



Welcome to the 2026 WSWS Annual Meeting. The Program Committee and Local Arrangements Committee have developed what we believe will be an outstanding meeting. We hope you find the meeting rewarding and take the opportunity to reconnect with colleagues, build new relationships, and leave with fresh perspectives and renewed enthusiasm.

LOCAL ARRANGEMENTS COMMITTEE MEMBERS

Kai Umeda, Chair
Pat Clay

PROGRAM COMMITTEE MEMBERS

Nevin Lawrence, Chair
Beth Fowers
Lovreet Shergill



Meal



Break



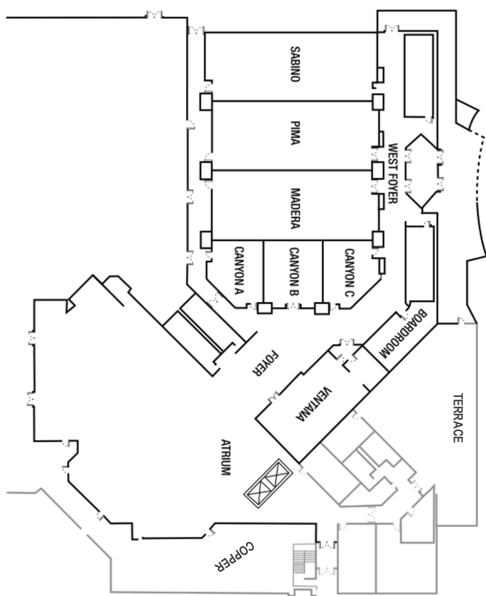
Reception

WSWS 2026 PROGRAM AT A GLANCE

Tuesday March 3rd			
■ Poster Session 7:45 - 9:15 AM - Madera Authors of Odd Numbered Posters Present			
General Session 9:30 - 11:15 AM - Sabino			
Diversity and Inclusion Committee Social Hour 11:15 - Noon - Canyon C			
Student Luncheon 12:00 - 1:15 PM - Ventana			
Canyon A + B	Canyon C	Copper	
Weeds of Agronomic Crops	Weeds of Range, Forestry, and Natural Areas	Weeds of Horticultural Crops	
1:30 - 3:00 PM	1:30 - 3:00 PM	1:30 - 3:00 PM	
■ BREAK - 3:00 - 3:30 PM - Main Foyer			
Canyon A + B	Canyon C	Ventana	Copper
Weeds of Agronomic Crops	Weeds of Range, Forestry, and Natural Areas	Basic Biology and Ecology	Weeds of Horticultural Crops
3:30 - 5:00 PM	3:30 - 5:00 PM	3:30 - 4:45 PM	3:30 - 4:45 PM
Y Student Reception - 5:00 - 6:30 PM - Terrace			
Wednesday March 4th			
■ Poster Session 7:45 - 9:15 AM - Madera Authors of Even Numbered Posters Present			
Canyon A + B	Canyon C	Ventana	Copper
Weeds of Agronomic Crops	Weeds of Range, Forestry, and Natural Areas	Basic Biology and Ecology <i>Discussion</i>	Weeds of Horticultural Crops <i>Discussion</i>
9:30 - 11:00 AM	9:30 - 10:30 AM	9:30 - 11:00 AM	9:30 - 11:00 AM
● Awards Luncheon 11:45 - 1:15 PM Sabino + Pima			
Canyon A + B	Canyon C	Ventana	Copper
Weeds of Agronomic Crops	Weeds of Range, Forestry, and Natural Areas <i>Discussion</i>	Symposium- The Pacific Northwest Herbicide Resistance Initiative: An Invitation to Collaborate	Teaching and Outreach, Oral Presentations and <i>Discussion</i>
1:30 - 3:00 PM	1:30 - 3:00 PM	1:30 - 3:00 PM	1:30 - 3:00 PM
■ BREAK - 3:00 - 3:30 PM - Main Foyer			
Canyon A + B	Canyon C	Ventana	
Weeds of Agronomic Crops	CAST Discussion: Integrated Management of Fire-Adapted Invasive Plants that Change Wildfire Regimes	Symposium- Panel Discussion: Transdisciplinary Collaboration to Improve Herbicide Resistance Management	
3:30-4:45 PM	3:30-4:45 PM	3:30-4:45 PM	
What's New in Industry? - 5:00 - 6:15 PM - Canyon A + B			
Student Night Out - 6:15 PM Atrium			
Thursday March 5th			
● Business Meeting Breakfast and Student Awards 6:30 - 9:00 AM Sabino + Pima			
Canyon A+B			
Weeds of Agronomic Crops, Oral Presentations and <i>Discussion</i>			
9:15 - 11:00 AM			

Tucson Marriott University Park
880 E 2nd St, Tucson, AZ 85719
Tucson, Arizona
520-792-4100

MEETING ROOMS



WSWS SPECIAL EVENTS – MONDAY MARCH 2

- 10:00 - 2:00 PM** **Board of Directors Meeting**
Boardroom
- 3:00 - 5:00 PM** **WERA-77 Meeting**
Boardroom
- 4:00 - 6:00 PM** **Registration**
Atrium
- 5:00 - 11:00 PM** **Poster Display Set-Up**
Madera
- 6:00 - 8:00 PM** **WSWS Member Welcome Reception**
Pima
Y *Sponsored by NuFarm*

WSWS SPECIAL EVENTS – TUESDAY MARCH 3

- 7:00 - 4:00 PM** **Registration**
Atrium
- 7:30 - 5:00 PM** **Poster Displays**
Madera
- 7:30 - 5:00 PM** **Sustaining Member Displays**
Foyer
- 7:45 - 9:15 AM** **Poster Session – Authors of Odd Numbered Posters**
Madera
M *Sponsored by Gowan Company*
- 9:30 - 11:15 AM** **General Session**
Sabino
- 11:15 – 12:00 PM** **Diversity and Inclusion Committee Social Hour**
Canyon C
M *Sponsored by Mountain West PEST*
- 12:00 - 1:15 PM** **Student Luncheon**
Ventana
M *Sponsored by Bayer Crop Science*
- 3:00 - 3:30 PM** **Break**
Foyer
M *Rohlf's & Adkins Research and Miller Research, INC*
- 5:00 - 6:00 PM** **Rita Beard Endowment Foundation Board of Trustees Meeting**
Boardroom
- 5:00 - 6:30 PM** **Student Reception**
Terrace
Y *Sponsored by Syngenta Crop Protection*

WSWS SPECIAL EVENTS – WEDNESDAY MARCH 4

- 7:00 - 4:00 PM** **Registration**
Atrium
- 7:00 – 8:00 AM** **Finance Committee Meeting**
Boardroom
- 8:00 – 9:00 AM** **New Officer Orientation**
Boardroom
- 7:30 - 5:00 PM** **Sustaining Member Displays**
Foyer
- 7:45 - 9:15 AM** **Poster Session – Authors of Even Numbered Posters**
Madera
■ *Sponsored by Ark Valley Weed Management and Consulting, LLC*
- 11:45 - 1:15 PM** **Awards Luncheon**
Sabino + Pima
🎯 *Sponsored by Corteva Agriscience, UPL, and Amalgamated Sugar Company*
- 1:30 - 4:45 PM** **Symposium - The Pacific Northwest Herbicide Resistance Initiative: An Invitation to Collaborate**
Ventana
- 3:00- 3:30 PM** **Break**
Foyer
■ *Sponsored by UPL*
- 3:30 - 4:45 PM** **CAST Discussion: Integrated Management of Fire-Adapted Invasive Plants that Change Wildfire Regimes**
Canyon C
- 5:00 - 6:15 PM** **What's New in Industry?**
Canyon A + B
- 6:15 PM** **Student Night Out**

WSWS SPECIAL EVENTS – THURSDAY MARCH 5

- 6:30 - 9:00 AM** **WSWS Business Breakfast**
Sabino + Pima
🎯 *Sponsored by BASF, Jill Schroeder and Phil Banks*
- 8:00 - 10:00 AM** **Registration**
Atrium
- 12:00 - 2:00 PM** **Board of Directors Meeting**
Boardroom

PROGRAM

MONDAY MORNING MARCH 2

Board of Directors Meeting

LOCATION: Boardroom
TIME: 10:00 AM to 2:00 PM
CHAIR: Carl Coburn
Bayer Crop Science
St. Louis, MO

MONDAY AFTERNOON MARCH 2

WERA-77 Meeting

LOCATION: Boardroom
TIME: 3:00 PM – 5:00 PM

MONDAY AFTERNOON MARCH 2

Registration

LOCATION: Atrium
TIME: 4:00 PM to 6:00 PM

MONDAY AFTERNOON MARCH 2

Poster Display Set Up

LOCATION: Madera
TIME: 5:00 PM to 11:00 PM

MONDAY AFTERNOON MARCH 2

WSWS MEMBERS WELCOME RECEPTION

LOCATION: Pima
TIME: 6:00 PM to 8:00 PM
CHAIR: Carl Coburn
Bayer Crop Science
St. Louis, MO
‡ *Sponsored by NuFarm*

TUESDAY MORNING MARCH 3

Registration

LOCATION: Atrium
TIME: 4:00 PM to 6:00 PM

POSTER Session: March 3, Odd Numbers March 4, Even Numbers

LOCATION: Madera
TIME: 7:45 AM - 9:15 AM
■ *Sponsored by Gowan Company
March 3rd, and Ark Valley Weed
Management and Consulting, LLC
March 4th*

†Graduate Competition, ‡Undergraduate Competition,
*Presenting Author

POSTER - Weeds of Agronomic Crops

†Efficacy of Pendimethalin Tank-mixtures Applied at 3-Leaf vs. 5-Leaf Rice Stage Managed with Leather's Method.

Saul Estrada^{1*}, Abel Bernal¹, Kassim Al-Khatib¹; ¹University of California, Davis (1)

‡Emergence and Control of White Water Fire in California Rice.

Robinson Johnson^{1*}, Deniz Inci¹, Kassim Al-Khatib¹; ¹UC Davis (2)

†Evaluating Precision Herbicide Application Strategies During Summer Fallow in the Northern Great Plains.

Devanshi Het Desai^{1*}, Het Samir Desai¹, Paul Nugent¹, Lovreet Shergill², Timothy Seipel¹; ¹Montana State University, ²Colorado State University (3)

†Assessing PPO Inhibitor Resistance in Kochia (*Bassia scoparia*) Across Small Grain Systems in the Great Plains.

Curtis Lefler^{1*}, Todd Gaines¹, Akamjot Brar¹, Daniel Guimaraes Abe², Caleb Dalley², Devanshi Het Desai³, Patrick Geier⁴, Brian Jenks², Jeremie Kouame⁴, Jeanne Falk Jones⁴, Timothy Seipel³, Lovreet Shergill¹; ¹Colorado State University, ²North Dakota State University, ³Montana State University, ⁴Kansas State University (4)

†Post-emergence Indaziflam Controls Weeds in Wheat Across Multiple Seasons.

Peter Weston Maughan^{1*}, Marija Savic¹, Jessica Kalin¹, Ian Burke²; ¹Washington State University, ²North Carolina State University (5)

†Assessing the Impact of Red Clover (*Trifolium pratense*) Weed Suppression in Utah Small Grain Production.

Olanrewaju Adeyemi^{1*}, Eric Westra¹, Corey Ransom¹, Earl Creech¹, Mirella Ortiz¹; ¹Utah State University (6)

†Evaluating Wheat Variety, Planting Time, and Herbicide Intensity's Influence on Weed Control in Winter Wheat.

Claire Roche^{1*}, Desiree McGriff¹, Liberty Galvin¹, Connor Cox¹, Amanda De Oliveira Silva¹; ¹Oklahoma State University (7)

†Competitive Enhancement of Winter Wheat Using Seed Treatment Under Annual Ryegrass (*Lolium multiflorum*) Infestation.

Sushmita Dey^{1*}, Brad Lindenmayer², Liberty Galvin¹; ¹Oklahoma State University, ²Syngenta Crop Protection (8)

†Herbicide Resistance Screening of Wild Oat (*Avena fatua*) Collected from Small Grain Production System.

Sushmita Sharma Koirala^{1*}, Chandra Montgomery¹, Traci Rauch¹, Joan Campbell¹, Albert Adjesiwor¹; ¹University of Idaho (9)

‡Statewide Assessment of Herbicide Resistance in Rye Brome (*Bromus secalinus*) in Oklahoma Wheat Systems.

Ty Shreve^{1*}, Amna Dar¹, Connor Cox¹, Liberty Galvin¹; ¹Oklahoma State University (10)

Buckwheat Tolerance to Combinations of Isoxaflutole and Pyroxasulfone.

Caleb Dalley¹, Daniel Guimaraes Abe^{1*}; ¹North Dakota State University (11)

Strategies to Maximize Seed Retention in Winter Wheat for Harvest Weed Seed Control.

Lovreet Shergill^{1*}, Akamjot Brar¹, Todd Gaines¹, Franck Dayan¹; ¹Colorado State University (12)

Assessing Herbicide Resistance in Cheatgrass (*Bromus tectorum*) to Amino Acid Synthesis Inhibitors and ACCase Inhibitors.

Damian Stoy^{1*}, Timothy Seipel¹, Devanshi Het Desai¹; ¹Montana State University (13)

Effects of Soil pH and Rainfall Activation Timing on the Efficacy of Early Post-Emergent Herbicides Oklahoma Winter Wheat.

Connor Cox^{1*}, Liberty Galvin¹;¹Oklahoma State University (14)

Screening Oklahoma Italian Ryegrass (*Lolium perenne* ssp. *multiflorum*) Populations for Resistance to Key Postemergence Herbicides and Dose Response Characterization.

Amna Dar^{1*}, Liberty Galvin¹, Ty Shreve¹;¹Oklahoma State University (15)

Dry Edible Bean Response to Metamitron Soil Residue.

Jenna Meeks^{1*}, Nevin Lawrence², Andrew Kniss¹;¹University of Wyoming, ²University of Nebraska (16)

Evaluation of Acifluorfen and Lactofen in Dry Edible Bean.

Nevin Lawrence^{1*};¹University of Nebraska (17)

‡Characterization of Multiple Resistance in Italian Ryegrass (*Lolium multiflorum* Lam) from a White Clover Field.

Victor Ribeiro¹, Ethan Frager^{1*}, Carol Mallory-Smith¹, Pete Berry¹, Joseph Gallagher²;¹Oregon State University, ²USDA - ARS - Forage Seed and Cereal Research Unit (18)

†Performance of Halauxifen + Diclosulam on *Conyza* spp. from Post-emergence Efficacy to Pre-emergence Persistence Under Different Water Conditions.

Joao Massaro^{1*}, Pedro Antônio Vougoudo Salmazo¹, Elias da Silva Medeiros², Mirella Ortiz³, Eric Westra³, Paulo Da Silva¹;¹University of São Paulo, ²University of Grande Dourados, ³Utah State University (19)

‡Benghal Dayflower (*Commelina benghalensis*) Control Using Florpyrauxifen-Benzyl and Subsequent Soybean Plant-back Interval.

Hugo Augusto Pereira Zanatta^{1*}, José Thiago Battaglin Souza², Pedro Antônio Vougoudo Salmazo¹, Mirella Ortiz³, Eric Westra³, Paulo Da Silva¹;¹ University of São Paulo, ²University of Grande Dourados, ³Utah State University (20)

Epyrifenacil (Rapidicil®) Tank-mixtures for Cover Crop Termination (Cereal Rye and Wheat) in No-till Soybean and Corn Production.

Garrison Gundy^{1*}, Pat Clay¹, Nathan Drewitz¹, Chris Meador¹, Andrew Rodstrom¹, Matt Griffin¹, Sam Noe¹;¹Valent U.S.A. (21)

Residual Efficacy of HPPD-Inhibiting Herbicides for Broadleaf Weed Management.

Jessica Kalin^{1*}, Ian Burke²;¹Washington State University, ²North Carolina State University (22)

†Are there any Sugarbeet-safe Herbicide Options for Pre-plant Control of Glyphosate-resistant Kochia (*Bassia scoparia*)?

Ian Waldecker^{1*}, Jenna Meeks¹, Andrew Kniss¹;¹University of Wyoming (23)

Tumble Mustard (*Sisymbrium altissimum*) Control and Seedling Kentucky Bluegrass Tolerance with Tolpyralate/Bromoxynil.

Traci Rauch^{1*}, Joan Campbell¹;¹University of Idaho (24)

Influence of Tillage Depth and Intensity on Weed Seed Diversity in the Soil Profile as a Strategy for Managing Herbicide Resistance.

Connor Cox^{1*}, Liberty Galvin¹, Daniel Adamson¹;¹Oklahoma State University (25)

Carrier Volume Effect on Glufosinate Efficacy.

Timothy Seipel¹, Damian Stoy^{1*}, Andy Fillmore²;¹Montana State University, ²BASF (26)

Effect of Cover Crop Residue on the Residual Activity and Weed Control Efficacy of S-Metolachlor Formulations.

Paulo Da Silva^{1*}, Robson Alves Ribeiro², Claudia Andréa Lima Cardoso³, Pedro Antônio Vougoudo Salmazo¹, Mirella Ortiz⁴, Eric Westra⁴;¹University of São Paulo, ²University of Grande Dourados ³Universidade Estadual do Mato Grosso, ⁴Utah State University (27)

Does Cleaner Water Mean Better Weed Control? Assessing Reverse Osmosis Water in Glyphosate Applications.

Marija Savic^{1*}, Ian Burke²;¹Washington State University, ²North Carolina State University (28)

Spray Solution pH Impact on the Performance of Bioherbicides for Control of Palmer Amaranth and Waterhemp.

Kasey Schroeder^{1*}, Milan Brankov², Milos Zanic¹;¹University of Nebraska-Lincoln, ²Maize Research Institute Zemun Polje (29)

POSTER - Weeds of Horticultural Crops

†Evaluating Terbacil and Clethodim for Weed Management in Camas spp.

Pamela Medeiros dos Santos^{1*};¹Oregon State University (30)

†Evaluating Maleic Hydrazide for Branched Broomrape Management in Processing Tomatoes.

Arpan Bhusal^{1*};¹UC Davis (31)

†Impacts of Sorghum-Barley Crop Rotation on the Chile Pepper Growing Season.

Ram Singh Insa^{1*}, Brian Schutte¹, Erik Lehnhoff¹;¹New Mexico State University (32)

†Chemical Management Strategies of Flazasulfuron-Resistant *Daucus carota* in Oregon.

Davi Fiedler^{1*}, Marcelo Moretti¹;¹Oregon State University (33)

Barley Green Manure for Weed Suppression in Chile Pepper.

Brian Schutte^{1*}, Ram Acharya¹;¹New Mexico State University (34)

Autonomous Weed Control in Fresh Vegetable Crops with the FarmDroid Robot.

Pete Berry¹, Andrew Branka^{1*}, Kristine Buckland¹; ¹Oregon State University (35)

Combining Hydromulch with Burlap for Biodegradable Weed Suppression in Fruit Production.

Greta Gramig^{1*}, Waqas Ahmad²; ¹North Dakota State University, ²Spectrum Brands (36)

‡Electric Mulch in Highbush Blueberries (*Vaccinium corymbosum*).

Madden Robertson^{1*}, Austin Frewert¹, Marcelo Moretti¹; ¹Oregon State University (37)

Evaluation of Tiafenacil Herbicide use in Grape Production.

Rui Liu^{1*}, Marcelo Moretti², Lynn Sosnoskie³; ¹Washington State University, ²Oregon State University, ³Cornell University (38)

Evaluating Crop Safety and Moss Control Using Saflufenacil + Pyroxasulfone in Cranberries.

David King^{1*}; ¹Oregon State University (39)

†Efficacy and Residual of Diflufenican in Hazelnut Orchards for Herbicide-Resistant Italian Ryegrass and Annual Bluegrass.

Juliano Sulzback^{1*}; ¹Oregon State University (40)

Residual Activity of Antorix in Hazelnut Orchards for Herbicide-Resistant Italian Ryegrass and Annual Bluegrass.

Juliano Sulzback^{1*}; ¹Oregon State University (41)

Early Spring Applications of Rimsulfuron Suppress Established Johnsongrass in California Orchards.

Ryan Hill^{1*}; ¹University of California, Davis (42)

Use of PRE and POST Emergent Herbicide Admixtures for Optimizing Long-lasting Weed Control in Pear Orchards.

Clebson Gonçalves^{1*}; ¹University of California, Cooperative Extension (43)

Screening of Herbicide Resistant Weed Species in the Columbian Basin Specialty Crops Production.

Sohaib Chattha^{1*}, Richardson Bien-Aime¹, Rui Liu¹; ¹Washington State University (44)

†Evaluating Flazasulfuron for Weed Management in Hops (*Humulus lupulus*).

Greeshmanth Alluri^{1*}, Marcelo Moretti¹; ¹Oregon State University (45)

‡Evaluating Electric Weed Control as a Novel Cover Crop Termination Method for No-till Production.

Joshua Spanbauer^{1*}, Aaron Becerra-Alvarez¹, Marcelo Moretti¹; ¹Oregon State University (46)

‡Evaluating Pre-emergent Herbicides in Ornamental Nursery Crops.

Paige Barden^{1*}, Austin Frewert¹, Marcelo Moretti¹; ¹Oregon State University (47)

Effect of Compost and Herbicides on Survival of Non-irrigated Transplants of *Corylus americana*.

Stuart Turner^{1*}; ¹Turner & Co., Inc. (48)

POSTER - Weeds of Range, Forestry, and Natural Areas

Improving Native Forb Seed Production through Herbicide Tolerance Screening.

Eric Westra^{1*}, Mirella Ortiz¹, Corey Ransom¹, Kevin Gunnell², Melissa Landeen², William Behling²; ¹Utah State University, ²Utah DNR- Division of Wildlife Resources (49)

†Use of Grass-selective Herbicides for Control of Non-native Pasture Grasses and Rangeland Restoration.

Haley Monahan^{1*}, Jacob Courkamp¹, Mark Paschke¹; ¹Colorado State University (50)

†Effects of Indaziflam on the Seedbank of Rangeland Broadleaf Weeds.

Ryan Robertson^{1*}, Jane Mangold¹; ¹Montana State University (51)

†Garlic Mustard (*Alliaria petiolata*) in the West: Evaluating Control Options and Barriers to Effective Management.

Felipe Quatroni^{1*}, Mirella Ortiz¹, Corey Ransom¹, Cody Beckley¹, Eric Westra¹; ¹Utah State University (52)

†Effects of Clomazone on the Physiological Responses of Water Hyacinth.

Bianca Jaqueline Santos Rodrigues^{1*}, Bianca de Borba Barreto Moreira¹, Mirella Farinelli Ortiz², Marcos Antonio Bacarin¹, Junior Borella³; ¹Federal University of Pelotas, ²Utah State University, ³Federal University of Rio Grande (53)

Puncturevine Control: Physical Seed Removal and Preemergent Strategies.

Tom Getts^{1*}; ¹University of California (54)

Herbicide-Resistant Kochia (*Bassia scoparia*) Emerging from Industrial Vegetation Management Areas.

Eric Westra^{1*}, Mirella Ortiz¹, Corey Ransom¹, Shannon Clark², Harry Quicke², Vicki Maloney²; ¹Utah State University, ²ENVU (55)

POSTER - Basic Biology and Ecology

Common Garden Study of Phenotypic Variation in Santa Maria Feverfew (*Parthenium hysterophorus*).

Desiree McGriff^{1*}, Liberty Galvin¹, Antonio DiTommaso², Sarah Kezar³; ¹Oklahoma State University, ²Cornell University, ³University of Wisconsin-Madison (56)

†Effect of Light and Dark on Bristly Hawksbeard (*Crepis setosa* Haller f.) Germination Under Alternating Temperatures.

Renan Favera^{1*}, Carol Mallory-Smith¹, Victor Ribeiro^{1;1}; Oregon State University (57)

†Temperature Effects on Pineappleweed (*Matricaria discoidea* DC.) Seed Germination.

José Carlos Barbosa dos Santos^{1*}, Clint Mattox², Carol Mallory-Smith¹, Victor Ribeiro^{1;1}; Oregon State University, ²USDA - ARS - Forage Seed and Cereal Research Unit (58)

Investigating Dicamba Resistance in a Palmer Amaranth (*Amaranthus palmeri*) Population from Kansas.

Andre Lucas Simoes Araujo^{1*}, Sofia Marques Hill¹, Chandrashekar Aradhya², Aruna Varanasi², Franck Dayan¹, Todd Gaines^{1;1}; Colorado State University, ²Bayer Crop Science (59)

Effect of Germination Time on Downy Brome Seed Production and Seed Viability in Spring Wheat.

Vhuthu Ndou^{1*}, Fernando Oreja², Jennifer Gourlie¹, Judit Barroso^{1;1}; Oregon State University, ²Clemson University (60)

Germination Ecology of Cotton Batting Cudweed (*Pseudognaphalium stramineum*).

Victor Ribeiro^{1*}, Jacob Powell^{1;1}; Oregon State University (61)

Characterizing the Seed and Soil Microbiome of Weed Species Extracted from a Long-term Irrigation Experiment.

Franco Sanchez-Izurieta^{1*}, Cody Willmore², Raissa Na-ah¹, David Weller², Timothy Paulitz², Daniel Schlatter³, Olivia Landau^{2;1}; Washington State University, ²USDA-ARS Wheat Health, Genetics, and Quality Research Unit, ³USDA-ARS, St. Paul (62)

POSTER - Teaching and Outreach

Incorporating Brain Science into Weed Science Extension and Outreach.

Jane Mangold^{1*}; Montana State University (63)

PEST Academy - Hands on Spray Application Training for Agricultural Professionals.

Jeffrey Golus^{1*}, Milos Zaric¹, Kasey Schroeder^{1;1}; University of Nebraska - Lincoln (64)

Changing the State Noxious Weed List: Outreach Opportunities, Impacts, and Needs.

Corey Ransom^{1*}, Mirella Ortiz¹, Eric Westra^{1;1}; Utah State University (65)

TUESDAY MORNING MARCH 3

General Session

LOCATION: Sabino
TIME: 9:30 AM – 11:15 AM
CHAIR: Carl Coburn
Bayer Crop Science
St. Louis, MO
MODERATOR: Nevin Lawrence
University of Nebraska
Scottsbluff, NE

*SPEAKER

- 9:30 AM Presidential Address**
Carl Coburn*; Bayer Crop Science
St. Louis, MO
- 9:50 AM Flows of Time: Ancestral O’Odham Irrigation and Broader Understanding of Ancient Irrigation.**
Christopher R. Caseldine*, Arizona State University
Tempe, AZ
- 10:50 AM Washington D.C. Policy Update**
Lee Van Wychen*; Weed Science Society of America
Alexandria, VA

TUESDAY MORNING MARCH 3

Diversity and Inclusion Committee Social Hour

How can we recruit diverse undergraduate students to weed science?

LOCATION: Canyon C
TIME: 11:15 AM - Noon
CHAIR: Lisa Jones
University of Idaho
Moscow, ID

☛ *Sponsored by Mountain West PEST*

TUESDAY AFTERNOON MARCH 3

Student Luncheon

LOCATION: Ventana
TIME: Noon – 1:15 PM
CHAIR: Carl Coburn
Bayer Crop Science
St. Louis, MO
MODERATOR: Wes Maughan
Washington State University
Pullman, WA
CO-MODERATOR: Ola Adeyemi
Utah State University
olanrewaju.adeyemi@usu.edu
 *Sponsored by Bayer Crop Science*

TUESDAY AFTERNOON MARCH 3

ORAL – Weeds of Agronomic Crops

LOCATION: Canyon A + B
TIME: 1:30 PM – 3:00 PM
CHAIR: Kyle Roerig
Pratum Co-Op
Salem, OR
CO-MODERATOR: Clint Beiermann
University of Wyoming
Laramie, WY

†Graduate Competition, *Presenting Author

- 1:30 PM** †**Patterns in Weed Emergence: Insights from Hydrothermal Time.**
Peter Weston Maughan^{1*}, Marija Savic¹, Jessica Kalin¹, Ian Burke²; ¹Washington State University, ²North Carolina State University (66)
- 1:45 PM** †**Wild Oat (*Avena fatua*) Control with Pinoxaden and Thiencarbazone Premix.**
Kirk Howatt^{1*}, Joseph Mettler¹, Timothy Seipel², Ruby Tiwari², Damian Stoy², Jason Meier³, Jim Daniel⁴; ¹North Dakota State University, ²Montana State University, ³ADAMA, ⁴Daniel Ag Consulting (67)

- 2:00 PM** †**Herbicide Resistance in Kochia (*Bassia scoparia*) Across Small Grain Production Systems in the Great Plains: Insights from a Regional Survey.**
Curtis Lefler^{1*}, Todd Gaines¹, Akamjot Brar¹, Daniel Guimaraes Abe², Caleb Dalley², Devanshi Het Desai³, Patrick Geier⁴, Brian Jenks², Jeremie Kouame⁴, Jeanne Falk Jones⁴, Timothy Seipel³, Lovreet Shergill¹; ¹Colorado State University, ²North Dakota State University, ³Montana State University, ⁴Kansas State University (68)
- 2:15 PM** **Seed Retention Dynamics of Downy Brome (*Bromus tectorum* L.) at Winter and Spring Wheat Harvest in the Pacific Northwest.**
Noemi Codina-Pascual^{1*}, Vhuthu Ndou¹, Fernando Oreja², Jennifer Gourlie¹, Judit Barroso¹; ¹Oregon State University, ²Clemson University (69)
- 2:30 PM** †**Assessing Kochia (*Bassia scoparia*) Resistance to PPO-inhibiting and Auxin-mimic Herbicides in Northeast Montana.**
Devanshi Het Desai^{1*}, Het Samir Desai¹, Lovreet Shergill², Timothy Seipel¹; ¹Montana State University, ²Colorado State University (70)
- 2:45 PM** **Varietal Competitiveness of Wheat and Barley in Western Canada**
Breanne Tidemann^{1*}, Charles Geddes¹, Shaun Sharpe¹, Chris Willenborg²; ¹Agriculture and Agri-Food Canada, ²University of Saskatchewan (71)

TUESDAY AFTERNOON MARCH 3

ORAL – Weeds of Range, Forestry, and Natural Areas

LOCATION: Canyon C
 TIME: 1:30 PM – 3:00 PM
 CHAIR: Jake Courkamp
 Colorado State University
 Ft. Collins, CO
 CO-MODERATOR Kelly Uhing
 City of Boulder Open Space and Mountain
 Parks
 Boulder, CO

†Graduate Competition, *Presenting Author

- 1:30 PM** †**Aquatic Weeds of Utah: Spatial and Genetic Insights.**
Francielli Santos de Oliveira^{1*}, Corey Ransom¹, Eric Westra¹, Mirella Ortiz¹; ¹Utah State University (72)
- 1:45 PM** **The History and Future of Tamarisk (*Tamoxis ramosissima*) on the Rio Grande.**
David Clements^{1*}, Erik Lehnhoff²; ¹Trinity Western University, ²New Mexico State University (73)

- 2:00 PM** †**Impacts of Imazapyr and Glyphosate Application Methods on Target Species Reed Canarygrass (*Phalaris arundinacea*) and Meadow Foxtail (*Alopecurus pratensis*) and Non-target Species Camas (*Camassia quamash*).**
Sofia Blair^{1*}, Timothy Prather¹;¹University of Idaho (74)
- 2:15 PM** **Evaluating Integrated Weed Management Strategies for Reed Canarygrass (*Phalaris arundinacea* L.) in Northern Colorado.**
Jacob Courkamp^{1*};¹Colorado State University (75)
- 2:30 PM** †**From Above- to Below Ground: The Effects of Controlling Invasive Annual Grasses.**
Claire Anderson^{1*}, Jane Mangold¹, Lisa Rew¹, Cathy Zabinski¹;¹Montana State University (76)
- 2:45 PM** **The Effects of Cheatgrass (*Bromus tectorum*) Management with Indaziflam on Live Fuel Moisture Content in Semi-Arid Grasslands Along the Colorado Front Range.**
John Watson^{1*}, Jacob Courkamp¹;¹Colorado State University (77)

TUESDAY AFTERNOON MARCH 3

ORAL – Weeds of Horticultural Crops

LOCATION:	Copper
TIME:	1:30 PM – 3:00 PM
CHAIR:	Craig Alford Corteva Agriscience Indianapolis, IN
CO-MODERATOR	Aaron Becerra-Alvarez Oregon State University Corvallis, OR

†Graduate Competition, *Presenting Author

- 1:30 PM** †**Enhancing Electrical Weed Control Through Pre-Treatment Mowing: Evidence of an Interactive Response.**
Juliano Sulzback^{1*};¹Oregon State University (78)
- 1:45 PM** †**Pulse Electric Field as a Nonchemical Preemergence Weed Management Tool.**
Pamela Medeiros dos Santos^{1*};¹Oregon State University (79)
- 2:00 PM** **Response of Organic Herbicides Using Traditional Broadcast and Pinpoint Spray Technology.**
Clebson Gonçalves^{1*};¹University of California, Cooperative Extension (80)

2:15 PM †**Evaluation of Branched Broomrape (*Phelipanche 20amose*) Seed Responses to Nitrogen Fertilizers and Flooding.**

Tong Zhen^{1*}, Pershang Hosseini¹, Brad Hanson¹;¹University of California, Davis (81)

2:30 PM **Assessment of Herbicide Programs for Weed Control in Onion Production.**

Sohaib Chattha^{1*}, Tim Waters², Rui Liu¹;¹Washington State University, ²Franklin County Extension, Washington State University (82)

2:45 PM †**Evaluating Foliar-applied Electrical Treatments for Weed and Downy Mildew Management in Hops (*Humulus lupulus*).**

Greeshmanth Alluri^{1*}, Marcelo Moretti¹, David Gent¹;¹Oregon State University (83)

TUESDAY AFTERNOON MARCH 3

Break

LOCATION:

Foyer

TIME:

3:00 PM – 3:30 PM

■ *Rohlf's & Adkins Research and Miller Research, INC*

TUESDAY AFTERNOON MARCH 3

ORAL – Weeds of Agronomic Crops

LOCATION:

Canyon A + B

TIME:

3:30 PM to 5:00 PM

CHAIR:

Kyle Roerig

Pratum Co-Op

Salem, OR

CO-MODERATOR

Clint Beiermann

University of Wyoming

Laramie, WY

†Graduate Competition, *Presenting Author

3:30 PM †**Early Season Glyphosate-Resistant Kochia (*Bassia scoparia*) Control with Burndown and Residual Herbicide Combinations.**

Ian Waldecker^{1*}, Jenna Meeks¹, Andrew Kniss¹;¹University of Wyoming (84)

3:45 PM **Bicyclopyrone + Bromoxynil: Earlier Applications for More Flexible Weed Control.**

Marty Schraer^{1*}, Nathan Haugrud¹, Benjamin Westrich¹, Dan Wilkinson¹, Pratap Devkota¹, Tom Beckett¹, David Belles¹;¹Syngenta Crop Protection (85)

- 4:00 PM** †**Critical Time of Weed Removal and Soil Active Herbicides in Establishment Alfalfa: Impacts on Yield, Crop Establishment, and Forage Quality.**
Kaitlyn Hoberg^{1*};¹University of Wyoming (86)
- 4:15 PM** **Optimization of Forage Sorghum Weed Control Programs via ImiFlex (Imazamox) and Igrowth Sorghum: Post-commercialization Experience.**
Ryan Bryant-Schlobohm^{1*}, Ryan Henry¹, Cody Gray¹, Kathleen Seitzinger¹;¹UPL (87)
- 4:30 PM** †**Volunteer Spring Barley (*Hordeum vulgare* L.) Management Prior to Spring Wheat (*Triticum aestivum* L.).**
Jace Heiman^{1*};¹North Dakota State University (88)
- 4:45 PM** **Herbicide Programs to Control Multiple Herbicide-Resistant Common Ragweed in Dry Bean.**
Joseph Ikley^{1*}, Austin Weippert¹, Charlie Lim¹;¹North Dakota State University (89)

TUESDAY AFTERNOON MARCH 3

ORAL – Weeds of Range, Forestry, and Natural Areas

LOCATION:	Canyon C
TIME:	3:30 PM – 5:00 PM
CHAIR:	Jake Courkamp Colorado State University Ft. Collins, CO
CO-MODERATOR	Kelly Uhing City of Boulder Open Space and Mountain Parks Boulder, CO

†Graduate Competition, *Presenting Author

- 3:30 PM** †**Novel Solutions to a 100 Year Problem: Larkspur (*Delphinium geyeri*) Mitigation in Western Rangelands.**
Amber Pelon^{1*}, Todd Gaines¹, Franck Dayan¹, Lovreet Shergill¹;¹Colorado State University (90)
- 3:45 PM** **Investigating Native and Weed Species Response to Indaziflam Using Agar.**
Maloree McDonald^{1*}, Felipe Quatroni¹, Francielli Santos de Oliveira¹, Eric Westra¹, Corey Ransom¹, Mirella Ortiz¹;¹Utah State University (91)
- 4:00 PM** †**Predicting Turkish Thistle (*Carduus cinereus*) Habitat through Susceptibility Modeling in Canyon Grasslands of Oregon and Idaho.**
Ashton Sellke^{1*}, Timothy Prather¹;¹University of Idaho (92)

- 4:15 PM** **Seed Bank Response and Secondary Impacts After Indaziflam Application for Annual Grasses in Sagebrush Steppe.**
Timothy Prather^{1*}, Lisa Jones¹;¹University of Idaho (93)
- 4:30 PM** **Application Timing Effects of Indaziflam and Imazapic on Grass and Forb Seedlings.**
Cody Beckley^{1*}, Corey Ransom¹, Eric Westra¹, Mirella Ortiz¹, Maloree McDonald¹;¹Utah State University (94)
- 4:45 PM** **What's Going on Down There? Exploring Plant-Soil Feedback as a Mechanism for Ventenata Invasion.**
Lisa Jones^{1*}, Timothy Prather¹;¹University of Idaho (95)

TUESDAY AFTERNOON MARCH 3

ORAL – Basic Biology and Ecology

LOCATION:	Ventana
TIME:	3:30 PM to 4:45 PM
CHAIR:	Albert Adjesiwor University of Idaho Kimberly, ID
CO-MODERATOR	Jenna Meeks University of Wyoming Lingle, WY

†Graduate Competition, *Presenting Author

- 3:30 PM** †**Detection of Glyphosate-resistant *Kochia (Bassia scoparia)* in Utah and Preliminary Insights into Resistance Mechanisms.**
Olanrewaju Adeyemi^{1*}, Eric Westra¹, Corey Ransom¹, Earl Creech¹, Mirella Ortiz¹;¹Utah State University (96)
- 3:45 PM** †**First Documented Case of *Daucus carota* Resistance to Flazasulfuron.**
Davi Fiedler^{1*}, Marcelo Moretti¹;¹Oregon State University (97)
- 4:00 PM** **The Natural Herbicide Rhein Targets Photosystem I.**
Alyssa Twitty^{1*}, Franck Dayan²;¹University of Arizona, ²Colorado State University (98)
- 4:15 PM** †**Hyperspectral Sensing for Early Detection of Small Broomrape (*Orobanche minor*) Parasitism in Red Clover.**
Prayusha Bhattarai^{1*}, Jing Zhou¹, Pete Berry¹;¹Oregon State University (99)
- 4:30 PM** †**Group 27 Premix Dose Response on Waterhemp (*Amaranthus tuberculatus*) for Wheat (*Triticum aestivum*).**
Ethan Mewes^{1*}, Kirk Howatt¹, Joseph Mettler¹;¹North Dakota State University (100)

TUESDAY AFTERNOON MARCH 3

ORAL – Weeds of Horticultural Crops

LOCATION: Copper
TIME: 3:30 PM – 4:45 PM
CHAIR: Craig Alford
Corteva Agriscience
Indianapolis, IN
CO-MODERATOR Aaron Becerra-Alvarez
Oregon State University
Corvallis, OR

*Presenting Author

- 3:30 PM** **Timing and Frequency of Sucker Removal in Hazelnuts (*Corylus avellana*) Increases Yield.**
Austin Frewert^{1*}, Marcelo Moretti¹;¹Oregon State University (101)
- 3:45 PM** **Evaluating Herbicide Programs and Nitrogen Applications in Spearmint Production.**
Rui Liu^{1*}, Ruijun Qin², Doug Walsh¹, Troy Peters¹;¹Washington State University, ²Oregon State University (102)
- 4:00 PM** **Hulk Herbicide Performance in Coffee and Papaya in Hawaii.**
Jesse Richardson^{1*}, Julie Coughlin², Zhening Zhang², James Kam²;¹Corteva Agriscience, ²University of Hawaii (103)
- 4:15 PM** **Performance of Tiafenacil on Hop (*Humulus lupulus*).**
Luisa Baccin^{1*}, Marcelo Moretti¹;¹Oregon State University (104)
- 4:30 PM** **Icafolin-Methyl – a New Molecule in the Chemical Class (Isoxazolin-Carboxamides) from Bayer CropScience.**
Angela Kazmierczak^{1*}, Christopher Mansiere¹, Allan Kaastra¹, Lothar Lorentz¹;¹Bayer Crop Science (105)

TUESDAY EVEVING MARCH 4

Rita Beard Endowment Foundation Board of Trustees Meeting

LOCATION: Boardroom
TIME: 5:00 PM to 6:00 PM

TUESDAY EVEVING MARCH 4

Student Reception

LOCATION: Terrace
TIME: 5:00 PM to 6:30 PM
‡ *Sponroed by Syngenta Crop Protection*

WEDNESDAY MORNING MARCH 4

Registration

LOCATION: Atrium
TIME: 7:00 AM to 4:00 PM

WEDNESDAY MORNING MARCH 4

Finance Committee Meeting

LOCATION: Boardroom
TIME: 7:00 AM to 8:00 AM

WEDNESDAY MORNING MARCH 4

New Officer Orientation

LOCATION: Boardroom
TIME: 8:00 AM to 9:00 AM

WEDNESDAY MORNING MARCH 4

ORAL – Weeds of Agronomic Crops

LOCATION: Canyon A + B
TIME: 9:30 AM – 11:00 AM
CHAIR: Kyle Roerig
Pratum Co-Op
Salem, OR
CO-MODERATOR Clint Beiermann
University of Wyoming
Laramie, WY

†Graduate Competition, *Presenting Author

- 9:30 AM** †**Bristly Hawksbeard (*Crepis setosa* Haller f.) Response to Postemergence and Preemergence Herbicides.**
Renan Favera^{1*}, Carol Mallory-Smith¹, Victor Ribeiro¹;¹Oregon State University (106)
- 9:45 AM** †**Vyconic Soybeans: A Flexible Approach to Preemergent Weed Management with Acetochlor-Mesotrione Premix.**
Carl Coburn^{1*}, Katilyn Price¹, Zewei Miao¹, Emily Scholting¹;¹Bayer Crop Science (107)
- 10:00 AM** †**Efficacy of Selected Herbicides for Control of Palmer Amaranth (*Amaranthus palmeri*) and Waterhemp (*Amaranthus tuberculatus*).**
Laura Rodriguez^{1*}, Joel Felix², Clarke Alder³, Rui Liu⁴, Olivia Landau⁵, Albert Adjesiwor¹;¹University of Idaho, ²Oregon State University, ³Betaseed, ⁴Washington State University, ⁵USDA-ARS Wheat Health, Genetics, and Quality Research Unit (108)
- 10:15 AM** †**Optimized Herbicide Solutions for Effective Control of Multiple Herbicide Resistant Amaranthus.**
Benjamin Westrich^{1*}, Scott Cully¹, David Belles¹, Mark Kitt¹, Jesse Haarmann¹;¹Syngenta Crop Protection (109)
- 10:30 AM** †**Volunteer Glyphosate-resistant Alfalfa Interference and Management in Sugar Beet.**
Sushmita Sharma Koirala^{1*}, Laura Rodriguez¹, Albert Adjesiwor¹;¹University of Idaho (110)
- 10:45 AM** †**Evaluating PRE Herbicide Options with and without Glufosinate POST in Triple-stacked Herbicide-resistant Sugarbeet.**
Andrew Kniss^{1*}, Jenna Meeks¹, Nevin Lawrence², Albert Adjesiwor³, Joel Felix⁴;¹University of Wyoming, ²University of Nebraska, ³University of Idaho, ⁴Oregon State University (111)

WEDNESDAY MORNING MARCH 4

ORAL – Weeds of Range, Forestry, and Natural Areas

LOCATION: Canyon C
TIME: 9:30 AM – 10:30 AM
CHAIR: Jake Courkamp
Colorado State University
Ft. Collins, CO
CO-MODERATOR Kelly Uhing
City of Boulder Open Space and Mountain
Parks
Boulder, CO

*Presenting Author

- 9:30 AM Conifer Release Applications with 2,4-D Choline in Western U.S. Forestry.**
William Hatler^{1*}, Jodie Crose¹, Byron Sleugh¹, Craig Alford¹;¹Corteva Agriscience (112)
- 9:45 AM Herbicide Induced Vegetation Dynamics Across a Mesquite Encroachment Gradient.**
Molly Reichenborn¹, Erik Lehnhoff^{2*}, Akasha Faist³;¹Kansas State University, ²New Mexico State University, ³University of Montana (113)
- 10:00 AM Regional Assessment of PPO Inhibiting Herbicides for Resistance Management in Bareground Sites Targeting Kochia (*Bassia scoparia*), Palmer Amaranth (*Amaranthus palmeri*), and Russian Thistle (*Salsola tragus*).**
Shannon Clark^{1*}, Derek Sebastian¹, Vicki Maloney¹;¹Envu (114)
- 10:15 AM Evaluation of the Effectiveness of Pilot Programs to Control Noxious Weeds.**
Jim Sebastian^{1*};¹Boulder County Parks and Open Space (115)

WEDNESDAY MORNING MARCH 4

DISCUSSION – Basic Biology and Ecology

- LOCATION: Ventana
 TIME: 9:30 AM – 11:00 AM
 CHAIR: Albert Adjesiwor
 University of Idaho
 Kimberly, ID
 CO-MODERATOR Jenna Meeks
 University of Wyoming
 Lingle, WY

Granivory and Seed Decay for Weed Seedbank Management: have we Inherited Their Work?

WEDNESDAY MORNING MARCH 4


DISCUSSION – Weeds of Horticultural Crops

- LOCATION: Copper
 TIME: 9:30 AM – 11:00 AM
 CHAIR: Craig Alford
 Corteva Agriscience
 Indianapolis, IN
 CO-MODERATOR Aaron Becerra-Alvarez
 Oregon State University
 Corvallis, OR

Identifying Our Most Troublesome Horticultural Weeds and What Has Led to Their Establishment.

WEDNESDAY AFTERNOON MARCH 4

WSWS Awards Luncheon

LOCATION: Sabino + Pima
TIME: 11:45 AM – 1:15 PM
CHAIR: Carl Coburn
Bayer Crop Science
St. Louis, MO
MODERATOR: Nevin Lawrence
University of Nebraska
Scottsbluff, NE
 *Sponsored by Corteva Agriscience,
UPL, and Amalgamated Sugar Company*

WEDNESDAY AFTERNOON MARCH 4

ORAL – Weeds of Agronomic Crops

LOCATION: Canyon A + B
TIME: 1:30 PM – 3:00 PM
CHAIR: Kyle Roerig
Pratum Co-Op
Salem, OR
CO-MODERATOR: Clint Beiermann
University of Wyoming
Laramie, WY

*Presenting Author

- 1:30 PM Flax (*Linum usitatissimum*) Tolerance to Soil Applied Herbicides.**
Joseph Mettler^{1*}, Kirk Howatt¹, Caleb Dalley¹;¹North Dakota State University (116)
- 1:45 PM Epyrifenacil (Rapidicil®) Programs for Burndown Weed Control in No-till Corn, Soybeans, and Wheat.**
Pat Clay^{1*}, Garrison Gundy¹, Nathan Drewitz¹, Chris Meador¹, Andrew Rodstrom¹, Matt Griffin¹, Sam Noe¹;¹Valent U.S.A. (117)
- 2:00 PM Convintro™ Herbicide: A New Tool for Managing Amaranthus Species in Corn and Soybean.**
Ryan Rapp^{1*}, Carl Coburn¹, Jody Gander¹, Katilyn Price¹, Zewei Miao¹, Emily Scholting¹;¹Bayer Crop Science (118)
- 2:15 PM Evaluation of Bromoxynil Mixtures Applied with Graminicides.**
Daniel Beran^{1*}, Joe Vassios¹;¹Nufarm (119)
- 2:30 PM Exploring Herbicide Options for Narrow-leaved Blue Lupin (*Lupin angustifolius*).**

Breanne Tidemann^{1*}, Shaun Sharpe¹, Robyne Davidson², Mark Olson³, Brendan Alexander¹, Hiroshi Kubota¹; ¹Agriculture and Agri-Food Canada, ²Lakeland College, ³Private Consultant (120)

- 2:45 PM Harvesting Tall Fescue Seeds While Avoiding Annual Bluegrass (*Poa annua*).**
Clint Mattox^{1*}; ¹USDA – ARS – Forage Seed and Cereal Research Unit (121)

WEDNESDAY AFTERNOON MARCH 4

DISCUSSION – Weeds of Range, Forestry, and Natural Areas

LOCATION: Canyon C
TIME: 1:30 – 3:00 PM
CHAIR: Jake Courkamp
Colorado State University
Ft. Collins, CO
CO-MODERATOR Kelly Uhing
City of Boulder Open Space and Mountain Parks
Boulder, CO

How can Weed Scientists do Research that is more Relevant to Land Managers?

WEDNESDAY AFTERNOON MARCH 4

SYMPOSIUM – The Pacific Northwest Herbicide Resistance Initiative: An Invitation to Collaborate

LOCATION: Ventana
TIME: 1:30 PM – 3:00 PM
ORGANIZERS: Olivia Landau
USDA-ARS
Albert Adjesiwor
University of Idaho
Nick Bergmann
Washington State University

- 1:30 PM PNWHRI Origins, Inception, and Objectives.**
Ian Burke^{1*}; ¹North Carolina State University (122)
- 1:45 PM Herbicide Resistance Surveys and Using Light for Weed Control.**
Joan Campbell^{1*}; ¹University of Idaho (123)
- 2:00 PM Tools for Herbicide Resistance Characterization.**
Olivia Landau^{1*}; ¹USDA-ARS (124)

- 2:15 PM Utilizing Germination Ecology as a Tool for Resistance Management.**
Albert Adjesiwor^{1*}; ¹University of Idaho (125)
- 2:30 PM Integrating Tillage into No-till Systems to Mitigate Herbicide Resistance.**
Judit Barroso^{1*}, Nicole Durfee², Fernando Oreja³, Stewart Wuest², Vhuthu Ndou¹; ¹Oregon State University, ²USDA-ARS, ³Clemson University (126)
- 2:45 PM Herbicide Resistance in Grass Weed Species in Oregon Cropping Systems.**
Victor Ribeiro^{1*}; ¹Oregon State University (127)

WEDNESDAY AFTERNOON MARCH 4

ORAL – Teaching and Outreach

LOCATION: Copper
 TIME: 1:30 PM – 2:15 PM
 CHAIR: Sandra McDonald
 Mountain West Pest
 Ft. Collins, CO
 CO-MODERATOR Liberty Galvin
 Oklahoma State University
 Stillwater, OK

***Presenting Author**

- 1:30 PM Surveying the State: Evaluating Remotely Sensed Estimates of Rangeland Vegetation Across Wyoming.**
Chloe Mattilio^{1*}, Jaycie Arndt¹, Brian Mealor¹; ¹University of Wyoming (128)
- 1:45 PM The Label Game: Learning Contents of Herbicide Labels.**
Jeanne Falk Jones^{1*}, Sarah Lancaster¹; ¹Kansas State University (129)
- 2:00 PM Coordinated Stinknet (*Oncosiphon pilulifer*) Control in Southern Arizona.**
Kelsey Landreville^{1*}, Noah DeFino^{1*}, Amanda Aguilar^{1*}; ¹Pima County Conservation Lands & Resources (130)

WEDNESDAY AFTERNOON MARCH 4

DISCUSSION – Teaching and Outreach

LOCATION: Copper
TIME: 2:15 PM – 3:00 PM
CHAIR: Sandra McDonald
Mountain West Pest
Ft. Collins, CO
CO-MODERATOR Liberty Galvin
Oklahoma State University
Stillwater, OK

If Artificial Intelligence were a Plant would it be Desirable or Invasive?

WEDNESDAY AFTERNOON MARCH 4

Break

LOCATION: Foyer
TIME: 3:00 PM – 3:30 PM
▪ *Sponsored by UPL*

WEDNESDAY AFTERNOON MARCH 4

ORAL – Weeds of Agronomic Crops

LOCATION: Canyon A + B
TIME: 3:30 PM to 4:45 PM
CHAIR: Kyle Roerig
Pratum Co-Op
Salem, OR
CO-MODERATOR Clint Beiermann
University of Wyoming
Laramie, WY

***Presenting Author**

- 3:30 PM** **Corrections in Adjuvant Use for Optimizing Herbicide Activity.**
Richard Zollinger^{1*}, Kirk Howatt², Greg Armel¹; ¹AMVAC Chemical Company, ²North Dakota State University (131)
- 3:45 PM** **Glufosinate Application Rates, Time of Day, and Adjuvants for 24-hour Autonomous Spot Spraying in Grass Seed Production.**
Kyle Roerig^{1*}; ¹Pratum Co-op (132)
- 4:00 PM** **The Utility of Glufosinate for Weed Management in the Western US.**
Philip Westra^{1*}; ¹Colorado State University (133)

4:15 PM Stale Seedbed and Cover Crop Techniques in Alfalfa Establishment.

Clint Beiermann^{1*}, Albert Adjesiwor²; ¹University of Wyoming, ²University of Idaho (134)

4:30 PM A Historical Ecology Approach to Smooth Scouring Rush (*Equisetum laevigatum*) Management.

Nick Bergmann^{1*}, Joaquin Casanova¹; ¹Washington State University (135)

WEDNESDAY AFTERNOON MARCH 4

Council for Agricultural Science and Technology:
Discussion

LOCATION: Canyon C
TIME: 3:30 PM – 4:45 PM
MODERATORS Greg Dahl and Matt Baur
Integrated Management of Fire-Adapted Invasive Plants that Change Wildfire Regimes. Greg Dahl and Matt Baur

WEDNESDAY AFTERNOON MARCH 4

SYMPOSIUM – Panel Discussion: Transdisciplinary Collaboration to Improve Herbicide Resistance Management.

LOCATION: Ventana
TIME: 3:30 PM – 4:45 PM
MODERATOR: University of Idaho
Nick Bergmann
Washington State University
PANELISTS: Nick Bergmann, A Human Geographer's Perspective, Washington State University
Doug Finkelnburg, Cropping System Extension Educator's Perspective, University of Idaho
Pat Hatzenbuehler, An Agricultural Economist's Perspective, University of Idaho
Pete Berry, An Early-Career Weed Scientist's Perspective, Oregon State University
Ian Burke, A Mid-Career Weed Scientist's Perspective, North Carolina State University

WEDNESDAY AFTERNOON MARCH 4

What's New in Industry?

LOCATION: Canyon A + B
TIME: 5:00 PM – 6:15 PM
MODERATOR: Charlie Hicks
Bayer Crop Science
Ft. Collins, CO


WEDNESDAY AFTERNOON MARCH 4

Student Night Out

TIME: 6:15 PM

THURSDAY MORNING MARCH 5

WSWS Business Breakfast and Student Awards

LOCATION: Sabino + Pima
TIME: 6:30 AM – 9:00 AM
CHAIR: Carl Coburn
Bayer Crop Science
St. Louis, MO
MODERATOR: Nevin Lawrence
University of Nebraska
Scottsbluff, NE
 *Sponsored by BASF, Jill Schroeder
and Phil Banks*

THURSDAY MORNING MARCH 5

ORAL – Weeds of Agronomic Crops

LOCATION: Canyon A + B
TIME: 9:15 AM to 10:15 AM
CHAIR: Kyle Roerig
Pratum Co-Op
Salem, OR
CO-MODERATOR: Clint Beiermann
University of Wyoming
Laramie, WY

***Presenting Author**

- 9:15 AM** **Performance of Deep Learning Models for Palmer Amaranth (*Amaranthus palmeri*) Detection in Grain Sorghum in No-till Dryland Production Systems of Western Kansas.**
Jeremie Kouame^{1*}, Augustine Obour¹, Anita Dille¹, John Holman¹; ¹Kansas State University (136)
- 9:30 AM** **Remote Sensing-based Weed Counts and Growth Characterization Across Wheat Varieties.**
Pete Berry^{1*}, Andrew Branka¹; ¹Oregon State University (137)
- 9:45 AM** **LiDAR and Multispectral Sensing to Quantify Herbicide Phytotoxicity and Recovery in Tall Fescue.**
Pete Berry¹, Andrew Branka^{1*}; ¹Oregon State University (138)
- 10:00 AM** **Post-emergence Herbicide Options for Palmer Amaranth Control in Arizona Cotton Systems.**
Avik Mukherjee¹, Bhupinder Singh¹, Randy Norton¹; ¹University of Arizona (139)

THURSDAY MORNING MARCH 5

DISCUSSION – Weeds of Agronomic Crops

- LOCATION: Canyon A + B
TIME: 10:15 AM to 11:00 AM
CHAIR: Kyle Roerig
 Pratum Co-Op
 Salem, OR
CO-MODERATOR Clint Beiermann
 University of Wyoming
 Laramie, WY

Contract Research — Opportunities, Challenges, and Strategies for Success

THURSDAY AFTERNOON MARCH 5

WSWS Board of Directors Meeting

- LOCATION: Boardroom
TIME: 12:00 PM – 2:00 PM
CHAIR: Nevin Lawrence
 University of Nebraska
 Scottsbluff, NE
 Nevin Lawrence

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WSWS PAST PRESIDENTS

1938	H. L. Spence, Jr.	1987	John O. Evans
1940	G. R. Hyslop	1988	Larry W. Mitich
1941	C. L. Corkins	1989	Donn C. Thill
1942	W. W. Robbins	1990	Sheldon E. Blank
1944	E. Hutchings	1991	Peter K. Fay
1945	Lee M. Burge	1992	Paul J. Ogg
1946	B. E. Kuhns	1993	Stephen D. Miller
1947	H. E. Morris	1994	Doug K. Ryerson
1948	Virgil H. Freed	1995	Tom D. Whitson
1949	Bruce J. Thornton	1996	Gus Foster
1950	E. W. Whitman	1997	Charlotte V. Eberlein
1952	W. W. Robbins	1998	Barbra Mullin
1954	Clarence I. Seely	1999	Rodney G. Lym
1956	Walter S. Ball	2000	Jeffrey M. Tichota
1958	H. Wolfe	2001	Don Morishita
1960	Richard A. Fosse	2002	Robert Parker
1962	William R. Furtick	2003	Jill Schroeder
1963	P. Eugene Heikes	2004	Gilbert Cook
1965	Jesse M. Hodgson	2005	Phil Stahlman
1967	Louis A. Jensen	2006	Phil Banks
1968	S. Strew	2007	Kassim Al-Khatib
1969	K. C. Hamilton	2008	Ron Crockett
1970	Harold P. Alley	2009	Dan Ball
1971	Kenneth W. Dunster	2010	Jesse Richardson
1972	Arnold P. Appleby	2011	Joe DiTomaso
1973	David E. Bayer	2012	Vanelle Peterson
1974	D. Burgoyne	2013	Kai Umeda
1975	Gary A. Lee	2014	Roger Gast
1976	William L. Anliker	2015	Drew Lyon
1977	Clyde L. Elmore	2016	Joe Yenish
1978	Lowell S. Jordon	2017	Kirk Howatt
1979	Richard D. Comes	2018	Monte Anderson
1980	Larry C. Burrill	2019	Andrew Kniss
1981	L.E. "Jack" Warren	2020	Pat Clay
1982	Alex G. Ogg, Jr.	2021	Corey Ransom
1983	J. Wayne Whitworth	2022	Sandra McDonald
1984	Gary Massey	2023	Joel Felix
1985	E. Stanley Heathman	2024	Curtis Rainbolt
1986	Harvey D. Tripple	2025	Tim Prather

HONORARY MEMBERS

1976	Dick Beeler
1978	Dale W. Bohmont
1982	R. Phillip Upchurch
1983	Virgil H. Freed
1984	Warren C. Shaw
1987	Norman B. Akesson
1988	Logan A. Norris
1989	Gary A. Lee
1990	Earl Spurrier
1992	Bruce Ames
1993	Jerry Caulder
1994	Will D. Carpenter
1995	K. James Fornstrom
1997	F. Dan Hess
2001	Darrell Hanavan
2002	Senator Larry Craig – Idaho
2003	Roy Nishimoto
2004	Doug Schmale
2006	Wanda Graves
2007	Rob Hedberg
2008	Robert Zemetra
2009	Tom Brokaw
2010	Harry Cline
2011	A. G. Kawamura
2014	David Armstrong
2020	William Price
2021	Michael Walsh
2022	Hugh Beckie
2023	Daniel Kunkel

WSWS FELLOWS

1968	Robert B. Balcom	1993	Paul J. Ogg
	Walter S. Ball		Peter K. Fay
	Alden S. Crafts	1994	Sheldon E. Blank
	F.L. Timmons		Gus J. Foster
	D.C. Tingey	1995	Stephen D. Miller
1969	Lambert C. Erickson		John T. Schlesselman
	Jesse M. Hodgson	1996	Don Colbert
1970	Lee M. Burge		Robert Parker
	Bruce Thornton	1997	Steven A. Dewey
1971	Virgil H. Freed		Mike Newton
	W.A. Harvey	1998	Doug K. Ryerson
1972	H. Fred Arle		Tom D. Whitson
	Boysie E. Day	1998	Doug K. Ryerson
1973	Harold P. Alley		Tom D. Whitson
	K.C. Hamilton	1999	Charlotte V. Eberlein
1974	William R. Furtick		John E. Orr
	Oliver A. Leonard	2000	Rodney G. Lym
1975	Richard A. Fosse		Frank L. Young
	Clarence I. Seely	2001	Barbra Mullin
1976	Arnold P. Appleby		Jill Schroeder
1977	J. LaMar Anderson	2002	Jeff Tichota
	Arthur H. Lange		Philip Westra
1978	David E. Bayer	2003	Vanelle Peterson
	Kenneth W. Dunster		Carol Mallory-Smith
1979	Louis A. Jensen	2004	Don Morishita
	Gary A. Lee		Phil Banks
1980	W.L. Anliker	2005	Nelroy Jackson
1981	P. Eugene Heikes		Roland Shirman
	J. Wayne Whitworth	2006	Celestine Duncan
1982	Bert L. Bohmont		Joan Campbell
	Lowell S. Jordan	2007	Bill Cobb
1983	Richard D. Comes		Phil Stahlman
	Clyde L. Elmore	2008	K. George Beck
1984	Larry C. Burrill		Rick Boydston
1985	L.E. "Jack" Warren	2009	Kassim Al-Khatib
1986	Dwight V. Peabody		Scott Nissen
	Robert L. Zimdahl	2010	Tracy Sterling
1987	Alex G. Ogg, Jr.		Rick Arnold
	Jean H. Dawson	2011	Daniel A. Ball
1988	Harvey D. Tripple		Roger Gast
	E. Stan Heathman	2012	Jodie Holt
1989	John O. Evans		Lars Anderson
	W.B. "Jim" McHenry	2013	Tim Miller
1990	Harry S. Agamalian		Tom Lanini
	Bart A. Brinkman	2014	Robert Stougaard
1991	Larry W. Mitich		Robert Norris
	Edward E. Schweizer	2015	Pete Forster
1992	Donald C. Thill		Gilbert Cook
	Harold M. Kempen	2016	Jesse Richardson
			Joseph DiTomaso

WSWS FELLOWS (Continued...)

2017	Ralph Whitesides	2022	Richard Zollinger
	Ed Peachey	2023	Bradley D. Hanson
2018	Phillip Munger		Corey V. Ransom
	Kai Umeda	2024	Sandra McDonald
2019	Joe Yenish		Stott Howard
	Drew Lyon	2025	Pat Clay
2020	Traci Rauch		Stephen M. Schraer
	Monte Anderson		
2021	Carl Libbey		
	Charlie Hicks		
	Andrew Kniss		

OUTSTANDING WEED SCIENTISTS

1989	Jean H. Dawson	2009	Carol Mallory-Smith
1990	Arnold P. Appleby		Pete Forster
1991	Stephen D. Miller		Alan Helm [‡]
	Harvey D. Tripple	2010	Drew Lyon
1992	Alex G. Ogg, Jr.		Ian Burke [‡]
	Kenneth W. Dunster	2011	Monte D. Anderson
1993	Edward E. Schweizer		Bradley D. Hanson [‡]
	Sheldon E. Blank	2012	Brett Oemichen
1994	Larry C. Burrill		Andrew Kniss [‡]
1995	Larry W. Mitich	2013	Mary Halstvedt
	Paul J. Ogg		Jane Mangold [‡]
1996	Donald C. Thill	2014	Charlie Hicks
	Neal R. Hageman	2015	Brian Meador [‡]
1997	Jeff Tichota	2016	Prashant Jha [‡]
	Harry S. Agamalian	2017	Erik Lehnhoff [‡]
1998	Donald R. Colbert	2018	Rick Boydston
	Clyde L. Elmore		Brian Schutte [‡]
1999	Gus J. Foster	2019	Don Morishita
	Philip Westra		Bill Cobb
2000	Bart Brinkman		Todd Gaines [‡]
	K. George Beck	2020	Tim Harrington
2001	John E. Orr		Marty Schraer
	Phillip W. Stahlman		Vipan Kumar [‡]
2002	Doug Ryerson	2021	Prashant Jha
	Tom Whitson		Nevin Lawrence [‡]
2003	Frank Young	2022	Charles Geddes [‡]
2004	Ron P. Crockett	2023	Breanne Tideman [‡]
	Joe DiTomaso		Byron Sleugh
	Jim Vandecoeveering [‡]	2024	Albert Adjesiwor [‡]
2005	Kassim Al-Khatib		Derek Sebastian [‡]
	Kelly Luff		Andrew Kniss
2006	Rick Arnold		Greg Dahl
2007	John Fenderson	2025	Marcelo Motetti [‡]
	Rod Lym		Kyle Roerig [‡]
2008	Robert G. Wilson		Ian Burke
	Leo Charvat		Will Hatler
	Pat Clay [‡]		

[‡]Early Career

OUTSTANDING ACHIEVEMENT AWARDS

2003	Bill Brewster	Professional Staff
2005	Guy Kyser	Professional Staff
	Eric Lane	Weed Manager
2006	Ed Peachy	Professional Staff
2007	Jim Freeman	Weed Manager
	Carl Libbey	Professional Staff
2008	Lars Baker	Weed Manager
	Lori Howlett	Professional Staff
2009	April Fletcher	Weed Manager
	Gary Willoughby	Professional Staff
2010	Cheryl Fiore	Professional Staff
2011	Robert Higgins	Professional Staff
2012	James Sebastian	Professional Staff
	Jerry Asher	Weed Manager
2013	Joan Campbell	Professional Staff
	Tim D'Amato	Weed Manager
2014	Ed Davis	Professional Staff
	Rita Beard	Weed Manager
2015	Brent Beutler	Professional Staff
2020	Steve Sauer	Weed Manager
2022	Julie Kraft	Weed Manager
2023	Beth Fowers	Weed Manager
2024	Cody Beckley	Professional Staff
	Joe Swanson	Weed Manager
2025	Lisa Jones	Professional Staff
	Seth Flanigan	Weed Manager

Presidential Award of Merit

1994	Rodney G. Lym
1995	John E. Orr
1996	Steven A. Dewey
1997	Jill Schroeder
1999	Celestine Duncan
2000	Gus Foster
2001	Jack Schlesselman
2002	Tom Whitson
2003	Nelroy Jackson
2004	Joan Campbell
2005	Tony White
2006	Janet Clark
2007	Tim Miller
2009	Mike Edwards
2010	Phil Motooka
2011	Kai Umeda
2012	Tim Miller
2013	Phil Banks
2014	Carl Libbey
2015	Carol Mallory-Smith
2016	Roland Schirman
2017	Phil Stahlman
2018	Roger Gast
2019	Sandra K. McDonald
2020	Marty Schraer
2021	Elizabeth Mosqueda
2022	Vanelle Peterson
	Mithila Jugulam
	Todd Neel
	Dennis Scott
	Mirella Ortiz
2023	Charlie Hicks
2024	Tracy Rauch
2025	André Lucas Simões Araujo

PRESIDENTIAL RECOGNITION OF SERVICE

2024	Vanelle Peterson
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PROCEEDINGS EDITORS 1990-2021

1990 – 1997	Rodney Lym
1998 – 2000	Kathy Christianson
2001	Joan Campbell & Donn Thill
2002 – 2003	Joan Campbell
2004 – 2010	Joan Campbell & Traci Rauch
2011 – 2017	Bill McCloskey
2018 – current	Carl Libby

NEWSLETTER EDITORS 2002-2021

2002 – 2003	Don Morishita
2004 – 2006	Pat Clay
2007 – 2011	Cheryl Fiore
2011 – 2013	Cheryl Fiore and Carl Libby
2013 to present	Carl Libby

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1939-1953	Walter Ball	Secretary/ Treasurer
1954-1955	W.A. Harvey	Secretary/ Treasurer
1956-1957	W.C. Robocker	Secretary/ Treasurer
1958-1959	W.R. Furtick	Secretary/ Treasurer
1960-1961	Eugene Heikes	Secretary/ Treasurer
1962-1963	Edward Boles	Secretary/ Treasurer
1964-1966	Edward Boles	Business Manager
1967-1989	LaMar Anderson	Treasurer/ Business Manager
1990-2006	Wanda Graves	Treasurer / Business Manager
2007-2017	Phil Banks	Treasurer / Business Manager
2017-2018	Tara Steinke	Treasurer / Business Manager
2018-2019	Kala Travis	Treasurer / Business Manager
2019-current	Eric Gustafson	Business Manager*
2020-2022	Phil Banks	Treasurer
2023-current	Ryan Rapp	Treasurer

* A separate position for Treasurer on the Board of Directors was created in 2020

WSWS Committees 2025-2026

Board contact *italicized*. (Year to rotate off committee in parenthesis)

<p>Awards <i>President</i> Drew Lyon (2026) Cody Creech, Chair (2027) Curtis Rainbolt (2028) Weston Maughan, Student Rep (2026)</p>	<p>Legislative <i>WSSA Representative</i> Lisa Rew (2026) Clint Beiermann (2027) Lee Van Wychen, Exofficio</p>
<p>Fellows and Honorary Membership <i>Past President</i> Carol Mallory Smith (2026) Andrew Kniss, Chair (2027) Brad Hanson (2028)</p>	<p>Local Arrangements <i>President-Elect</i> Kai Umeda (2026) Pat Clay (2028)</p>
<p>Finance <i>Member-at-Large Public</i> Ryan Rapp , Chair (2026) (Treasurer) Cody Creech (2026) Joesph Mettler (2027)</p>	<p>Necrology <i>Secretary</i> Earl Creech (2026) Aaron Becerra-Alvarez (2027) Erik Lehnoff (2028)</p>
<p>Herbicide Resistant Plants <i>Member-at-Large Private</i> Rui Lui (2026) Franck Dayan, Chair (2027) Sarah Ohadi (2028)</p>	<p>Nominations <i>Past President</i> Caleb Dalley (2026) Breanne Tideman (2027) Corey Ransom (2028)</p>
<p>Program <i>President-Elect</i> Nevin Lawrence (2026) Beth Fowers (2026) Loverreet Shergill (2026)</p>	<p>Poster <i>President-Elect</i> Shannon Clark (2026) Marcelo Moretti (2027) Ben Westrich (2028)</p>
<p>Publications <i>President-Elect</i> Carl Libbey, Proceedings & Newsletter Eric Gustafson, Website Editor</p>	<p>Public Relations <i>Ed. & Reg. Section Chair</i> Gino Graziano (2026) Thomas Getts (2027) Albert Adjesiwor (2028)</p>
<p>Student Paper Judging <i>President-Elect</i> Jake Courcamp (2026) Judit Barroso (2027) Jason Adamas (2028) Weston Maughan, Student Rep (2026)</p>	<p>Site Selection <i>Past President</i> Craig Alford (2026) Jesse Richardson (2027) Bryon Sleugh (2028)</p>
<p>Sustaining Membership <i>Past President</i> Ben Westrich (2026) Jenna Meeks (2027)</p>	<p>Diversity and Inclusion Lisa Jones, Chair (2026) Anil Shrestha (2027) Alber Adjesiwor (2028) Members: Andre Lucas Simoes Araujo, Andrew Kniss, and Sandra McDonald</p>
<p>Ad-Hoc Committees Invasive Species Lisa Jones, Chair (2026); Members: Beth Fowers, Bob Finley, Chloe Mattilio, Dan Tekiela, Shannon Clark, Jane Mangold, Jaycie Arndt, Jodie Crose, Will Hatler, Derek Sebastian, and Mirella Ortiz</p>	

THANK YOU!

The WSWS members thank the Sustaining Members of the WSWS for their support. We would also like to thank the industry sponsors listed below for providing refreshments for the retiree reception and meeting breaks and for hosting the graduate student, and business breakfasts. Please thank the sustaining members and sponsors for their generosity and support of the society. The Program and Local Arrangements Committees would like to thank **Marty Schraer** for making the arrangements for the sponsored activities.

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