanding Weed Scientist-Early Career award was granted to Dr. Todd Gaines, Assistant Professor at Colorado State University. The Outstanding Weed Scientist-Public award was granted to Dr. Don Morishita, Professor of Weed Science, Extension Specialist, and Superintendent of the University of Idaho Kimberly Research and Extension Center. The Outstanding Weed Scientist-Private award was granted to Dr. William (Bill) T. Cobb, Cobb Consulting Services, Kennewick, Washington.



Todd Gaines



Don Morishita



Bill Cobb

# WSWS Professional Staff and Presidential Awards

2019 Professional Staff



Traci Rauch

2019 Presidential Award of Merit



Sandra McDonald & Andrew Kniss

## 2019-2020 WSWS Officers and Executive Committee



Seated: Todd Neel, Brian Mealor, Chad Cummings, Andrew Kniss, Pat Clay, Corey Ransom  
Standing: Lucas Bobadilla, Mithila Jugulam, Ryan Rapp, Eric Gustafson, Mirella Ortiz  
Not pictured: Marty Schraer, Brian Jenks, Lynn Sosnoskie, Joel Felix, David Kruger, Tim Miller, Lee Van Wychen

The WSWS would like to thank **Lucas Bobadilla**-M.S. student from Oregon State University who graciously volunteered his time and talents to furnish the photographs included in this newsletter.

## 2019 STUDENT PAPER AND POSTER CONTEST WINNERS Ed Peachey – Chair

The 2019 WSWS Student Paper and Poster Contest had 54 contestants: 8 undergraduate students submitted poster presentations, 22 graduate students submitted posters, and 24 graduate students gave oral presentations. Twenty-four judges volunteered their time. The level of quality among all contestants was exceptional and participants are to be commended. In accord with WSWS operating procedures, the number of winning places in different sections varied depending on the number of students that participated in each section.

Eight students competed in the Undergraduate Poster Contest. The 1<sup>st</sup> place winner was Samantha R. Nobes, University of Wyoming, “*Herbicide and Grazing Impacts on Floral Resources and Pollinator Communities*”. The 2<sup>nd</sup> place winner was Lauren B. Stanko, Utah State University, “*Invasive Mustard Management in Utah*”.



The Graduate Poster Contest was made up of 22 students and was divided into four sections.

### **Weeds of Agronomic Crops:**

- 1<sup>st</sup> – Lucas Kopecky Bobadilla, Oregon State University, “*The Recent Scenario of Italian Ryegrass Herbicide Resistant Frequency & Ploidy Diversity in Western Oregon*”.
- 2<sup>nd</sup> – Elizabeth G. Mosqueda, University of Wyoming, “*Economics of Cultural, Mechanical, and Chemical Weed Control Practices for Herbicide-Resistant Weed Management*”.
- 3<sup>rd</sup> – Justin Childers, Oklahoma State University, “*Non-Tolerant Wheat Response to simulated Drift of Quizalofop-P-Ethyl in Central Oklahoma*”.

### **Weeds of Range and Forest:**

- 1<sup>st</sup> – Shannon L. Clark, Colorado State University, “*Rimsulfuron, Imazapic, and Indaziflam Interception and Sorption by Downy Brome Thatch*”.
- 2<sup>nd</sup> - Rachel H. Seedorf, Colorado State University, “*Effect of Indaziflam on Native Species in Natural Areas and Rangeland*”.

### **Weeds of Horticulture Crops:**

- 1<sup>st</sup> – Larissa Larroca de Sousa, Oregon State University, “*Comparing Herbicide Efficacy for Sucker Control in Hazelnuts*”.



### Basic Biology and Ecology:

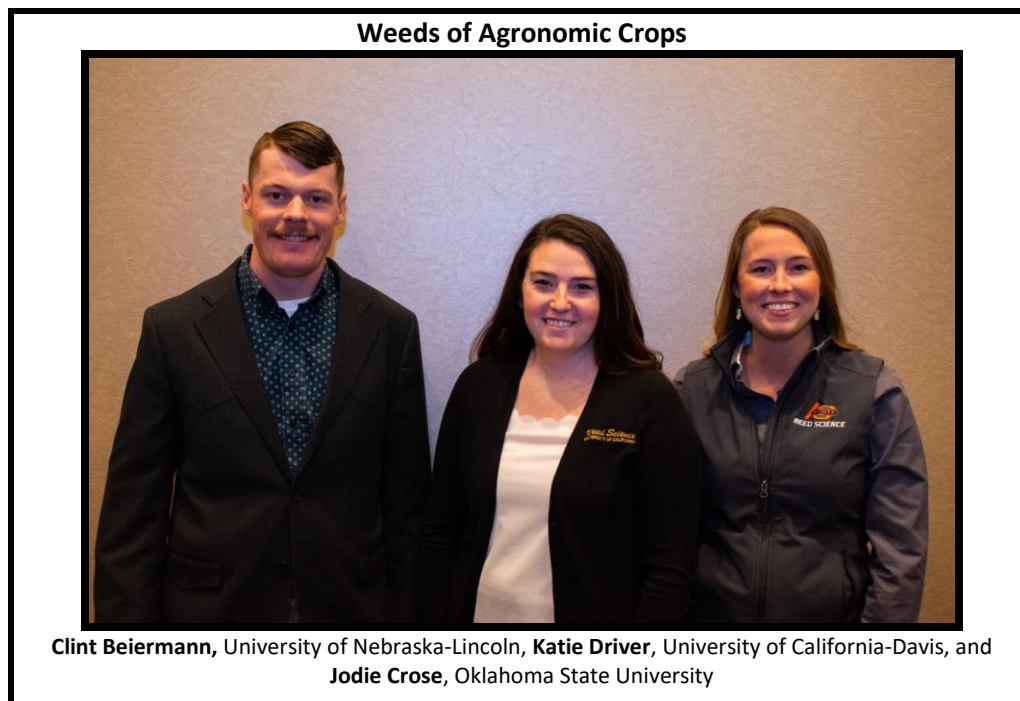
1<sup>st</sup> – Abigail Barker, Colorado State University, “*Fate of Glyphosate During Production and Processing of Glyphosate-Resistant Sugar Beet*”.



Students in the oral contest also were divided into four sections with 24 entries.

### Weeds of Agronomic Crops:

- 1<sup>st</sup> – Katie E. Driver, University of California-Davis, “*Weed Emergence Timing In California Rice*”.
- 2<sup>nd</sup> – Clint W. Beiermann, University of Nebraska-Lincoln, “*Evaluation of Microrate POST Programs in Dry Edible Bean*”.
- 3<sup>rd</sup> – Jodie A. Crose, Oklahoma State University, “*Confirmation and Management of ALS Resistant Horseweed (Conyza canadensis L.) in Oklahoma Winter Wheat*”.





**Range, Forest, and Natural Areas:**

- 1<sup>st</sup> – Christie Hubbard Guetling, University of Idaho, “*Plant Distribution Data Aid Creation of Invasion Susceptibility Models in the Greater Yellowstone Ecosystem*”.

**Weeds of Horticulture Crops:**

- 1<sup>st</sup> – Eric Augerson, Oregon State University, “*Evaluation of Thermal, Mechanical, and Chemical Weed Control in Organic Northern Highbush Blueberries in Oregon*”.

**Range, Forest, and Natural Areas**



Christie Hubbard Guetling, University of Idaho

**Weeds of Horticulture Crops**



Eric Augerson, Oregon State Univeristy

**Basic Biology and Ecology:**

- 1<sup>st</sup> – Hudson K. Takano, Colorado State University, “*Physiological Basis for the Contact Activity of Glufosinate*”.
- 2<sup>nd</sup> – Elizabeth G. Mosqueda, University of Wyoming, “*Efficacy of Cultural, Mechanical, and Chemical Weed Control for Proactive Herbicide Resistant Weed Management*”.

**Basic Biology and Ecology**



Elizabeth Mosqueda, University of Wyoming and Hudson Takano, Colorado State University

Finally, a huge thank you to all the judges who contributed their time and energy for this year’s contests.

# Why Use Classical Weed Biological Control?

Carol Randall – Entomologist/Weed Biocontrol Specialist  
US Forest Service

## Why Use Classical Weed Biological Control?

Classical weed biological control is an often underutilized tool available to weed managers. Many question the safety of importing an exotic organism to suppress an exotic plant that became an invasive weed in the U.S.A. The western state weed biocontrol coordinators are developing materials for land managers and the public to address questions and concerns about classical weed biological control, and we would like to extend that information to members of WSWS. Below you will find examples of material we are developing, we welcome edits and suggestions.

## Classical Biological Control Target Weeds

The weeds targeted by classical weed biological control programs are not native to North America. These weeds got here many different ways, but they arrived without sufficient natural enemies to keep them in check. Classical weed biological control attempts to restore the balance by bringing host-specific herbivores from the weeds' native range to the weeds' invaded range.

## Why Use Foreign Natural Enemies as Classical Weed Biological Control Agents?

All plants produce biologically active and often toxic compounds, called phytoprotectants, to protect themselves from predation. Insect herbivores evolve adaptations through selection or spontaneous mutations that allow them to withstand the negative effects of ingesting or contacting phytoprotectants. Adaptation is very costly, so insect herbivores often specialize in only a few related plant species. Adaptation occurs through lengthy host plant-herbivore association in their shared native range. The target weed's native range is often the best place to find candidate biological control agents that want to eat/use the weed and can safely eat/use the weed. This chemistry is also the basis of host specificity—the degree to which a potential biological control agent is restricted in the number of plant hosts utilized.

## Requirement for Classical Weed Biological Control Agents

All classical weed biological control agents must meet the following criteria before they are considered for release in the U.S.A.

- Candidate biological control agents must be host specific—feeding only on the target weed or on closely related weed species
- Candidate biological control agents must be able to live in the invaded range
- Candidate biological control agents must be able to reproduce and survive in the weed range
- Candidate biological control agents must be approved by regulatory agencies (including USDA APHIS, United States Fish and Wildlife Service (USFWS), state regulators, and so forth)
- Approved biological control agents must be free of diseases and parasites before they are released in the U.S.A.

## **The Interstate Transport of Classical Weed Biological Control Agents is Regulated**

Interstate movement of weed biological control agents requires a USDA Animal and Plant Health Inspection Service (APHIS) 526 permit. APHIS will revoke a 526 permit for a biological control agent if that biological control agent is subsequently shown to have negative impacts.

### **How Safe is Classical Weed Biological Control?**

Hinz, Winston, and Schwarzländer (2019) reviewed all known direct nontarget attack cases of intentionally released or actively redistributed weed biological control agents and found less than 1% of all intentional releases worldwide have the potential to lead to negative effects at the population level of nontarget species and the incidences of unpredicted nontarget attack of intentionally released weed biocontrol agents decreased over time.

#### **CALIFORNIA**

Michael J. Pitcairn, Ph.D.  
California Department of Food & Agriculture  
(916) 262-2049  
[mike.pitcairn@cdfa.ca.gov](mailto:mike.pitcairn@cdfa.ca.gov)

#### **COLORADO**

Dan Bean, Ph.D.  
Colorado Department of Agriculture  
(970) 464-7916  
[Dan.bean@state.co.us](mailto:Dan.bean@state.co.us)

#### **IDAHO**

Joseph Milan  
Bureau of Land Management/  
Idaho State Department of Agriculture  
(208) 384-3487  
[jmilan@blm.gov](mailto:jmilan@blm.gov)

#### **MONTANA**

Melissa Maggio-Kassner  
Montana Biocontrol Project  
(406) 258-4223  
[mmaggio@missoulaeduplace.org](mailto:mmaggio@missoulaeduplace.org)

#### **NEVADA**

Sean Gephart  
Nevada Department of Agriculture  
(775) 353-3640  
[sgephart@agri.nv.gov](mailto:sgephart@agri.nv.gov)

#### **NEW MEXICO**

David C. Thompson  
New Mexico State University  
(575) 646-1367  
[dathomps@nmsu.edu](mailto:dathomps@nmsu.edu)

#### **OREGON**

Joel Price  
Oregon Department of Agriculture  
503-986-4624  
[jprice@oda.state.or.us](mailto:jprice@oda.state.or.us)

#### **UTAH**

Amber Mendenhall  
Utah Weed Control Association  
(435) 830-4146 Office  
[utahsbuggirl@gmail.com](mailto:utahsbuggirl@gmail.com)

#### **WASHINGTON**

Jennifer Andreas  
Washington State University Extension  
(253) 445-4657  
[jandreas@wsu.edu](mailto:jandreas@wsu.edu)

#### **WYOMING**

Aaron Foster, Supervisor  
Fremont County Weed & Pest District  
(307) 332-1052  
[afoster@wyoming.com](mailto:afoster@wyoming.com)

### **Reference:**

Hinz, H., Winston, R., & Schwarzländer, M. (2019). How safe is weed biological control? A global review of direct nontarget attack. *The Quarterly Review of Biology* 94(1) 1-27



# WASHINGTON REPORT

April 8, 2019  
Lee Van Wychen

REPRINTED WITH PERMISSION

## HOW DICAMBA'S VISIBILITY COULD CHANGE AG PESTICIDE USE FOREVER

*Editorial by Emily Unglesbee, DTN Staff Report*

ROCKVILLE, Md. (DTN) -- Have you ever heard the phrase, "You can't unsee that?"

I found it rolling through my mind as I watched university scientists display their latest research on dicamba at the Weed Science Society of America's annual meeting in February.

These scientists are doing public studies examining exactly how dicamba behaves from the second it leaves a sprayer tip to the moment fine particles and vaporized gases drift out of field and are sucked into an air sampler stationed nearby. We're learning, down to the nanogram, just how much of a chemical leaves a field in the hours and days following an agricultural pesticide application.

And we can't unsee that.

For better or worse, the widespread use of dicamba is pushing an entire industry to scrutinize how herbicides behave, how they're regulated, who suffers when they don't stay put and how they affect trees, plants and even people.

For now, scientists are behind a lot of this scrutiny. The conclusions that are emerging on off-target dicamba movement are generally data-based and sound. But soon -- perhaps this year, perhaps the next -- the American public may take the wheel.

Production agriculture's chemical use could never be the same again.

### DICAMBA WINDS OF CHANGE

Chemical drift is not a new problem in agriculture, but dicamba is especially visible. Minute amounts of dicamba can cause distinctive cupping, strapping and crinkling on a wide range of vegetation, from soybeans to tomatoes and oak trees.

It's easy to understand why some farmers are pushing for unrestricted access to dicamba herbicides. Herbicide-resistant weeds are a costly obstacle for many row crop operations, and as the Roundup Ready era demonstrated, herbicide-tolerant crops are a popular weed-control system.

But for many years, organic, non-GMO and specialty crop growers have paid the price for conventional agriculture's heavy dependence on chemicals. Victims of spray drift bear nearly all the responsibility to investigate the damage, prove who and what chemical was at fault and hunt down compensation, usually in the courts. Organic growers can actually lose the organic certification they rely on for a livelihood when a herbicide drifts into their fields. In contrast, pesticide applicators usually encounter milder repercussions. Even when found at fault by a state investigation, applicators often face

citations or fines as low as \$250 in some cases.

But that could be changing.

After a harrowing year dealing with widespread illegal dicamba applications, the state legislature of Arkansas passed a bill increasing the fee for illegal pesticide use up to \$25,000 per violation in 2017. Other states are mulling similar changes.

In a rather remarkable state of affairs, state departments of agriculture have also turned to 24(c) special local needs labels to restrict dicamba use beyond the EPA's federal labels. This use of 24(c) is rare and, some argue, not entirely legal, since this particular section of pesticide law was crafted for states to add additional uses of a chemical, not further police it. The situation speaks to a dangerously diminished federal regulatory agency. If fellow state regulators don't trust the EPA to fully protect the environment, why should the public?

EPA is now considering ending states' use of 24(c) to restrict pesticides, raising another concern: If states could no longer legally restrict dicamba as needed for their individual environmental concerns, how many would make the difficult decision to ban the chemical altogether?

Remember that those 24(c) state restrictions are in addition to some of the most complex pesticide labels the industry has ever seen. The new dicamba labels are filled with vague language and dozens of use restrictions that render legal use of the product nearly impossible. Indiana weed scientists estimated that applicators had only a handful of days in the entire month of June to apply these formulations legally last year -- and that was before the latest round of label restrictions.

Why write labels that set applicators up to fail? Part of the problem is that spraying dicamba is inherently risky, and lawyers don't like risk. The new dicamba labels essentially shift all legal liability from the manufacturers of these chemicals -- and the agency who registered them -- to the applicator. Now that this precedent is set, farmers and applicators should brace themselves for many chemical jugs of the future to bear this type of complex pesticide label.

### **THE WAR AGAINST AG CHEMICALS JUST GOT EASIER**

Ultimately, dicamba's visibility may soon move this issue out of agriculture and regulators' domain, and into the public's. In August of 2018, I toured the small town of Waverly, Nebraska, with members of the Nebraska Forest Service. In a beautiful little recreation center called Wayne Park, tucked in among residential streets, nearly every tree we walked past bore the same distinctive signs -- cupped, crinkled leaves and shrunken canopies. At nearby tree nurseries, we walked row after row of dicamba-damaged redbuds, Kentucky coffee trees and a wide range of oak trees.



*A redbud tree leaf shows distinctive dicamba exposure symptoms at a nursery in eastern Nebraska, where herbicide injury has been more visible than usual in the past few years. Redbuds are among the most sensitive of tree species to off-target dicamba movement. (DTN photo by Emily Unglesbee)*

Nebraska Forest Service landscape specialist Justin Evertson has been noticing herbicide injury to the state's trees for years, especially in the spring. But only now that dicamba has increased the visibility of this problem does he have funding available to study its long-term effects. For the next two years, led by South Dakota State University, Nebraska will join five other Midwestern states to conduct surveys of herbicide injury to trees in rural America.

Their findings will be public. And we won't be able to unsee them.

Agrichemical companies, regulators and farmers have perhaps one more year, maybe two, to take ownership and responsibility for off-target dicamba movement. After that, they may have to accept the consequences

of an unsympathetic public calling the shots on this chemical's use.

Consider the recent public outcry over minute glyphosate residues found in our cereal and booze. The American consumer has shown little appetite for ag chemical exposure, even miniscule amounts of relatively safe compounds. Air sampler data showing dicamba particles or vapors lingering in the air well outside agricultural fields for hours or even days will not be well received in the kitchens and playgrounds of this country.

The EPA conducted its usual human health risk assessments on the new dicamba formulations before registering them in 2016. (It declined to redo them when it reregistered the products in 2018.) But the agency's 2016 analysis relied on the assumption that the new

formulations had very little volatility, so vaporized dicamba would not be a significant source of exposure for most people. University research on dicamba volatility is now calling that assumption into question. With 60 million acres of dicamba-tolerant crops predicted for 2019, University of Arkansas weed scientist Jason Norsworthy is warning of "atmospheric loading" of dicamba in the summer months in areas of heavy dicamba use.

Questions about human health and safety are already arising. At DTN, we have fielded multiple calls from rural citizens and farmers, who are

wondering and worrying how repeated exposure to vaporized dicamba affects them and their families.

No one has answers for them just yet. But they may soon -- and it won't necessarily be weed scientists and qualified toxicologists doling them out.

Agriculture is an industry that has thrived and improved for decades by following new scientific information,

from genetically modified crops to self-steering tractors. But sometimes science reveals things the industry doesn't want to know -- such as how a chemical moves after it's applied and where it goes.

Let's not unsee any of this. Let's open our eyes wide, ask the difficult questions and follow the science where it leads us.

Emily Unglesbee can be reached at [Emily.unglesbee@dtn.com](mailto:Emily.unglesbee@dtn.com)

Follow her on Twitter @Emily\_Unglesbee

© Copyright 2019 DTN/The Progressive Farmer. All rights reserved.

## 2019 Membership Renewal Form for the Western Society of Weed Science

To pay by credit card, please go to [www.wsweedscience.org](http://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.**

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

**Classification:** Student \_\_\_ University \_\_\_ Federal Agency \_\_\_ State Agency \_\_\_ Private Industry (manufacturing and sales) \_\_\_ Private Industry (consulting) \_\_\_ Unemployed \_\_\_ Retired \_\_\_ other (specify) \_\_\_\_\_

Send to: WSWS/IMI,  
12110 Pecos St., Ste 220,  
Westminster, CO 80234

Questions? [info@wsweedscience.org](mailto:info@wsweedscience.org) or (303) 327-8016



**Weed Science Short  
Course On  
Herbicide Modes of  
Action and Resistance in  
Weeds**  
[www.tnwss.org](http://www.tnwss.org)

**August 5-8, 2019  
Fort Collins, CO**

**Lory Student Center  
Colorado State University  
Fort Collins, CO 80523-8033  
(970) 491-0229**

**Contact Us** Tom Mueller,  
Coordinator  
Phone: (865) 974-8805  
[tmueller@utk.edu](mailto:tmueller@utk.edu)

**TENNESSEE WEED SCIENCE SOCIETY**  
PO Box 53141  
Knoxville, TN 37950  
[www.tnwss.org](http://www.tnwss.org)

**Weed Science Short  
Course**

Do you need a concentrated, focused short course to refresh your knowledge of herbicide modes of action and herbicide resistance? This is the course for you!!

**What is included in the course?**

1. >22 hours of instruction, hands-on demonstrations and field trips
2. All students receive comprehensive workbook detailing course content

**How much does the course cost?**

- Course fee is \$1000 per person
- Course materials and handouts included with registration



*Attendees tour field plots at previous Short Course*

For more information, contact Tom Mueller at (865) 974-8805 or [tmueller@utk.edu](mailto:tmueller@utk.edu) or visit our website at [www.tnwss.org](http://www.tnwss.org) (Registration is now open)

Class size limited to 40 students, so sign up now!!

## 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](http://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, 12110 Pecos St., Ste 220, Westminster, CO 80234.

**Contact the Business Manager (Eric Gustafson) at (303) 327-8016 for bulk order prices.**

Shipping Information:

Name: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Telephone: \_\_\_\_\_

e-mail: \_\_\_\_\_

### 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  
12110 Pecos St., Ste. 220  
Westminster, CO 80234