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**71st Meeting**

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**WESTERN  
SOCIETY  
OF  
WEED SCIENCE**

**March 12-15, 2018**

**Hyatt Regency Orange County  
Garden Grove, California**



**WESTERN SOCIETY OF WEED SCIENCE  
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2017-2018**

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Clint Beiermann (Chair-Elect)  
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## **Welcome to Garden Grove, California!**

*Welcome to the 71st annual WSWS meeting in Garden Grove, California. The Program Committee, Local Arrangements Committee, and the staff of the Hyatt Regency have worked together to arrange what should be a great meeting. We hope you enjoy the meeting, take the opportunity to catch up with old friends, make some new friends, and come away with renewed energy and new ideas. The Program and Local Arrangements Committees wish everyone a successful and productive meeting.*

### **LOCAL ARRANGEMENTS COMMITTEE MEMBERS**

**Travis Bean, Chair**  
**Scott Cook**  
**Sandra McDonald**



Student  
Presentation



Breakfast








Break



Reception

**WSWS 2018 PROGRAM AT A GLANCE**

<b>Tuesday, March 13</b>			
 <b>Poster Session 7:45 – 9:15 am</b> <b>Authors of Odd Numbered Posters Present Royal A&amp;B</b>			
<b>General Session 9:40 – 11:45 am Royal Ballroom (C, D, E, F)</b>			
<b>Student Luncheon 12:00 – 1:00 pm Valencia, S. Tower</b>			
Royal A&B	Royal C	Royal D&F	Royal E
Poster Room Open  7:30 am to 5:00 pm	Weeds of Agronomic Crops  1:30 pm to 5:00 pm	Basic Biology and Ecology  1:45 pm to 4:30 pm	Weeds of Range and Natural Areas  1:30 pm to 5:00 pm
 <b>Student Reception 5:00 – 6:30 pm Valencia, South Tower</b>			
<b>Wednesday, March 14</b>			
 <b>Poster Session 7:45 - 9:15 am</b> <b>Authors of Even Numbered Posters Present Royal A&amp;B</b>			
Royal A&B	Royal C	Royal D&F	Royal E
Poster Room Open  7:30 am to 5:00 pm	Weeds of Agronomic Crops  9:45 am to 11:45 am	Basic Biology and Ecology Discussion  9:45 am to 11:15 am	Weeds of Range and Natural Areas  9:45 am to 11:15 am
<b>WSWS Awards Luncheon 11:45 am - 1:30 pm</b> <b>Pool Area – North Tower</b>			
Royal A&B	Royal C	Royal D&F	Royal E
Poster Room Open  7:30 am to 5:00 pm	Weeds of Agronomic Crops  1:45 pm to 3:15 pm	Weeds of Horticultural Crops Discussion  1:45 pm to 3:15 pm	Teaching and Technology Transfer  1:45 pm to 2:45 pm
 <b>BREAK – 3:15 pm to 3:30 pm</b>			
<b><u>Please remove posters by 5:00 pm</u></b>	<b><u>Symposium:</u></b> <i>Local Lessons from the 2017 Herbicide Resistance Regional Listening Sessions</i> 3:30 pm to 5:00 pm	Teaching and Technology Transfer Discussion  3:30 pm to 5:00 pm	Weeds of Horticultural Crops  3:45 pm to 5:00 pm
	<b>What's New in Industry 5:00 pm - 6:15 pm Royal C</b>		
<b>Student Night Out 6:30 pm</b>			
<b>Thursday, March 15</b>			
 <b>WSWS Business Meeting Breakfast and Student Awards</b> <b>6:30 - 9:15 am Royal A&amp;B</b>			
Royal C	Royal D&F	Royal E	
Weeds of Agronomic Crops Discussion 9:30 am to 11:00 am	Weeds of Range, Forest and Natural Areas Discussion 9:30 am to 11:00 am	Weeds of Horticultural Crops  9:30 am to 11:00 am	

**Hyatt Regency Orange County  
11999 Harbor Boulevard  
Garden Grove, CA 92840  
714-750-1234**

**Floor Plan**



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## WSWS SPECIAL EVENTS – MONDAY MARCH 12

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<b>8:00 am to 5:00 pm</b>	<b>Board of Directors Meeting</b> Valencia, South Tower (2 <sup>nd</sup> floor)
<b>4:00 pm to 6:00 pm</b>	<b>Registration</b> Royal Registration Desk
<b>5:00 pm to 11:00 pm</b>	<b>Poster Display Set-Up</b> Royal A&B
<b>5:00 pm to 11:00 pm</b>	<b>Sustaining Members Displays</b> Royal Foyer
<b>5:00 pm to 11:00 pm</b>	<b>Presentation Practice Room</b> Imperial
<b>6:00 pm to 8:00 pm</b>	<b>WSWS Members Welcome Reception</b> Royal Ballroom (C, D, E, & F) <i>Y</i> <b>Sponsored by Monsanto, Alligare, Dow, and Arysta LifeScience</b>

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## WSWS SPECIAL EVENTS – TUESDAY MARCH 13

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<b>7:00 am to 4:00 pm</b>	<b>Registration</b> Royal Registration Desk
<b>7:00am to 11:00 pm</b>	<b>Presentation Practice Room</b> Imperial
<b>7:30 am to 5:00 pm</b>	<b>Poster Displays</b> Royal A&B
<b>7:30 am to 5:00 pm</b>	<b>Sustaining Members Displays</b> Royal Foyer
<b>7:45 am to 9:15 am</b>	<b>Poster Session – Authors of Odd Numbered Posters Present</b> Royal A&B <b>■</b> <i>Sponsored by BASF</i>
<b>8:00 am to 9:30 am</b>	<b>Spouses Welcome Breakfast</b> Valencia <b>●</b> <i>Sponsored by Syngenta</i>
<b>9:00 am to 9:30 am</b>	<b>WSWS New Member Orientation – Tara Steinke, Business Manager</b> Regal Room
<b>9:40 am to 11:45 am</b>	<b>General Session</b> Royal Ballroom (C, D, E & F)
<b>Noon to 1:00 pm</b>	<b>Student Luncheon</b> Valencia <i>Sponsored by Bayer</i>
<b>3:00 pm to 3:30 pm</b>	<b>■</b> <i>Break - Sponsored by DuPont</i>
<b>5:00 pm to 6:30 pm</b>	<b>Student Reception</b> Valencia <i>Sponsored by Syngenta</i>

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## WSWS SPECIAL EVENTS – WEDNESDAY MARCH 14

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7:00 am to 4:00 pm	<b>Registration</b> Royal Registration Desk
7:00am to 11:00 pm	<b>Presentation Practice Room</b> Imperial
7:30 am to 5:00 pm	<b>Poster Displays Remove Posters by 5:00 pm</b> Royal A&B
7:30 am to 5:00 pm	<b>Sustaining Members Displays Remove Between 5 and 7 pm</b> Royal Foyer
7:45 am to 9:15 am	<b>Poster Session – Authors of Even Numbered Posters Present</b> Royal A&B
9:00 am to 9:30 am	<b>☛ Sponsored by Helena</b> <b>WSWS New Officer Orientation – Tara Steinke, WSWS-Business Manager</b> Regal Room

**All Members are Invited to  
Learn About Duties and Responsibilities**

11:45 to 1:30 pm	<b>Awards Luncheon</b> Pool Area – North Tower
3:15 pm to 3:30 pm	<b>☛ Break – Sponsored by Gowan</b>
5:00 pm to 6:15 pm	<b>What's New in Industry</b> Royal C
6:30 pm	<b>Student Night Out</b>

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## WSWS SPECIAL EVENTS – THURSDAY MARCH 15

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6:30 am to 9:15 am	<b>WSWS Business Breakfast</b> Royal A&B <b>☛ Sponsored by BASF and WSWS</b>
8:00 am to 10:00 am	<b>Registration</b> Royal Registration Desk
11:45 am to 1:00 pm	<b>Board of Directors Wrap-Up Meeting and Summer Meeting Planning</b> Valencia

**Out-Going and Incoming Officers and Committee Chairs Requested to Attend**

# PROGRAM

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*TUESDAY MORNING MARCH 13*

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## Weeds of Range and Natural Areas

\*PRESENTER † STUDENT POSTER CONTEST

**Modeling Waterhyacinth (*Eichhornia crassipes*) Drift and Dispersal in the San Joaquin Delta Using GPS Drogues.**

John Miskella\*, John D. Madsen; USDA-ARS, Davis, CA (1)

**The Return of the Monarch Butterfly; Protection and Restoration of Milkweed Habitat.**

Jim Sebastian\*<sup>1</sup>, Steve Sauer<sup>2</sup>, Derek J. Sebastian<sup>3</sup>, Jim Daniel<sup>4</sup>, Harold Quicke<sup>5</sup>;  
<sup>1</sup>Boulder County Open Space, Longmont, CO, <sup>2</sup>Longmont, CO, <sup>3</sup>Bayer, Fort Collins, CO, <sup>4</sup>Daniel Ag Consulting, Keenesburg, CO, <sup>5</sup>Bayer, Windsor, CO (2)

**Large Scale Control of Invasive Weeds and Response of Native Species to Esplanade 200SC Tank Mixes.**

Jim Sebastian\*<sup>1</sup>, Steve Sauer<sup>2</sup>, Derek J. Sebastian<sup>3</sup>, Shannon L. Clark<sup>4</sup>, Harold Quicke<sup>5</sup>; <sup>1</sup>Boulder County Open Space, Longmont, CO, <sup>2</sup>Longmont, CO, <sup>3</sup>Bayer, Fort Collins, CO, <sup>4</sup>Colorado State University, Fort Collins, CO, <sup>5</sup>Bayer, Windsor, CO (3)

**Integrating Herbicide or Mowing with Biological Control for Improved Tamarisk Control.**

Erik A. Lehnhoff\*, Leeland Murray, Brian J. Schutte; New Mexico State University, Las Cruces, NM (4)

**Treatment Life and Economic Comparisons of Brush Management Applications.**

Case R. Medlin\*<sup>1</sup>, Wayne Hanselka<sup>2</sup>, Allan McGinty<sup>3</sup>, Robert Lyons<sup>4</sup>, Megan Clayton<sup>5</sup>, William Thompson<sup>6</sup>; <sup>1</sup>Bayer, Paradise, TX, <sup>2</sup>Texas A&M AgriLife Extension (Emeritus), Corpus Christi, TX, <sup>3</sup>Texas A&M AgriLife Extension (Emeritus), San Angelo, TX, <sup>4</sup>Texas A&M AgriLife Extension, Uvalde, TX, <sup>5</sup>Texas A&M AgriLife Extension, Corpus Christi, TX, <sup>6</sup>Texas A&M AgriLife Extension, San Angelo, TX (5)

**Reduced-Rate Chemicals Provide Improved Control of Waterhyacinth in the Sacramento-San Joaquin Delta.**

Guy B. Kyser\*<sup>1</sup>, John D. Madsen<sup>2</sup>, John Miskella<sup>2</sup>; <sup>1</sup>University of California, Davis, Davis, CA, <sup>2</sup>USDA-ARS, Davis, CA (6)

**†Management of *Ventenata dubia* in the Pacific**

**Northwest.** Lindsay E. Koby\*<sup>1</sup>, Tim Prather<sup>2</sup>, Ian C. Burke<sup>1</sup>;  
<sup>1</sup>Washington State University, Pullman, WA, <sup>2</sup>University of Idaho, Moscow, ID (7)



**Control of Medusahead in the Intermountain Region of California.** Tom Getts\*<sup>1</sup>, Harold Quicke<sup>2</sup>, Robert Wilson<sup>3</sup>;  
<sup>1</sup>University of California Cooperative Extension, Susanville, CA, <sup>2</sup>Bayer, Windsor, CO, <sup>3</sup>University of California, Tulelake, CA (8)

**Invasive Annual Grass Control and Perennial Grass Response with Residual Herbicides in Utah.** Corey V. Ransom\*, Heather E. Olsen; Utah State University, Logan, UT (9)

**Evaluating the Efficacy of Four Graminicides on *Bromus tectorum* and *Bromus japonicus*.** Emily Pierson-Metier<sup>1</sup>, Erik A. Lehnhoff<sup>2</sup>, Jane Mangold<sup>1</sup>, Matthew J. Rinella<sup>3</sup>, Lisa J. Rew\*<sup>1</sup>; <sup>1</sup>Montana State University, Bozeman, MT, <sup>2</sup>New Mexico State University, Las Cruces, NM, <sup>3</sup>USDA-ARS, Miles City, MT (10)

### Weeds of Horticultural Crops

\*PRESENTER † STUDENT POSTER CONTEST

**Current Weed Management Practices and Future Weed Control Needs: A Survey of Washington Wine Grape Growers.** Lynn M. Sosnoskie\*<sup>1</sup>, Ian C. Burke<sup>2</sup>; <sup>1</sup>Washington State University, Wenatchee, WA, <sup>2</sup>Washington State University, Pullman, WA (11)

**Stale Seedbeds for Summer Annual Weeds in Chile Pepper.** Adriana Sanchez, Brian J. Schutte\*, Leslie Beck, O. John Idowu, James Libbin; New Mexico State University, Las Cruces, NM (12)

**Organic Herbicide Efficacy in Apples.** Lynn M. Sosnoskie\*<sup>1</sup>, Ian C. Burke<sup>2</sup>; <sup>1</sup>Washington State University, Wenatchee, WA, <sup>2</sup>Washington State University, Pullman, WA (13)

†**Comparison of Solarization and Biosolarization for Weed Control in a Tree Seedling Nursery in Western Oregon.** Nami Wada\*, Jennifer Parke, Pete A. Berry, Lucas Kopecky Bobadilla, Carol Mallory-Smith; Oregon State University, Corvallis, OR (14)

**Field Bindweed Response to Preemergence Herbicides in Highbush Blueberries.** Marcelo L. Moretti\*, Larissa Larocca de Souza, Ed Peachey; Oregon State University, Corvallis, OR (15)

†**Control of Green Suckers with Herbicides in Hazelnut .** Larissa Larocca de Souza\*, Marcelo L. Moretti; Oregon State University, Corvallis, OR (16)

†**Effects of Saline Water on Saflufenacil and Rimsulfuron Partitioning in California Orchard Soils.** Katie Martin\*, Brad Hanson; University of California, Davis, Davis, CA (17)

**Strawponic for *Phelipanche aegyptiaca* Management in No-Till Potato.** Mustapha A. Haidar\*<sup>1</sup>, Ali M. Msheik<sup>2</sup>; <sup>1</sup>American University of Beirut, Beirut, Lebanon, <sup>2</sup>AUB, Beirut, Lebanon (18)

**Sharppoint Fluvellin Management in Horticulture Perennial Crops of Western Oregon.** Larissa Larocca de Souza, Marcelo L. Moretti\*; Oregon State University, Corvallis, OR (19)

**Injury Symptoms and Detection of Bispyribac-sodium in Walnut Leaves Following Simulated Drift.** Mariano F. Galla\*<sup>1</sup>, Kassim Al-Khatib<sup>2</sup>, Brad Hanson<sup>2</sup>; <sup>1</sup>University of California Cooperative Extension, Orland, CA, <sup>2</sup>University of California, Davis, Davis, CA (20)

**Cover Crop Tolerance to Herbicides: Implication for Interseeding.** Ed Peachey\*; Oregon State University, Corvallis, OR (21)

### Weeds of Agronomic Crops

\*PRESENTER † STUDENT POSTER CONTEST

**Influence of Shade and Drought on the Control of Junglerice (*Echinochloa colona*) with Postemergence Herbicides.** Anil Shrestha\*, Ryan Cox, Mala To, Jorge Angeles; California State University, Fresno, CA

**Effect of Intensified Wheat-Based Cropping Systems on Weed Infestation .** Carolina San Martín\*<sup>1</sup>, Dan Long<sup>2</sup>, Judit Barroso<sup>1</sup>; <sup>1</sup>Oregon State University, Adams, OR, <sup>2</sup>USDA-ARS, Adams, OR (22)

**Rattail Fescue and Downy Brome Control in Winter Wheat with Mesosulfuron/Thiencarbazone.** Traci Rauch\*, Joan Campbell; University of Idaho, Moscow, ID (23)

**†Cross Resistance Patterns in Multiple ALS-Resistant Downy Brome (*Bromus tectorum* L.) Accessions from Washington.** Jeanette A. Rodriguez\*, Amber L. Hauvermale, Rachel J. Zuger, Ian C. Burke; Washington State University, Pullman, WA (24)

**Herbicide Systems with Pyroxasulfone for Management of Downy Brome in Winter Wheat .** Rachel J. Zuger\*, Amber L. Hauvermale, Tara L. Burke, Henry C. Wetzel, Ian C. Burke; Washington State University, Pullman, WA (25)

**Fall and Spring Timings for Preseed Applications of Halaxifen Plus Florasulam for Spring Cereals.** Joe Yenish\*<sup>1</sup>, Patti Prasifka<sup>2</sup>, Roger E. Gast<sup>3</sup>; <sup>1</sup>Dow AgroSciences, Billings, MT, <sup>2</sup>Dow AgroSciences, West Fargo, ND, <sup>3</sup>Dow AgroSciences, Indianapolis, IN (26)

†**Winter Wheat and Palmer Amaranth Competition: Seed Germination in Response to Competitor and Light.** Osama S. Saleh\*; University of Wyoming, Laramie, WY (27)

**Broad-Spectrum Postemergence Weed Control with Pyroxulam in California Cereals.** Joe Armstrong\*<sup>1</sup>, Byron B. Sleugh<sup>2</sup>, Roger E. Gast<sup>2</sup>; <sup>1</sup>Dow AgroSciences, Fresno, CA, <sup>2</sup>Dow AgroSciences, Indianapolis, IN (28)

**Barley Tolerance to Soil-Applied Herbicides.** Brian Jenks\*<sup>1</sup>, Mike H. Ostlie<sup>2</sup>, Bryan Hanson<sup>3</sup>; <sup>1</sup>North Dakota State University, Minot, ND, <sup>2</sup>North Dakota State University, Carrington, ND, <sup>3</sup>North Dakota State University, Langdon, ND (29)

**New Flucarbazone Formulation Evaluation in Spring Wheat.** Joseph E. Mettler\*, Kirk A. Howatt; North Dakota State University, Fargo, ND (30)

**Bicyclopyrone Plus Bromoxynil Controls Mayweed Chamomile in Wheat.** Henry C. Wetzel\*, Drew J. Lyon; Washington State University, Pullman, WA (31)

**Rescuegrass Management in Oklahoma Winter Wheat.** Misha Manuchehri\*<sup>1</sup>, Gary Strickland<sup>2</sup>, Kail Cole<sup>1</sup>, Jodie Crose<sup>1</sup>; <sup>1</sup>Oklahoma State University, Stillwater, OK, <sup>2</sup>Oklahoma State University, Altus, OK (32)

**Harvest Weed Seed Control and Herbicide Resistance Survey of Winter Annual Grasses in Colorado.** Neeta Soni\*<sup>1</sup>, Scott J. Nissen<sup>1</sup>, Phil Westra<sup>1</sup>, Michael Walsh<sup>2</sup>, Jason K. Norsworthy<sup>3</sup>, Todd Gaines<sup>1</sup>; <sup>1</sup>Colorado State University, Fort Collins, CO, <sup>2</sup>University of Sydney, Sydney, Australia, <sup>3</sup>University of Arkansas, Fayetteville, AR (33)

**Horseweed Management in Oklahoma Winter Wheat.** Jodie Crose\*<sup>1</sup>, Misha Manuchehri<sup>1</sup>, Kail Cole<sup>1</sup>, Robert Rupp<sup>2</sup>, Brad Lindenmayer<sup>3</sup>, D. Cummings<sup>4</sup>; <sup>1</sup>Oklahoma State University, Stillwater, OK, <sup>2</sup>FMC, Edmond, OK, <sup>3</sup>Syngenta, Perkins, OK, <sup>4</sup>Dow AgroSciences, Bonham, TX (34)

**The Development and Management of ACCase Resistant Italian Ryegrass in Oklahoma.** Grace Ogden\*<sup>1</sup>, Misha Manuchehri<sup>2</sup>, Adam Hixson<sup>3</sup>, Kail Cole<sup>2</sup>, Jodie Crose<sup>2</sup>; <sup>1</sup>Stillwater, OK, <sup>2</sup>Oklahoma State University, Stillwater, OK, <sup>3</sup>BASF, Lubbock, TX (35)

**Effects of Synthetic Auxin Herbicides on Seed Production and Seed Viability of Herbicide Resistant Populations of Italian Ryegrass (*Lolium perenne* ssp. *multiflorum*) in Western Oregon.** Lucas Kopecky Bobadilla\*<sup>1</sup>, Felipe Augusto Stella<sup>2</sup>, Dan W. Curtis<sup>1</sup>, Andy G. Hulting<sup>1</sup>, Carol Mallory-Smith<sup>1</sup>; <sup>1</sup>Oregon State University, Corvallis, OR, <sup>2</sup>University of Sao Paulo, Piracicaba, Brazil (36)

**Grass Weed Control in Kentucky Bluegrass and Perennial Ryegrass.** Amber L. Hauvermale\*, Rachel J. Zuger, Ian C. Burke; Washington State University, Pullman, WA (37)

**Using a Leaf Tissue Test for Glyphosate and Dicamba Drift Injury to Field Peas and Dry Beans.** Mike H. Ostlie\*<sup>1</sup>, Gregory J. Endres<sup>1</sup>, Brian Jenks<sup>2</sup>, Harlene Hatterman-Valenti<sup>3</sup>, Andrew Robinson<sup>4</sup>, Rich Zollinger<sup>3</sup>; <sup>1</sup>North Dakota State University, Carrington, ND, <sup>2</sup>North Dakota State University, Minot, ND, <sup>3</sup>North Dakota State University, Fargo, ND, <sup>4</sup>North Dakota State University / University of Minnesota, Fargo, ND (38)

**†Rescue Treatment Options for Glyphosate-Resistant Palmer Amaranth in Sugarbeet.** Clint W. Beiermann\*<sup>1</sup>, Nevin C. Lawrence<sup>2</sup>, Stevan Z. Knezevic<sup>3</sup>, Amit J. Jhala<sup>1</sup>, Cody Creech<sup>4</sup>; <sup>1</sup>University of Nebraska-Lincoln, Lincoln, NE, <sup>2</sup>University of Nebraska-Lincoln, Scottsbluff, NE, <sup>3</sup>University of Nebraska-Lincoln, Concord, NE, <sup>4</sup>University of Nebraska, Scottsbluff, NE (39)

**Variable Tolerance of Common Lambsquarters to Glyphosate in Corn-Sugarbeet Fields.** Prashant Jha\*<sup>1</sup>, Vipin Kumar<sup>2</sup>, Don W. Morishita<sup>3</sup>, Ramawatar Yadav<sup>1</sup>, Anjani J<sup>1</sup>, Charlemagne Alexander A. Lim<sup>1</sup>; <sup>1</sup>Montana State University, Huntley, MT, <sup>2</sup>Kansas State University, Hays, KS, <sup>3</sup>University of Idaho, Kimberly, ID (40)

**Herbicide Options for Weed Management in Dormant-Seeded Safflower.** Earl Creech\*<sup>1</sup>, Corey V. Ransom<sup>1</sup>, Mike Pace<sup>2</sup>, Clark Israelsen<sup>1</sup>; <sup>1</sup>Utah State University, Logan, UT, <sup>2</sup>Utah State University, Brigham City, UT (41)

**Evaluation of Herbicide Options for Kochia Control in Western North Dakota.** Daniel Gumarães Abe\*<sup>1</sup>, Caleb Dalley; North Dakota State University, Hettinger, ND (42)

**Variable Response of Kochia Populations to Dicamba and Fluroxypyr.** Vipin Kumar\*<sup>1</sup>, Phil Stahlman<sup>1</sup>, Randy Currie<sup>2</sup>, Ryan Engel<sup>3</sup>, Grant Boyer<sup>1</sup>; <sup>1</sup>Kansas State University, Hays, KS, <sup>2</sup>Kansas State University, Garden City, KS, <sup>3</sup>Fort Hays State University, Hays, KS (43)

**†Management of Glyphosate- and Dicamba-Resistant Kochia (*Kochia scoparia*) in Roundup Ready<sup>®</sup> Xtend Soybean.** Ramawatar Yadav\*<sup>1</sup>, Prashant Jha<sup>1</sup>, Vipin Kumar<sup>2</sup>, Shane Leland<sup>1</sup>; <sup>1</sup>Montana State University, Huntley, MT, <sup>2</sup>Kansas State University, Hays, KS (44)

**Desert Cotton Sensitivity to 2,4-D and Dicamba.** William B. McCloskey\*<sup>1</sup>, Randy Norton<sup>2</sup>; <sup>1</sup>University of Arizona, Tucson, AZ, <sup>2</sup>University of Arizona, Safford, AZ (45)

**Effect of Crop Rotation, Tillage and Herbicide Diversity on R:S Ratio of Kochia Seed Bank Over Four Years.** Charlemagne Alexander A. Lim\*<sup>1</sup>, Elizabeth G. Mosqueda<sup>2</sup>, Prashant Jha<sup>1</sup>, Andrew Kniss<sup>2</sup>, Gustavo M. Sbatella<sup>3</sup>, Nevin C. Lawrence<sup>4</sup>, Shane Leland<sup>1</sup>, Anjani J<sup>1</sup>; <sup>1</sup>Montana State University, Huntley, MT, <sup>2</sup>University of Wyoming, Laramie, WY, <sup>3</sup>University of Wyoming, Powell, WY, <sup>4</sup>University of Nebraska-Lincoln, Scottsbluff, NE (46)

**Effects of Selected Adjuvants on Weed Control with Glufosinate-ammonium in Colorado and South Dakota.**

Jim Daniel\*<sup>1</sup>, Eric Westra<sup>2</sup>, Phil Westra<sup>2</sup>, Paul Johnson<sup>3</sup>;  
<sup>1</sup>Daniel Ag Consulting, Keenesburg, CO, <sup>2</sup>Colorado State University, Fort Collins, CO, <sup>3</sup>South Dakota State University, Brookings, SD (47)

**Teaching and Technology Transfer**

**\*PRESENTER**

**Kansas Mesonet Real-Time Temperature Inversion**

**Decision Tool.** Christopher Redmond, Dallas Peterson, Curtis R. Thompson\*; Kansas State University, Manhattan, KS (48)

**2017 EPA Tour of Western Kansas.** Dallas Peterson<sup>1</sup>, Phil

Stahlman<sup>2</sup>, Curtis R. Thompson\*<sup>1</sup>, Anita Dille<sup>1</sup>, Mithila Jugulam<sup>1</sup>, Randy Currie<sup>3</sup>, Michael Barrett<sup>4</sup>, Jill Schroeder<sup>5</sup>, Lee Van Wychen<sup>6</sup>; <sup>1</sup>Kansas State University, Manhattan, KS, <sup>2</sup>Kansas State University, Hays, KS, <sup>3</sup>Kansas State University, Garden City, KS, <sup>4</sup>University of Kentucky, Lexington, KY, <sup>5</sup>USDA Office of Pest Management Policy, Washington, DC, <sup>6</sup>WSSA - Director of Science Policy, Alexandria, VA (49)

**Initiation of the North American Kochia Working Group.**

Todd Gaines\*<sup>1</sup>, Phil Westra<sup>1</sup>, Roger E. Gast<sup>2</sup>, Rory Degenhardt<sup>3</sup>; <sup>1</sup>Colorado State University, Fort Collins, CO, <sup>2</sup>Dow AgroSciences, Indianapolis, IN, <sup>3</sup>Dow AgroSciences, Edmonton, AB (50)

**Using a Structured Decision Making Tool to Update the**

**Utah Noxious Weed List and Guide.** Heather E. Olsen\*, Corey V. Ransom, Ralph E. Whitesides; Utah State University, Logan, UT (51)

**Basic Biology and Ecology**

**\*PRESENTER † STUDENT POSTER CONTEST**

**Bindweed Root and Shoot Development and the Potential to Disrupt Dormancy and Improve Control.** Jeremy R.

Thompson\*<sup>1</sup>, Lynn M. Sosnoskie<sup>2</sup>, Ian C. Burke<sup>1</sup>;  
<sup>1</sup>Washington State University, Pullman, WA, <sup>2</sup>Washington State University, Wenatchee, WA (52)

**Winter Wheat: Kin Recognition Under Controlled**

**Conditions.** Osama S. Saleh\*; University of Wyoming, Laramie, WY (53)

**Performance of New High Loaded 2,4-D and Dicamba Acid Herbicide Formulations with Built In Drift Reduction Technology.** .Eric Westra\*<sup>1</sup>, Jim Daniel<sup>2</sup>, Phil Westra<sup>1</sup>, Scott Parrish<sup>3</sup>; <sup>1</sup>Colorado State University, Fort Collins, CO, <sup>2</sup>Daniel Ag Consulting, Keenesburg, CO, <sup>3</sup>AgraSyst, Spokane, WA (54)

**Herbicide Resistance in Spring Wheat.** Tara L. Burke\*, Amber L. Hauvermale, Caleb C. Squires, Arron Carter, Ian C. Burke; Washington State University, Pullman, WA (55)

**Ecological Management of Kochia in Irrigated Western Cropping Systems: Approaches and Path Forward.** Prashant Jha\*<sup>1</sup>, Andrew Kniss<sup>2</sup>, Nevin C. Lawrence<sup>3</sup>, Gustavo M. Sbatella<sup>4</sup>, Ramawatar Yadav<sup>1</sup>, Charlemagne Alexander A. Lim<sup>1</sup>; <sup>1</sup>Montana State University, Huntley, MT, <sup>2</sup>University of Wyoming, Laramie, WY, <sup>3</sup>University of Nebraska-Lincoln, Scottsbluff, NE, <sup>4</sup>University of Wyoming, Powell, WY (56)

**†Effect of Integrated Kochia (*Kochia scoparia*) Management in a Four Year Rotation Study.** Elizabeth G. Mosqueda\*<sup>1</sup>, Andrew Kniss<sup>1</sup>, Gustavo M. Sbatella<sup>2</sup>, Nevin C. Lawrence<sup>3</sup>, Prashant Jha<sup>4</sup>, David A. Claypool<sup>1</sup>; <sup>1</sup>University of Wyoming, Laramie, WY, <sup>2</sup>University of Wyoming, Powell, WY, <sup>3</sup>University of Nebraska-Lincoln, Scottsbluff, NE, <sup>4</sup>Montana State University, Huntley, MT (57)

## Undergraduate Posters

\*PRESENTER † STUDENT POSTER CONTEST

**†Confirmation of ALS-Inhibitor Resistance in Wild Buckwheat (*Polygonum convolvulus* L. Polco) from Kansas.** Abigail Friesen\*, Dallas Peterson, Mithila Jugulam; Kansas State University, Manhattan, KS (58)

**†Relative Competitive Abilities of Bulbous Bluegrass and Downy Brome with Perennial Grasses.** Jordan L. Skovgard\*<sup>1</sup>, Beth Fowers<sup>1</sup>, Brian A. Mealar<sup>2</sup>; <sup>1</sup>University of Wyoming, Laramie, WY, <sup>2</sup>University of Wyoming, Sheridan, WY (59)

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**TUESDAY MORNING MARCH 13**

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**New WSWS Member Orientation**

LOCATION: Regal  
TIME: 9:00 AM - 9:30 AM

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**TUESDAY MORNING MARCH 13**

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**General Session**

LOCATION: Royal Ballroom  
TIME: 9:40 AM - 11:45 AM  
MODERATOR: Andrew Kniss  
University of Wyoming  
Laramie, WY

**\*SPEAKER**

- 9:40 Introduction and Announcements.** Andrew Kniss\*; University of Wyoming, Laramie, WY (60)
- 9:50 Presidential Address.** Monte D. Anderson\*; Bayer CropScience, Spangle, WA (61)
- 10:10 DC Update.** Lee Van Wychen\*; WSSA - Director of Science Policy, Alexandria, VA (62)
- 10:30 Land Acknowledgement & Contemporary Indigenous Issues in Science.** Lydia Jennings\*; University of Arizona, Tucson, AZ (63) 1
- 11:00 Growing Disneyland.** David Marley\*; California State University, Fullerton, Fullerton, CA (64)
- 11:45 Adjourn**

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**TUESDAY AFTERNOON MARCH 13**

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**Weeds of Range and Natural Areas**

LOCATION: Royal E  
TIME: 1:30 PM - 5:00 PM  
CHAIR & MODERATOR: Shawna Bautista  
US Forest Service  
Portland, OR  
CHAIR-ELECT: Derek Sebastian  
Bayer  
Fort Collins, CO

\*SPEAKER † STUDENT CONTEST

- 1:30 The Science of Miconia Management in the East Maui Watershed: A Brief History and Bioeconomic Projection of the Future .** James Leary\*; University of Hawaii at Manoa, Kula, HI (65)
- 1:45 Water Temperature as an Environmental Driver of Waterhyacinth (*Eichhornia crassipes*) Growth.** John D. Madsen\*; USDA-ARS, Davis, CA (66)
- 2:00 Developing a Detection Method for New Invaders at the Landscape Scale.** Lisa C. Jones\*, Tim Prather; University of Idaho, Moscow, ID (67)
- 2:15 Scotch Broom Germination and Growth Responses to Red and Far-Red Light: Implications to Logging Debris Effects After Forest Harvesting.** Timothy B. Harrington\*; USDA Forest Service, Olympia, WA (68)
- 2:30 A Plant Pathologist Looks At Rangeland Ecology Pre and Post Wildfire.** William T. Cobb\*; Cobb Consulting Services, Kennewick, WA (69)
- 2:45 Herbicide Application Using a Pulse Sprayer for Invasive Weed Control in Pasture and Rangeland.** Rod Lym\*; North Dakota State University, Fargo, ND (70)
- 3:00 Break**
- 3:30 Treatment Life of Mesquite Herbicides; Beyond Two Years After Application.** Case R. Medlin\*<sup>1</sup>, Allan McGinty<sup>2</sup>, Wayne Hanselka<sup>3</sup>, Robert Lyons<sup>4</sup>, Megan Clayton<sup>5</sup>, William Thompson<sup>6</sup>; <sup>1</sup>Bayer, Paradise, TX, <sup>2</sup>Texas A&M AgriLife Extension (Emeritus), San Angelo, TX, <sup>3</sup>Texas A&M AgriLife Extension (Emeritus), Corpus Christi, TX, <sup>4</sup>Texas A&M AgriLife Extension, Uvalde, TX, <sup>5</sup>Texas A&M AgriLife Extension, Corpus Christi, TX, <sup>6</sup>Texas A&M AgriLife Extension, San Angelo, TX (71)



- 3:45 Herbicide Residues in Unexpected Places: Does Aminopyralid Leak from Treated Plants After Basal Bark Application?** Gino Graziano\*<sup>1</sup>, Steven S. Seefeldt<sup>2</sup>, Patrick Tomco<sup>3</sup>, Mingchu Zhang<sup>4</sup>;  
<sup>1</sup>University of Alaska Fairbanks, Anchorage, AK,  
<sup>2</sup>Washington State University, Mount Vernon, WA,  
<sup>3</sup>University of Alaska Anchorage, Anchorage, AK,  
<sup>4</sup>University of Alaska Fairbanks, Fairbanks, AK (72)
- 4:00 A Comprehensive Summary of Long-Term Invasive Winter Annual Grass Control with Esplanade 200 SC.** Derek J. Sebastian\*<sup>1</sup>, Harold Quicke<sup>2</sup>, Shannon L. Clark<sup>3</sup>, Scott J. Nissen<sup>3</sup>; <sup>1</sup>Bayer, Fort Collins, CO, <sup>2</sup>Bayer, Windsor, CO, <sup>3</sup>Colorado State University, Fort Collins, CO (73)
- 4:15 Does a Dry Herbicide Delivery System Provide Increased Downy Brome Control Beneath a Shrub Canopy?** Clay W. Wood\*<sup>1</sup>, Brian A. Mealor<sup>2</sup>; <sup>1</sup>University of Wyoming, Laramie, WY,  
<sup>2</sup>University of Wyoming, Sheridan, WY (74)
- 4:30 Use of the Bioherbicide D7 to Manage Cheatgrass Invasions.** Dan R. Tekiel\*<sup>\*</sup>; University of Wyoming, Laramie, WY (75)
- 4:45 Herbicide Susceptibility of Garden Loosestrife (*Lysimachia vulgaris*).** Timothy W. Miller\*<sup>\*</sup>; Washington State University, Mt Vernon, WA (76)

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**TUESDAY AFTERNOON MARCH 13**

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**Weeds of Agronomic Crops**

LOCATION: Royal C  
 TIME: 1:30 PM - 5:00 PM  
 CHAIR & MODERATOR Rand Merchant  
 BASF  
 Colorado Springs, CO  
 CHAIR-ELECT: Vipin Kumar  
 Kansas State University  
 Hays, KS

**\*SPEAKER † STUDENT CONTEST**

- 1:30 New Broad-Spectrum Pyroxsulam + Fluroxypyr Herbicide for Grass and Broadleaf Weed Control in Wheat.** Mike Moechnig\*<sup>1</sup>, Patti Prasifka<sup>2</sup>, Joe Yenish<sup>3</sup>, Roger E. Gast<sup>4</sup>; <sup>1</sup>Dow AgroSciences, Toronto, SD, <sup>2</sup>Dow AgroSciences, West Fargo, ND, <sup>3</sup>Dow AgroSciences, Billings, MT, <sup>4</sup>Dow AgroSciences, Indianapolis, IN (77)

- 1:45 Utility of Arylex™ Active Herbicides for Control of Emerging Weed Threats in Western Canadian Cereal Crops.** Rory Degenhardt\*<sup>1</sup>, Jamshid Ashigh<sup>2</sup>, Len T. Juras<sup>3</sup>, Laura Smith<sup>4</sup>, Andrew MacRae<sup>4</sup>;  
<sup>1</sup>Dow AgroSciences, Edmonton, AB, <sup>2</sup>Dow AgroSciences, London, ON, <sup>3</sup>Dow AgroSciences, Saskatoon, SK, <sup>4</sup>Dow AgroSciences, Winnipeg, MB (78)
- 2:00 AccuDrop™ - A New Drift Control and Deposition Adjuvant.** Ryan Edwards\*<sup>1</sup>, Greg Dahl<sup>1</sup>, Thomas A. Hayden<sup>2</sup>, Jo A. Gillilan<sup>3</sup>, Eric Spandl<sup>4</sup>, Joe V. Gednalske<sup>1</sup>, Ray L. Pigati<sup>5</sup>; <sup>1</sup>WinField United, River Falls, WI, <sup>2</sup>WinField United, Owensboro, KY, <sup>3</sup>WinField United, Springfield, TN, <sup>4</sup>WinField United, St Paul, MN, <sup>5</sup>WinField United, Shoreview, MN (79)
- 2:15 HSMOC Adjuvants - Commercial Brands or Make Your Own?** Rich Zollinger\*, Jason W. Adams, Devin A. Wirth; North Dakota State University, Fargo, ND (80)
- 2:30 Use of Extender Adjuvants with Soil Applied Herbicides.** Jason W. Adams\*, Rich Zollinger; North Dakota State University, Fargo, ND (81)
- 2:45 Prolonging the Activation Window for Preemergence Herbicides with an At-Cracking Treatment of Paraquat in Chickpeas.** Rachel J. Zuger\*, Amber L. Hauvermale, Jeanette A. Rodriguez, Lindsay E. Koby, Henry C. Wetzel, Ian C. Burke; Washington State University, Pullman, WA (82)
- 3:00 Break**
- 3:30 Potential Fit for New Products for Broadleaf Weed Management in Grasses Grown for Seed.** Dan W. Curtis\*, Kyle C. Roerig, Andy G. Hulting, Carol Mallory-Smith; Oregon State University, Corvallis, OR (83)
- 3:45 Pre and Early Postemergent Control of Dock spp. with Flumetsulam and 2,4-DB in Clover spp. Grown for seed.** Kyle C. Roerig\*, Andy G. Hulting, Dan W. Curtis, Carol Mallory-Smith; Oregon State University, Corvallis, OR (84)
- 4:00 Commercial Launch of the CoAXium Wheat Production System.** Chad Shelton\*<sup>1</sup>, Todd Gaines<sup>2</sup>, Eric Westra<sup>2</sup>, Scott Haley<sup>2</sup>, Curtis M. Hildebrandt<sup>2</sup>, Phil Westra<sup>2</sup>; <sup>1</sup>Albaugh, LLC, Rosalia, WA, <sup>2</sup>Colorado State University, Fort Collins, CO (85)
- 4:15 Application Methods to Improve Herbicide Spray Deposition in Wheat Residue.** Cody Creech\*, Luana Simao; University of Nebraska, Scottsbluff, NE (86)

**4:30 Controlling Glyphosate Resistant Kochia in Wheat Stubble.** Curtis R. Thompson\*<sup>1</sup>, Alan J. Schlegel<sup>2</sup>, Dallas Peterson<sup>1</sup>; <sup>1</sup>Kansas State University, Manhattan, KS, <sup>2</sup>Kansas State University, Tribune, KS (87)

**4:45 Effect of Fallow Management on Weed Infestation.** Carolina San Martín\*<sup>1</sup>, Dan Long<sup>2</sup>, Judit Barroso<sup>1</sup>; <sup>1</sup>Oregon State University, Adams, OR, <sup>2</sup>USDA-ARS, Adams, OR (88)

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**TUESDAY AFTERNOON MARCH 13**

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**Basic Biology and Ecology**

LOCATION: Royal D&F  
TIME: 1:45 PM - 4:30 PM  
CHAIR & Moderator: Nevin Lawrence  
UNIVERSITY: University of Nebraska-Lincoln  
SCOTTSBUFF, NE  
CHAIR-ELECT: Lynn Sosnoskie  
WASHINGTON STATE UNIVERSITY  
WENATCHEE, WA

**\*SPEAKER † STUDENT CONTEST**

**1:45 †Phylogenetic Analysis of Native and Invasive *Phragmites australis* Haplotypes in Colorado .** Neeta Soni\*, Eric Patterson, Todd Gaines; Colorado State University, Fort Collins, CO (89)

**2:00 †Shade Avoidance in Sugarbeet: Tragedy of the Commons?** Albert T. Adjesiwor\*, Andrew Kniss; University of Wyoming, Laramie, WY (90)

**2:15 †Effect of Water Potential on Germination of Kochia (*Kochia scoparia*) Accessions from the US Great Plains.** Ramawatar Yadav\*<sup>1</sup>, Prashant Jha<sup>1</sup>, Andrew Kniss<sup>2</sup>, Gustavo M. Sbatella<sup>3</sup>, Nevin C. Lawrence<sup>4</sup>; <sup>1</sup>Montana State University, Huntley, MT, <sup>2</sup>University of Wyoming, Laramie, WY, <sup>3</sup>University of Wyoming, Powell, WY, <sup>4</sup>University of Nebraska-Lincoln, Scottsbluff, NE (91)

**2:30 †Effect of Crop Canopy and Herbicide Treatment on Kochia (*Kochia scoparia*) Density and Seed Production.** Elizabeth G. Mosqueda\*<sup>1</sup>, Andrew Kniss<sup>1</sup>, Gustavo M. Sbatella<sup>2</sup>, Nevin C. Lawrence<sup>3</sup>, Prashant Jha<sup>4</sup>, David A. Claypool<sup>1</sup>; <sup>1</sup>University of Wyoming, Laramie, WY, <sup>2</sup>University of Wyoming, Powell, WY, <sup>3</sup>University of Nebraska-Lincoln, Scottsbluff, NE, <sup>4</sup>Montana State University, Huntley, MT (92)

- 2:45 †Why is Inhibition of Glutamine Synthetase Toxic to Plants?** Hudson K. Takano\*, Phil Westra, Franck E. Dayan; Colorado State University, Fort Collins, CO (93)
- 3:00 Break**
- 3:30 Mechanism of Resistance to Glyphosate in Annual Bluegrass from California Perennial Crops.** Caio Augusto Brunharo\*, Sarah Morran, Brad Hanson; University of California, Davis, Davis, CA (94)
- 3:45 †First Case of Imazamox-Resistance Jointed goatgrass (*Aegilops cylindrica* Host.) in the Pacific Northwest.** Jeanette A. Rodriguez\*, Amber L. Hauvermale, Rachel J. Zuger, Caleb C. Squires, Lindsay E. Koby, Arron Carter, Ian C. Burke; Washington State University, Pullman, WA (95)
- 4:00 †Surfactant Effects on Absorption and Translocation of Metsulfuron in Smooth Scouringrush (*Equisetum laevigatum*).** Lindsay E. Koby\*, Rachel J. Zuger, Ian C. Burke, Drew J. Lyon; Washington State University, Pullman, WA (96)
- 4:15 Herbicide Resistant Weed Research Portfolio at Colorado State University.** Phil Westra\*, Todd Gaines, Eric Patterson, Franck E. Dayan; Colorado State University, Fort Collins, CO (97)

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**WEDNESDAY MORNING MARCH 14**

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**New WSWs Officer Orientation**

LOCATION: Regal  
TIME: 9:00 AM - 9:30 AM

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**WEDNESDAY MORNING MARCH 14**

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**Weeds of Range and Natural Areas**

LOCATION: Royal E  
TIME: 9:45 AM - 11:30 AM  
CHAIR & Shawna Bautista  
MODERATOR: US Forest Service  
Portland, OR  
CHAIR-ELECT: Derek Sebastian  
Bayer  
Fort Collins, CO

\*SPEAKER † STUDENT CONTEST

- 9:45 Indaziflam Effects on Seed Production and Viability for Various Rangeland Grasses.** Beth Fowers\*<sup>1</sup>, Brian A. Mealor<sup>2</sup>; <sup>1</sup>University of Wyoming, Laramie, WY, <sup>2</sup>University of Wyoming, Sheridan, WY (98)
- 10:00 †Using a New Natural Areas Herbicide to Control Winter Annual Grasses and Establish Native Species.** Shannon L. Clark\*<sup>1</sup>, Derek J. Sebastian<sup>2</sup>, Scott J. Nissen<sup>1</sup>; <sup>1</sup>Colorado State University, Fort Collins, CO, <sup>2</sup>Bayer, Fort Collins, CO (99)
- 10:15 Medusahead and Ventenata in the Northern Great Plains Ecoregion: Invasion History and Management Efforts.** Brian A. Mealor\*<sup>1</sup>, Beth Fowers<sup>2</sup>, Luke Sander<sup>3</sup>; <sup>1</sup>University of Wyoming, Sheridan, WY, <sup>2</sup>University of Wyoming, Laramie, WY, <sup>3</sup>Sheridan County Weed and Pest, Sheridan, WY (100)
- 10:30 †Needles in a Haystack: Identifying Thresholds in Annual Grass-Dominated Rangelands.** Clay W. Wood\*<sup>1</sup>, Brian A. Mealor<sup>2</sup>; <sup>1</sup>University of Wyoming, Laramie, WY, <sup>2</sup>University of Wyoming, Sheridan, WY (101)

**10:45 Aminopyralid in Combination with Picloram and Fluroxypyr for Pricklypear Control in Texas.**

James Jackson\*<sup>1</sup>, Morgan Russell<sup>2</sup>, Charles Hart<sup>3</sup>;  
<sup>1</sup>Texas A&M AgriLife Extension, Stephenville, TX,  
<sup>2</sup>Texas A&M AgriLife Extension, San Angelo, TX,  
<sup>3</sup>Dow AgroSciences, Stephenville, TX (102)

**11:00 Timing Aminopyralid Applications to Prevent Medusahead (*Taeniatherum caput-medusae* (L.) Newski) Seed Production Controls the Invader and Increases Forage Grasses .** Matthew J.

Rinella\*<sup>1</sup>, Josh S. Davy<sup>2</sup>, Guy B. Kyser<sup>3</sup>, Vanelle F. Peterson<sup>4</sup>, Fadzayi E. Mashiri<sup>5</sup>, Jeremy J. James<sup>6</sup>;  
<sup>1</sup>USDA-ARS, Miles City, MT, <sup>2</sup>University of California Cooperative Extension, Red Bluff, CA,  
<sup>3</sup>University of California, Davis, Davis, CA, <sup>4</sup>Dow AgroSciences, Ft Collins, CO, <sup>5</sup>University of California Cooperative Extension, Mariposa, CA,  
<sup>6</sup>UC Sierra Foothill Research and Extension Center, Browns Valley, CA (103)

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**WEDNESDAY MORNING MARCH 14**

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**Weeds of Agronomic Crops**

LOCATION: Royal C  
TIME: 9:45 AM - 11:45 AM  
CHAIR & MODERATOR: Rand Merchant  
CHAIR-ELECT: Vipin Kumar  
Colorado Springs, CO  
Kansas State University  
Hays, KS

**\*SPEAKER † STUDENT CONTEST**

**9:45 Are Auxinic Premixes that include Fluroxypyr Safer to Wheat?** Kirk A. Howatt\*, Joseph E. Mettler; North Dakota State University, Fargo, ND (104)

**10:00 Characterizing Putative Fluroxypyr Resistance in Kochia Scoparia.** Olivia E. Todd\*, Todd Gaines, Phil Westra, Dean Pettinga, Eric Westra; Colorado State University, Fort Collins, CO (105)

**10:15 Fluroxypyr Control of Kochia (*Kochia Scoparia*) in the North America Northern Plains from 1990 to 2014 - A Historical Perspective.** Roger E. Gast\*<sup>1</sup>, Len T. Juras<sup>2</sup>, Don Hare<sup>3</sup>, Joe Yenish<sup>4</sup>, Rory Degenhardt<sup>5</sup>; <sup>1</sup>Dow AgroSciences, Indianapolis, IN, <sup>2</sup>Dow AgroSciences, Saskatoon, SK, <sup>3</sup>Dow AgroSciences (retired), Edmonton, AB, <sup>4</sup>Dow

AgroSciences, Billings, MT, <sup>5</sup>Dow AgroSciences,  
Edmonton, AB (106)

- 10:30 Crop Tolerance and Weed Control in Direct Seeded Onion with Bicyclopyrone.** Tara L. Burke\*, Rachel J. Zuger, Amber L. Hauvermale, Lindsay E. Koby, Caleb C. Squires, Jeanette A. Rodriguez, Tim Waters, Ian C. Burke; Washington State University, Pullman, WA (107)
- 10:45 Impact of Winter Rye Cover Crop on Weed Control and Pinto Bean Production.** Gregory J. Endres\*, Mike H. Ostlie; North Dakota State University, Carrington, ND (108)
- 11:00 †Frequency and Distribution of Herbicide Resistant Biotypes of Italian Ryegrass (*Lolium perenne* ssp *multiflorum*) in the Willamette Valley of Western Oregon.** Lucas Kopecky Bobadilla\*<sup>1</sup>, Felipe Augusto Stella<sup>2</sup>, Pete A. Berry<sup>1</sup>, Andy G. Hulting<sup>1</sup>, Carol Mallory-Smith<sup>1</sup>; <sup>1</sup>Oregon State University, Corvallis, OR, <sup>2</sup>University of Sao Paulo, Piracicaba, Brazil (109)
- 11:15 The Effect of Climate Conditions on Weed Competition and Wheat Yields in the Northern Great Plains.** Tim Seipel\*<sup>1</sup>, Sue Ishaq Pelligrini<sup>2</sup>, Fabian Menalled<sup>1</sup>; <sup>1</sup>Montana State University, Bozeman, MT, <sup>2</sup>University of Oregon, Eugene, OR (110)
- 11:30 †Using an Unmanned Aerial Vehicle to Detect Herbicide Damage with a Multispectral Camera.** Pete A. Berry\*, Dan W. Curtis, Andy G. Hulting, Carol Mallory-Smith; Oregon State University, Corvallis, OR (111)

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**WEDNESDAY MORNING MARCH 14**

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**Basic Biology and Ecology**

LOCATION: Royal D&F  
TIME: 9:45 AM - 11:15 AM  
CHAIR & Moderator: Nevin Lawrence  
CHAIR-ELECT: Lynn Sosnoskie  
Washington State University  
Wenatchee, WA

**Discussion: How Will Climate Instability Impact Crop Competition, Weed Communities, and Weed Biology in the Short Term?**

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**WEDNESDAY MORNING MARCH 14**

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**Awards Luncheon**

LOCATION: North Tower Pool Area  
TIME: 11:45 AM - 1:30 PM  
MODERATOR: Monte Anderson  
Bayer CropScience  
Spangle, WA

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**WEDNESDAY AFTERNOON MARCH 14**

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**Weeds of Horticultural Crops**

LOCATION: Royal D&F  
TIME: 1:45 PM - 3:15 PM  
CHAIR & Andrew Robinson  
MODERATOR: North Dakota State University /  
University of Minnesota  
Fargo, ND  
CHAIR-ELECT: Marcelo Moretti  
Oregon State University  
Corvallis, OR

**Discussion: *Environmental Factors and Herbicide  
Performance***



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**WEDNESDAY AFTERNOON MARCH 14**

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**Weeds of Agronomic Crops**

LOCATION: Royal C  
TIME: 1:45 PM - 3:15 PM  
CHAIR & MODERATOR: Rand Merchant  
BASF  
Colorado Springs, CO  
CHAIR-ELECT: Vipan Kumar  
Kansas State University  
Hays, KS

**\*SPEAKER † STUDENT CONTEST**

- 1:45 Soybean Variety Sensitivity to Dicamba.** Mike H. Ostlie\*<sup>1</sup>, Gregory J. Endres<sup>1</sup>, Kirk A. Howatt<sup>2</sup>;  
<sup>1</sup>North Dakota State University, Carrington, ND,  
<sup>2</sup>North Dakota State University, Fargo, ND (112)
- 2:00 †Effect of Seeding Rate and Herbicides on Weed Control of Dry Bean in Narrow Rows.** Don W. Morishita, Kathrin LeQuia\*; University of Idaho, Kimberly, ID (113)
- 2:15 Characterisation of Palmer amaranth Populations from Kansas with Resistance to Multiple Herbicides.** Vipan Kumar\*, Phil Stahlman, Grant Boyer; Kansas State University, Hays, KS (114)
- 2:30 †Integrating Crop Rotation and Herbicide Programs to Improve Control of Problematic Weed Species in Sugarbeet.** Clint W. Beiermann\*<sup>1</sup>, Nevin C. Lawrence<sup>2</sup>; <sup>1</sup>University of Nebraska-Lincoln, Lincoln, NE, <sup>2</sup>University of Nebraska-Lincoln, Scottsbluff, NE (115)
- 2:45 Seed Retention of Major Weed Species at Harvest in the PNW.** Judit Barrosó\*<sup>1</sup>, Carolina San Martín<sup>1</sup>, Mark E. Thorne<sup>2</sup>, Drew J. Lyon<sup>2</sup>; <sup>1</sup>Oregon State University, Adams, OR, <sup>2</sup>Washington State University, Pullman, WA (116)
- 3:00 †Brassicaceae Seed Persistence Under Different Tillage Regimes in The Willamette Valley.** Gabriel D. Flick\*, Carol Mallory-Smith; Oregon State University, Corvallis, OR (117)

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**WEDNESDAY AFTERNOON MARCH 14**

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**Teaching and Technology Transfer**

LOCATION: Royal E  
TIME: 1:45 PM - 2:45 PM  
CHAIR & MODERATOR: Dan Tekiela  
University of Wyoming  
Laramie, WY  
CHAIR-ELECT: Kirk Howatt  
North Dakota State University  
Fargo, ND

**\*SPEAKER**

- 1:45 Multi-Species Herbicide Efficacy Screens: A Tool for Teaching Herbicide Mode of Action Principles to Agronomists.** Andy G. Hulting\*, Dan W. Curtis, Kyle C. Roerig, Carol Mallory-Smith; Oregon State University, Corvallis, OR (118)
- 2:00 Wyoming Restoration Challenge: Winners, Losers, and Lessons Learned in Invasive Grass Restoration.** Brian A. Meador\*<sup>1</sup>, Beth Fowers<sup>2</sup>, Clay W. Wood<sup>2</sup>; <sup>1</sup>University of Wyoming, Sheridan, WY, <sup>2</sup>University of Wyoming, Laramie, WY (119)
- 2:15 Updates to the WSU Tree Fruit Weed Science Webpage - Weed Science Extension Outreach in the Columbia Basin.** Lynn M. Sosnoskie\*; Washington State University, Wenatchee, WA (120)
- 2:30 Turning a New Leaf: Engaging Industries in Policy Decision-Making for Prevention of Invasive Plant Introductions.** James Leary<sup>1</sup>, Chelsea Arnott\*<sup>2</sup>; <sup>1</sup>University of Hawaii at Manoa, Kula, HI, <sup>2</sup>University of Hawaii, Kaneohe, HI (121)

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**WEDNESDAY AFTERNOON MARCH 14**

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**Teaching and Technology Transfer**

LOCATION: Royal D&F  
TIME: 3:30 PM - 5:00 PM  
CHAIR & MODERATOR: Dan Tekiela  
University of Wyoming  
Laramie, WY  
CHAIR-ELCT: Kirk Howatt  
North Dakota State University  
Fargo, ND

**Discussion: Who Ya Gonna Call? Extension?**

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**WEDNESDAY AFTERNOON MARCH 14**

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**Symposium: *Local Lessons from the 2017  
Herbicide Resistance Regional Listening Sessions***

LOCATION: Royal C  
TIME: 3:30 PM - 5:00 PM  
MODERATOR: Brian Schutte  
New Mexico State University  
Las Cruces, NM

**\*SPEAKER**

- 3:30 Introduction to the Herbicide Resistance Regional Listening Sessions.** Brian J. Schutte\*; New Mexico State University, Las Cruces, NM (122)
- 3:45 Great Plains Listening Session Synopsis.** Prashant Jha\*<sup>1</sup>, Phil Stahlman<sup>2</sup>, Sandra K. McDonald<sup>3</sup>, Todd Gaines<sup>4</sup>, Andrew Kniss<sup>5</sup>, Nevin C. Lawrence<sup>6</sup>, Phil Westra<sup>4</sup>, Sarah M. Ward<sup>4</sup>, Dallas Peterson<sup>7</sup>, Randy Currie<sup>8</sup>, Stevan Z. Knezevic<sup>9</sup>, Robert Klein<sup>10</sup>;  
<sup>1</sup>Montana State University, Huntley, MT, <sup>2</sup>Kansas State University, Hays, KS, <sup>3</sup>Mountain West Pest, Fort Collins, CO, <sup>4</sup>Colorado State University, Fort Collins, CO, <sup>5</sup>University of Wyoming, Laramie, WY, <sup>6</sup>University of Nebraska-Lincoln, Scottsbluff, NE, <sup>7</sup>Kansas State University, Manhattan, KS, <sup>8</sup>Kansas State University, Garden City, KS, <sup>9</sup>University of Nebraska-Lincoln, Concord, NE, <sup>10</sup>University of Nebraska, North Platte, NE (123)

- 4:00 Southwest Listening Session Synopsis.** Brad Hanson\*; University of California, Davis, Davis, CA (124)
- 4:15 Pacific Northwest Listening Session Synopsis.** Don W. Morishita\*<sup>1</sup>, Ian C. Burke<sup>2</sup>; <sup>1</sup>University of Idaho, Kimberly, ID, <sup>2</sup>Washington State University, Pullman, WA (125)
- 4:30 Discussion.** Brian J. Schutte\*; New Mexico State University, Las Cruces, NM (126)

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**WEDNESDAY AFTERNOON MARCH 14**

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**Weeds of Horticultural Crops**

LOCATION: Royal E  
 TIME: 3:45 PM - 5:00 PM  
 CHAIR & MODERATOR: Andrew Robinson  
 North Dakota State University /  
 University of Minnesota  
 Fargo, ND  
 CHAIR-ELECT: Marcelo Moretti  
 Oregon State University  
 Corvallis, OR

\*SPEAKER † STUDENT CONTEST

- 3:45 Developing Pest Management Applications with Unmanned Aerial Systems.** James Leary<sup>1</sup>, Ken Giles\*<sup>2</sup>; <sup>1</sup>University of Hawaii at Manoa, Kula, HI, <sup>2</sup>University of California, Davis, Davis, CA (127)
- 4:00 †Soil Solarization in Oregon: The Impact of Solarization Duration and Soil Moisture on Weed Control in a Tree Seedling Nursery.** Nami Wada\*, Jennifer Parke, Pete A. Berry, Lucas Kopecky Bobadilla, Carol Mallory-Smith; Oregon State University, Corvallis, OR (128)
- 4:15 Effect of Glyphosate and Dicamba Residues in Russet Burbank Seed.** Andrew Robinson\*<sup>1</sup>, Nelson Geary<sup>2</sup>, Harlene Hatterman-Valenti<sup>2</sup>, Gary Secor<sup>2</sup>, Asunta Thompson<sup>2</sup>, Rich Zollinger<sup>2</sup>; <sup>1</sup>North Dakota State University / University of Minnesota, Fargo, ND, <sup>2</sup>North Dakota State University, Fargo, ND (129)
- 4:30 Ethalfluralin Potato Tolerance: Processor and Specialty Varieties.** Pam Hutchinson\*<sup>1</sup>, George Newberry<sup>2</sup>, Brent Beutler<sup>3</sup>; <sup>1</sup>University of Idaho, Aberdeen, ID, <sup>2</sup>Gowan Company, Boise, ID, <sup>3</sup>University of Idaho, American Falls, ID (130)

**4:45 Weed Control in Pacific Northwest Potatoes.**  
Steven S. Seefeldt\*<sup>1</sup>, Pam Hutchinson<sup>2</sup>, Timothy W. Miller<sup>3</sup>; <sup>1</sup>Washington State University, Mount Vernon, WA, <sup>2</sup>University of Idaho, Aberdeen, ID, <sup>3</sup>Washington State University, Mt Vernon, WA (131)

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***WEDNESDAY AFTERNOON MARCH 14***

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**What's New In Industry**

LOCATION: Royal C  
TIME: 5:00 PM - 6:00 PM  
MODERATOR: Charlie Hicks  
Bayer CropScience  
Fort Collins, CO

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***THURSDAY MORNING MARCH 15***

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**Business Breakfast**

LOCATION: Royal A&B  
TIME: 6:30 AM - 9:15 AM  
MODERATOR: Monte Anderson  
Bayer CropScience  
Spangle, WA

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**THURSDAY MORNING MARCH 15**

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**Weeds of Horticultural Crops**

LOCATION: Royal E  
TIME: 9:30 AM - 11:00 AM  
CHAIR: Andrew Robinson  
North Dakota State University  
/ University of Minnesota  
Fargo, ND  
CHAIR-ELECT & Marcelo Moretti  
MODERATOR: Oregon State University  
Corvallis, OR

\*SPEAKER † STUDENT CONTEST

- 9:30 Efficacy of Dormant Season PRE Herbicides for Spring/Summer Weed Control in Apples.** Lynn M. Sosnoskie\*<sup>1</sup>, Ian C. Burke<sup>2</sup>; <sup>1</sup>Washington State University, Wenatchee, WA, <sup>2</sup>Washington State University, Pullman, WA (132)
- 9:45 Weed Management in Western Pecans with Penoxsulam+Oxyfluorfen.** Jesse M. Richardson\*<sup>1</sup>, William B. McCloskey<sup>2</sup>, Richard K. Mann<sup>3</sup>; <sup>1</sup>Dow AgroSciences, Hesperia, CA, <sup>2</sup>University of Arizona, Tucson, AZ, <sup>3</sup>Dow AgroSciences, Franklin, IN (133)
- 10:00 Evaluation of Preemergence and Postemergence Herbicides for the Control of Panic Liverseedgrass (*Urochloa panicoides*) in Desert Turf.** Kai Umeda\*; University of Arizona, Phoenix, AZ (134)
- 10:15 Effect of Herbicides on Newly Transplanted Red Raspberry Plugs.** Wiharti O. Purba\*<sup>1</sup>, Steven S. Seefeldt<sup>1</sup>, Timothy W. Miller<sup>2</sup>; <sup>1</sup>Washington State University, Mount Vernon, WA, <sup>2</sup>Washington State University, Mt Vernon, WA (135)
- 10:30 Saflufenacil and Pyridate Efficacy and Tolerance in Western Mint Production.** Rick A. Boydston\*<sup>1</sup>, Robert Wilson<sup>2</sup>, Andy G. Hulting<sup>3</sup>; <sup>1</sup>USDA-ARS, Prosser, WA, <sup>2</sup>University of California, Tulelake, CA, <sup>3</sup>Oregon State University, Corvallis, OR (136)
- 10:45 Flumioxazin for Postemergence-Directed Applications in Chile Pepper.** Brian J. Schutte\*; New Mexico State University, Las Cruces, NM (137)

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**THURSDAY MORNING MARCH 15**

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**Weeds of Range, Forest, and Natural Areas**

LOCATION: Royal D&F  
TIME: 9:30 AM - 11:00 AM  
CHAIR: Shawna Bautista  
US Forest Service  
Portland, OR  
CHAIR-ELECT Derek Sebastian  
& MODERATOR: Bayer  
Fort Collins, CO  
CO-MODERATOR: Timothy Harrington  
USDA Forest Service  
Olympia, WA

**Discussion: *Implementing a Collaborative Approach to Restoring Sites Dominated by Invasive Annual Grasses***

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**THURSDAY MORNING MARCH 15**

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**Weeds of Agronomic Crops**

LOCATION: Royal C  
TIME: 9:30 AM - 11:00 AM  
CHAIR & MODERATOR: Rand Merchant  
BASF  
Colorado Springs, CO  
CHAIR-ELECT: Vipin Kumar  
Kansas State University  
Hays, KS

**Discussion: *State of Weed Resistance in the West***

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**WSWS PAST PRESIDENTS**

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

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**HONORARY MEMBERS**

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1976	Dick Beeler
1978	Dale W. Bohmont
19821	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

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**WSWS FELLOWS**

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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	1999	Charlotte V. Eberlein
1973	Harold P. Alley		John E. Orr
	K.C. Hamilton	2000	Rodney G. Lym
1974	William R. Furtick		Frank L. Young
	Oliver A. Leonard	2001	Barbra Mullin
1975	Richard A. Fosse		Jill Schroeder
	Clarence I. Seely	2002	Jeff Tichota
1976	Arnold P. Appleby		Philip Westra
1977	J. LaMar Anderson	2003	Vanelle Peterson
	Arthur H. Lange		Carol Mallory-Smith
1978	David E. Bayer	2004	Don Morishita
	Kenneth W. Dunster		Phil Banks
1979	Louis A. Jensen	2005	Nelroy Jackson
	Gary A. Lee		Roland Shirman
1980	W.L. Anliker	2006	Celestine Duncan
1981	P. Eugene Heikes		Joan Campbell
	J. Wayne Whitworth	2007	Bill Cobb
1982	Bert L. Bohmont		Phil Stahlman
	Lowell S. Jordan	2008	K. George Beck
1983	Richard D. Comes		Rick Boydston
	Clyde L. Elmore	2009	Kassim Al-Khatib
1984	Larry C. Burrill		Scott Nissen
1985	L.E. "Jack" Warren	2010	Tracy Sterling
1986	Dwight V. Peabody		Rick Arnold
	Robert L. Zimdahl	2011	Daniel A. Ball
1987	Alex G. Ogg, Jr.		Roger Gast
	Jean H. Dawson	2012	Jodie Holt
1988	Harvey D. Tripple		Lars Anderson
	E. Stan Heathman	2013	Tim Miller
1989	John O. Evans		Tom Lanini
	W.B. "Jim" McHenry	2014	Robert Stougaard
1990	Harry S. Agamalian		Robert Norris
	Bart A. Brinkman	2015	Pete Forster
1991	Larry W. Mitich		Gilbert Cook
	Edward E. Schweizer	2016	Jesse Richardson
1992	Donald C. Thill		Joseph DiTomaso
	Harold M. Kempen	2017	Ralph Whitesides
			Ed Peachey



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**OUTSTANDING WEED SCIENTISTS**

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1989	Jean H. Dawson	2004	Ron P. Crockett
1990	Arnold P. Appleby		Joe DiTomaso
1991	Stephen D. Miller		Jim Vandecoevering
	Harvey D. Tripple	2005	Kassim Al-Khatib
1992	Alex G. Ogg, Jr.		Kelly Luff
	Kenneth W. Dunster	2006	Rick Arnold
1993	Edward E. Schweizer	2007	John Fenderson
	Sheldon E. Blank		Rod Lym
1994	Larry C. Burrill	2008	Robert G. Wilson
1995	Larry W. Mitich		Leo Charvat
	Paul J. Ogg		Pat Clay
1996	Donald C. Thill	2009	Carol Mallory-Smith
	Neal R. Hageman		Pete Forster
1997	Jeff Tichota		Alan Helm <sup>‡</sup>
	Harry S. Agamalian	2010	Drew Lyon
1998	Donald R. Colbert		Ian Burke <sup>‡</sup>
	Clyde L. Elmore	2011	Monte D. Anderson
1999	Gus J. Foster		Bradley D. Hanson <sup>‡</sup>
	Philip Westra	2012	Brett Oemichen
2000	Bart Brinkman		Andrew Kniss <sup>‡</sup>
	K. George Beck	2013	Mary Halstvedt
2001	John E. Orr		Jane Mangold <sup>‡</sup>
	Phillip W. Stahlman	2014	Charlie Hicks
2002	Doug Ryerson	2015	Brian Mealor <sup>‡</sup>
	Tom Whitson	2016	Prashant Jha <sup>‡</sup>
2003	Frank Young	2017	Erik Lehnhoff <sup>‡</sup>

<sup>‡</sup>Early Career

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**OUTSTANDING ACHIEVEMENT AWARDS**

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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

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**PRESIDENTIAL AWARD OF MERIT**

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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

## WSWS Committees 2017-18

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

### Program

*President-elect*  
Andrew Kniss, Chair (2018)  
Brad Hanson (2018)  
Dirk Baker (2018)

### Local Arrangements

*President-elect*  
Scott Cook (2018)  
Travis Bean, Chair (2019)  
Sandra McDonald (2020)

### Fellows and Honorary Members

*Past President*  
Kassim Al-Khatib (2018)  
Bill Cobb, Chair (2019)  
Joan Campbell (2020)

### Poster

*President-elect*  
Jared Unverzagt (2018)  
Alan Helm, Chair (2019)  
Misha Manuchehri (2020)

### Sustaining Membership

*Past President*  
Craig Alford (2018)  
Ryan Rector, Chair (2019)  
Charlie Hicks (2020)

### Herbicide Resistant Plants

*Member-at-large private*  
Rachel Ma (2018)  
Joan Campbell, Chair (2019)  
Drew Lyon (2020)  
Tara Burke (student rep)

### Publications

*President-elect*  
Andrew Kniss, Chair  
Bill McCloskey, Proceedings  
Traci Rauch, Res Prog Report  
Tara Steinke, Website Editor  
Carl Libbey, Newsletter

### Necrology

*Secretary*  
Judith Barasso (2018)  
John Frihauf, Chair (2019)  
Harlene Hatterman-Valenti (2020)

### Finance

*Member-at-large public*  
Stephen Valenti (2018)  
Josh Adkins, Chair (2019)  
Phil Banks (2020)

### Nominating

*Past President*  
Steve Eskelsen (2018)  
Ryan Rapp, Chair (2019)  
Kai Umeda (2020)  
Kirk Howatt, Past President

### Site Selection

*President*  
Joe Yenish (2018)  
Steve Eskelsen, Chair (2019)  
Pete Forster (2020)

### Student Paper Judging

*President-elect*  
Joel Felix (2018)  
Ryan Edwards, Chair (2019)  
Ed Peachey (2020)  
Eric Patterson (student rep)

### Legislative

*WSSA Representative*  
James Leary (2018)  
Patti Prasifka, Chair (2019)  
Stephen Valenti (2020)  
Lee Van Wychen, *ex officio*

### Awards

*President*  
Roger Gast (2018)  
*Vacant*, Chair (2019)  
Prashant Jha (2020)

### Public Relations

*Ed & Reg Section Chair*  
Lynn Sosnoskie (2018)  
Travis Bean (2018)  
Kai Umeda, Chair (2019)  
Pat Clay, Co-chair (2019)  
Richard Zollinger (2020)  
Joe Armstrong (2020)

## NOTES

## NOTES

## **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, spouses, 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 Pete Forster** for making the arrangements for all of the sponsored activities.

<b>BASF Corporation</b>	<b>DuPont Crop Protection</b>
<b>Bayer CropScience</b>	<b>Monsanto Company</b>
<b>Dow AgroSciences</b>	<b>Syngenta Crop Protection</b>
<b>Alligare LLC</b>	<b>Helena Chemical Company</b>
<b>Gowan Company</b>	<b>Arysta LifeScience</b>

## **2018 WSWS Sustaining Members**

**Alligare LLC**  
**AMVAC Chemical Corp.**  
**Arysta LifeScience**  
**BASF Corporation**  
**Bayer CropScience**  
**Campbell Scientific**  
**Dow AgroSciences**  
**DuPont Crop Science**  
**FMC**  
**Gowan Company**  
**Gylling Data Management**  
**Helena Chemical Company**  
**Monsanto Company**  
**Syngenta**  
**United Phosphorus, Inc.**  
**Valent**  
**Wilbur-Ellis Company**  
**Winfield Solutions LLC**



### **FUTURE MEETING DATES AND SITES**

March 11-14, 2019 Hyatt Regency Downtown Denver Denver, CO	March 2-5, 2020 Hyatt Regency Maui Maui, HI (Joint meeting with WSSA)
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TIME	TUESDAY	WEDNESDAY	THURSDAY
6:30			WSWS Business Breakfast and Student Awards  <b>Royal A&amp;B</b>
6:45			
7:00			
7:30			
7:45	Poster Session Odd # Authors Present  <b>Royal A&amp;B</b>	Poster Session Even # Authors Present  <b>Royal A&amp;B</b>	
8:00			
8:15			
8:30			
8:45			
9:00			
9:15			
9:30	General Session  <b>Royal C-F</b>		
9:45			
10:00			
10:15			
10:30			
10:45			
11:00			
11:15			
11:30			
11:45			WSWS Awards
12:00		Luncheon <b>Pool Area</b>	
1:15		<b>North Tower</b>	
1:30			
1:45			
2:00			
2:15			
2:30			
2:45			
3:00			
3:15			
3:30			
3:45			
4:00			
4:15			
4:30			
4:45			
5:00		What's New in Industry?  <b>Royal C</b>	
5:15			
5:30			
5:45			
6:00			