
65th Meeting

**WESTERN
SOCIETY
OF
WEED SCIENCE**

March 12-15, 2012

**Peppermill Resort
Reno, Nevada**



Please bring this program with you.

**WESTERN SOCIETY OF WEED SCIENCE
OFFICERS AND BOARD OF DIRECTORS
2011-2012**

PRESIDENT: Vanelle Peterson
Dow AgroSciences, LLC
28884 South Marshall Road, Mulino, OR 97042
503-829-4933 *vfpeterson@dow.com*

PRESIDENT-ELECT: Kai Umeda
University of Arizona
4341 East Broadway, Phoenix, AZ 85040
602-827-8200 *kumeda@cals.arizona.edu*

SECRETARY: Rick Boydston
USDA-ARS
24106 N. Bunn Rd., Prosser, WA 99350
509-786-9267 *rick.boydston@ars.usda.gov*

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Dow AgroSciences, LLC
1001 Calendula Circle, Billings, MT 59105
406-690-6260 *JPYenish@dow.com*

CHAIR, EDUCATION AND REGULATORY: Tim Prather
University of Idaho
1387 Walenta, Moscow, ID 83843
208-885-9236 *tprather@uidaho.edu*

WSSA REPRESENTATIVE: Tim Miller
Washington State University
16650 State Route 536, Mt. Vernon, WA 98273
360-848-6138 *twmiller@wsu.edu*

IMMEDIATE PAST PRESIDENT: Joe DiTomaso
University of California
Department of Plant Sciences, Mail Stop 4, Davis, CA 95616
530-754-8715 *jmditomaso@ucdavis.edu*

MEMBER-AT-LARGE PUBLIC SECTOR: Bob Stougaard
MSU NW Ag Center
4570 Montana 35, Kalispell, MT 59901
406-755-4303 *rns@montana.edu*

MEMBER-AT-LARGE PRIVATE SECTOR: Pete Forster
Syngenta Crop Protection, Inc.,
35492 Weld County Road 43, Eaton, CO 80615
970-454-5478 *pete.forster@syngenta.com*

TREASURER-BUSINESS MANAGER: Phil Banks
Western Society of Weed Science
205 W. Boutz, Bldg. 4, Ste. 5, Las Cruces, NM 88005
Fax: 575-527-8853 Ph: 575-527-1888 *wsws@marathonag.com*

CHAIR-ELECT RESEARCH SECTION: Tony White
Monsanto
241 Hummingbird Lane, Hannibal, MO 63401
573-248-2909 *webmaster@wsweedscience.org*

CHAIR-ELECT EDUCATION & REGULATORY: Rich Affeldt
Agency Farms
932 SW Sunnyside Dr, Madras, OR 97741-1606
541-475-3808 *richard.affeldt@gmail.com*

CAST REPRESENTATIVE: Phil Westra
Colorado State University
112 Weed Lab, Ft. Collins, CO 80523
970-218-2344 *cows19@comcast.net*

REPRESENTATIVE FOR CONSTITUTION AND OPERATING PROCEDURES: Corey Ransom

Utah State University
4820 Old Main Hill, Logan, UT 84322
435-797-2242 *corey.ransom@usu.edu*

WEBMASTER & WEB EDITOR: Tony White
Monsanto
241 Hummingbird Lane, Hannibal, MO 63401
573-248-2909 *webmaster@wsweedscience.org*

STUDENT LIASONS:

Mike Ostlie (Chair)	Cameron Douglass (Vice-chair)
Colorado State University	Colorado State University
Ft. Collins, CO 80523	Ft. Collins, CO 80523-1179
<i>mostlie@rams.colostate.edu</i>	<i>cameron.douglass@colostate.edu</i>



Welcome To Reno, Nevada

Welcome to the 65th annual WSWS meeting in Reno, Nevada. The Program Committee, Local Arrangements Committee, and the staff of the Peppermill Resort have worked together to arrange an exceptional meeting. Enjoy the meeting, visit with friends and new acquaintances, 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

Tina Mudd, Chair
Chuck Rice
Jesse Richardson



Student
Presentation



Breakfast



Break



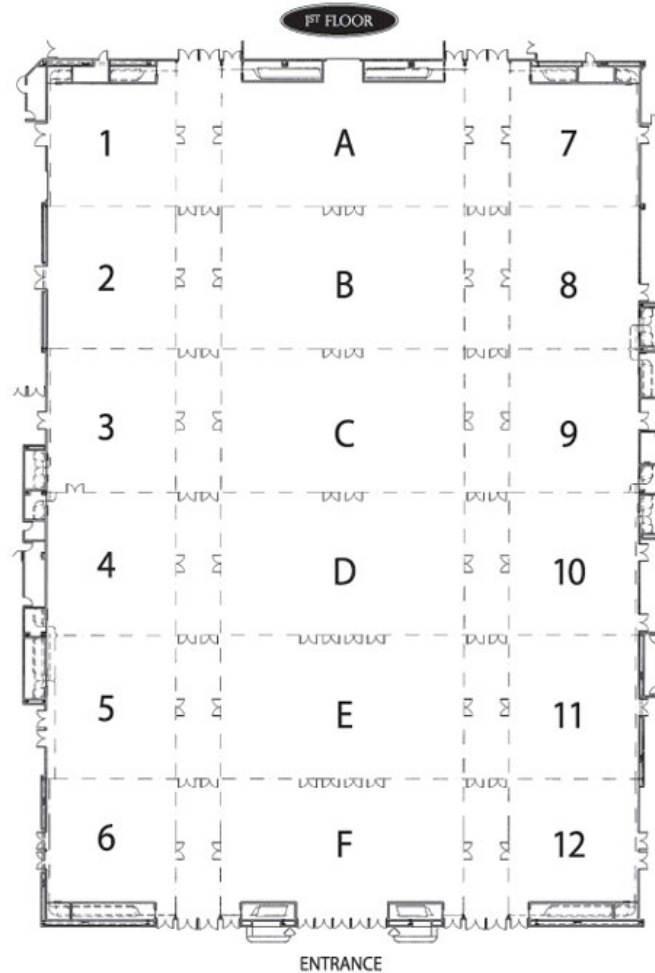
Reception

WSWS 2012 PROGRAM AT A GLANCE

Tuesday, March 13				
Poster Session 7:45 am - 9:15 am Authors of Odd # Posters Present Tuscany E & F				
General Session 9:30 am - 11:40 am Tuscany C & D				
Student Luncheon 12:00 pm – 1:00 pm Valleyview 1734				
Tuscany E & F	Tuscany 5	Tuscany 6	Tuscany 4	Tuscany 3
Poster Room Open 7:30 am to 5:00 pm	Project 1 Range & Natural Areas 1:30-5:45 Oral Papers	Project 2 Horticultural Crops 1:30-6:00 Oral Papers & Discussion Session Elect Chair	Project 3 Agronomic Crops 1:30-6:00 Oral Papers	Project 5 Basic Biology & Ecology 1:30-4:30 Oral Papers
Student Reception 5:00 – 6:30 pm Valleyview 1734				
Wednesday, March 14				
Poster Session 7:45 am - 9:15 am Authors of Even # Posters Present Tuscany E & F				
Tuscany E & F	Tuscany 5	Tuscany 4	Tuscany 3	
Poster Room Open 7:30 am to 5:00 pm	Project 1 Range & Natural Areas 9:30-11:30 Discussion Session Elect Chair	Project 3 Agronomic Crops 9:30-11:30 Discussion Session Elect Chair	Project 5 Basic Biology & Ecology 9:00-11:30 Oral Papers & Discussion Session Elect Chair	
WSWS Awards Luncheon 11:45 am - 1:30 pm Tuscany C & D				
Tuscany E & F	Tuscany 5	Tuscany 6	Tuscany 4	Tuscany 3
Poster Room Open 7:30 am to 5:00 pm Remove posters	Project 1 Range & Natural Areas 1:45-5:00 Oral Papers	Project 2 Horticultural Crops Symposium: Tree & Vine Weed Control 1:45-5:30 Oral Papers & Panel Discussion	Project 3 Agronomic Crops 1:45-4:15 Oral Papers	Education & Regulatory Section: Communicating Weed Impacts 1:45-4:05
Tuscany 3				
What's New in Industry 5:30 pm -6:30 pm				
Thursday, March 15				
WSWS Business Meeting Breakfast and Student Awards 6:30 am - 9:00 am Tuscany C & D				
Tuscany 3		Tuscany E & F		
Project 4 Teaching & Technology Transfer 9:30 -11:30 Oral Papers & Discussion Session Elect Chair		Symposium: Ecology and Management of Downy Brome (<i>Bromus tectorum</i>) in the West: What Can the Past Tell Us About the Future? 9:30 am - 3:00 pm		

Peppermill Resort
2707 South Virginia Street, Reno, Nevada,
United States 89502
Tel: 1-866-821-9996

TUSCANY BALLROOM



Directions to Hotel

FROM RENO/TAHOE INTERNATIONAL AIRPORT:

1. Slight right at E Plumb Ln (signs for US-395 S / Carson City / Lake Tahoe / Plumb Ln) 1.4 miles
2. Turn left at S Virginia St 0.5 miles

FROM HIGHWAY 395:

1. Take exit 64 for Moana Ln 0.2 miles
2. Go west on E Moana Ln 0.7 miles
3. Turn right at S Virginia St 0.5 miles

WSWS SPECIAL EVENTS – MONDAY MARCH 12

- 8:00 am – 5:00 pm Board of Directors Meeting -
Valleyview 1734
- 4:00 pm – 6:00 pm Registration - Tuscany Foyer
- 5:00 pm – 11:00 pm Poster display set-up - Tuscany E & F
- 5:00 pm – 11:00 pm Sustaining Members Display set-up -
Tuscany E & F
- 5:00 pm – 11:00 pm Presentation Practice Room -
Tuscany 1
- 6:00 pm – 8:00 pm WSWS Members Welcome and
Retirees Reception - Tuscany 11 & 12
Hosted by Joe DiTomaso, Immediate Past-President

 *Compliments of Arysta LifeScience, Dow AgroSciences,
& Monsanto*

WSWS SPECIAL EVENTS – TUESDAY MARCH 13

- 7:00 am – 4:00 pm Registration - Tuscany Foyer
- 7:00 am – 11:00 pm Presentation Practice Room -
Tuscany 1
- 7:30 am – 5:00 pm Poster Displays - Tuscany E & F
- 7:30 am – 5:00 pm Sustaining Member Display -
Tuscany E & F
- 7:45 am – 9:15 am Poster Session – Tuscany E & F
Odd numbered authors present
- 8:00 am – 9:30 am Spouses Welcome Breakfast -
Valleyview 1734

 *Compliments of Syngenta Crop Protection*

- 9:00 am – 9:30 am WSWS New Member Orientation –
*Phil Banks, WSWS Business
Manager - Tuscany 1*



Break - Compliments of BASF Corporation

- 9:30 am – 11:40 am General Session - Tuscany C & D
- 12:00 pm – 1:00 pm Student Luncheon - Valleyview 1734



Compliments of Bayer CropScience

- 5:00 pm – 6:30 pm Student Reception - Valleyview 1734



Compliments of Syngenta Crop Protection

WSWS SPECIAL EVENTS – WEDNESDAY MARCH 14

- 7:00 am – 4:00 pm Registration - Tuscany Foyer
- 7:00 am – 11:00 pm Presentation Practice Room - Tuscany 1
- 7:30 am – 5:00 pm Poster Displays - Tuscany E & F
Remove posters after 5:00 pm and before 7:00 pm
- 7:30 am – 5:00 pm Sustaining Member Display - Tuscany E & F
Remove displays after 5:00 pm and before 7:00 pm
- 7:45 am – 9:15 am Poster Session – Tuscany E & F
Even numbered authors present
- 9:00 am – 9:30 am WSWS New Officer Orientation – **Phil Banks**, WSWS Business Manager - Tuscany 1

All members invited to learn about duties and responsibilities of WSWS officers and committees.



am Break – Compliments DuPont Crop Protection

- 11:45am – 1:30 pm WSWS Awards Luncheon - Tuscany C & D
- 1:45 pm – 5:00 pm Symposium – Tuscany 6
Tree and Vine Weed Control: New Issues and Opportunities in the U.S.



pm Break – Compliments Helena Chemical

- 5:30 pm – 6:30 pm What's New In Industry? - Tuscany C & D

WSWS SPECIAL EVENTS – THURSDAY MARCH 15

- 6:30 am – 9:00 am WSWS Business Breakfast - Tuscany C & D



Compliments of BASF Corporation

- 7:00 am – 10:00 am Registration - Tuscany Foyer
- 7:00 am – 10:00 am Presentation Practice Room - Tuscany 1
- 9:30 am – 3:00 pm Symposium – Tuscany C & D
Ecology and Management of Downy Brome (*Bromus tectorum*) in the West: What Can the Past Tell Us About the Future?
- 11:45 am – 1:00 pm Board of Directors Wrap-up Meeting and Summer Meeting Planning - Valleyview 1734

Out-going and incoming officers and committee chairpersons requested to attend

**TUESDAY & WEDNESDAY MORNINGS
MARCH 13 & 14**

POSTER SESSIONS

TUSCANY E & F

CHAIR:

**Roger Gast
Dow AgroSciences
Indianapolis, IN**

TIME:

7:30 am – 9:30 am

**Poster room will
remain open until 5:00
pm Tuesday and
Wednesday**

**Posters may be setup on Monday, March 12 from 5:00 pm
until 11:00 pm.**

**Posters may be removed on Wednesday, March 13 after
5:00 pm and before 7:00 pm**

- ✓ **Odd numbered poster presenters will be present
on Tuesday, March 13 from 7:45 am to 9:15 am.**

- ✓ **Even numbered poster presenters will be present
on Wednesday, March 14 from 7:45 am to 9:15
am.**

**Poster committee will conduct its business meeting on
Wednesday, March 14 at 7:30 am in Tuscan E & F.**

***PRESENTER † STUDENT POSTER CONTEST**

PROJECT 1. Weeds of Range and Natural Areas

**†Effects of Preemergence Application of Rimsulfuron,
Imazapic, and Aminocyclopyrachlor on Downy Brome.**
Holden J. Hergert*, Brian A. Meador, Andrew R. Kniss,
Rachel D. Meador; University of Wyoming, Laramie, WY (1)

**Returning Succession to Downy Brome Dominated
Rangelands: Roadblocks to Perennial Grass
Establishment** . Daniel N. Harmon*, Charlie D. Clements,
James A. Young; USDA, Reno, NV (2)

**†Integrated Management of Downy Brome in Dinosaur
National Monument.** Heather Elwood*¹, Corey V. Ransom¹,
Thomas Monaco², Christopher A. Call¹; ¹Utah State
University, Logan, UT, ²USDA-ARS, Logan, UT (3)

Developing a Process for Prioritizing Species and Areas for Inventory within National Wildlife Refuges. Kimberly A. Edvarchuk*¹, Corey V. Ransom¹, Jenny Ericson², Giselle Block³, Lindy Garner⁴; ¹Utah State University, Logan, UT, ²US Fish and Wildlife Service, District of Columbia, DC, ³US Fish and Wildlife Service, San Francisco, CA, ⁴US Fish and Wildlife Service, Great Falls, MT (4)

Downy Brome: Evidence for Soil Engineering. Robert Blank*, Tye Morgan; USDA-ARS, Reno, NV (5)

Pathogen Spill-Over and Cheatgrass Invasion: Incidence and Diversity of *Pyrenophora semiperdia* in Montana. Zachariah J. Miller, Jane Mangold*; Montana State University, Bozeman, MT (6)

The Effects of Downy Brome Invasion on Mule Deer Habitats. Charlie D. Clements*, James A. Young, Daniel N. Harmon; USDA, Reno, NV (7)

Phenology of Exotic Invasive Weeds Associated with Downy Brome. Charlie D. Clements*, James A. Young, Daniel N. Harmon; USDA, Reno, NV (8)

The Use of Goat Grazing to Biologically Suppress Perennial Pepperweed. Charlie D. Clements*, James A. Young, Daniel N. Harmon; USDA, Reno, NV (9)

***Diorhabda carinulata* and Tamarisk Control.** Charlie D. Clements*¹, Daniel N. Harmon¹, James A. Young¹, Jeff Knight²; ¹USDA, Reno, NV, ²Nevada Department of Agriculture, Reno, NV (10)

†Factors Influencing the Germination of Forage Kochia Accessions. Cody F. Creech*¹, Blair L. Waldron², Corey V. Ransom³, Dale Zobell³, J. Earl Creech³; ¹Utah State University, Cornish, UT, ²USDA-ARS-FRRL, Logan, UT, ³Utah State University, Logan, UT (11)

Applying Hydrologic Sediment Modeling Relationships to Landscape-Level Dispersal of Leafy Spurge Along the Big Lost River in Idaho. Larry W. Lass*¹, Angelina Cernick², Timothy Prather¹, Jan Boll¹, Alex Fremier¹; ¹University of Idaho, Moscow, ID, ²University of Idaho, Moscow, ID (12)

†*Rubus* Endophytes: Influence on Biological Control. Ann C. Bernert*; Oregon State University (North Willamette Research & Extension Center), West Linn, OR (13)

Austrian Fieldcress, Management and Biology. Andy Currah*, Julie Kraft; Sublette County Weed and Pest District, Pinedale, WY (14)

Post Release Monitoring of a 2009 Release of *Jaapiella ivannikovi* Fedotova (Diptera, Cecidomyiidae) for the Control of Russian Knapweed in Fremont County, Wyoming. John (Lars) L. Baker*¹, Kimberly K. Johnson¹, Nancy A. Webber¹, Tim Collier², Kathleen Meyers³, Urs

Schaffner⁴, Bruce Shambaugh⁵, Jeff Littlefield⁶; ¹Fremont County Weed and Pest, Lander, WY, ²University of Wyoming, Laramie, WY, ³University of Wyoming, Laramie, WY, ⁴CABI Europe CH, Delemont, Switzerland, ⁵USDA/APHIS/PPQ, Cheyenne, WY, ⁶Montana State University, Bozeman, MT (15)

Efficacy of Graminicides and Glyphosate Mixtures on Buffelgrass: Greenhouse Studies. William B. McCloskey*¹, Dana Backer²; ¹University of Arizona, Tucson, AZ, ²Saguaro National Park, Tucson, AZ (16)

Using Herbicides Followed by Bunchgrass Seeding to Rehabilitate Medusahead Infested Rangelands in Central Oregon. Rhonda B. Simmons, Marvin D. Butler*; Oregon State University, Madras, OR (17)

Optimal Herbicide Application Time for Canada Thistle Control. Darrell L. Deneke*, Mike J. Moechnig, Dave A. Vos, Jill K. Alms; South Dakota State University, Brookings, SD (18)

Yellow Toadflax Control in Rangeland with DPX-MAT28. Brian M. Jenks*; North Dakota State University, Minot, ND (19)

Yellow Toadflax Control with Fall Herbicide Applications. Jill K. Alms*, Mike J. Moechnig, Dave A. Vos, Darrell L. Deneke; South Dakota State University, Brookings, SD (20)

Integrated Management of Yellow Starthistle with Burning, Aminopyralid, and Revegetation. Guy B. Kyser*¹, Arthur W. Hazebrook², Joseph M. DiTomaso¹; ¹University of California, Davis, CA, ²United States Army, Fort Hunter Liggett, CA (21)

Perennial Weed Control with Aminopyralid and Aminocyclopyrachlor. Gregory J. Endres*¹, Tim Becker², Sheldon Gerhardt³, Kacey Holm⁴, Emily Kline⁵; ¹NDSU, Carrington, ND, ²NDSU, New Rockford, ND, ³NDSU, Napoleon, ND, ⁴NDSU, Ellendale, ND, ⁵NDSU, McClusky, ND (22)

Black Greasewood Community Response to Aminocyclopyrachlor. Jordana J. LaFantasie¹, Brian A. Meador*², Andrew R. Kniss²; ¹Fort Hays State University, Hays, KS, ²University of Wyoming, Laramie, WY (23)

Timing of Application and Surfactant Affects Control of Rush Skeletonweed with Aminocyclopyrachlor. Alan Raeder*¹, Jared L. Bell¹, Dennis Pittmann¹, Randall E. Stevens², Ian C. Burke¹; ¹Washington State University, Pullman, WA, ²Palouse Conservation District, Pullman, WA (24)

PROJECT 2. Weeds of Horticultural Crops

Host Status of Common Weeds to *Globodera pallida* found in Idaho Potato Fields. Rick A. Boydston*¹, Hassan Mojtahedi²; ¹USDA-ARS, Prosser, WA, ²Washington State University, Prosser, WA (25)

Preemergence and Postemergence Weed Control in Potatoes with Pyroxasulfone. Brent Beutler*¹, Pamela Hutchinson²; ¹University of Idaho, American Falls, ID, ²University of Idaho, Aberdeen, ID (26)

Field Bindweed Suppression in Processing Tomato. Wayne T. Lanini*; University of California, Davis, Davis, CA (27)

Weed Control in Established Strawberry in the Pacific Northwest. Carl R. Libbey*, Timothy W. Miller; Washington State University, Mount Vernon, WA (28)

Barriers to Controlling Spurge in Nursery Containers. Kelly M. Young*; University of Arizona, Phoenix, AZ (29)

Bur Buttercup Control in Turf. Mike J. Moechnig*, Jill K. Alms, Robert Fanning, Dave A. Vos, Darrell L. Deneke; South Dakota State University, Brookings, SD (30)

†Postemergence Chemical Control Options for Glyphosate-paraquat Resistant Hairy Fleabane (*Conyza bonariensis*) in California Orchards. Marcelo L. Moretti*¹, Brad Hanson², Kurt J. Hembree³, Anil Shrestha⁴; ¹University of California - Davis, Davis, CA, ²Univ. of California, Davis, Davis, CA, ³UCCE, Fresno, CA, ⁴California Fresno State University, Fresno, CA (31)

Investigations into Resistance Mechanisms in Two Glyphosate-Resistant *Conyza* Species in California. Joi Abit*¹, Brad Hanson²; ¹University of California-Davis, Davis, CA, ²Univ. of California, Davis, Davis, CA (32)

Does the Timing of Incorporation of Lime or Gypsum Affect Penoxsulam Efficacy? Byron B. Sleugh*¹, Deb Shatley², Garrick Stuhr³; ¹Dow AgroSciences, Clovis, CA, ²Dow AgroSciences, Lincoln, CA, ³Dow AgroSciences, Fresno, CA (33)

Penoxsulam Plus Oxyfluorfen - First Year Commercial Results in California Tree Nuts. Deb Shatley*¹, Barat Bisabri², James Mueller³, Byron B. Sleugh⁴, Jesse M. Richardson⁵, Richard K. Mann⁶, Fred Rehrman⁷; ¹Dow AgroSciences, Lincoln, CA, ²Dow AgroSciences LLC, Orinda, CA, ³Dow AgroSciences LLC, Brentwood, CA, ⁴Dow AgroSciences, Clovis, CA, ⁵Dow AgroSciences, Hesperia, CA, ⁶Dow AgroSciences, Indianapolis, IN, ⁷Elysian Fields, Woodland, CA (34)

Isoxaben for Weed Control in Vineyards and Tree Crops. Richard K. Mann*¹, James Mueller², Deb Shatley³, Barat Bisabri⁴, Jesse M. Richardson⁵; ¹Dow AgroSciences,

Indianapolis, IN, ²Dow AgroSciences LLC, Brentwood, CA, ³Dow AgroSciences, Lincoln, CA, ⁴Dow AgroSciences LLC, Orinda, CA, ⁵Dow AgroSciences, Hesperia, CA (35)

A Multi-year Review of Weed Control in TNV Crops with Indaziflam. Hank J. Mager*¹, Darren Unland²; ¹Bayer CropScience, Fountain Hills, AZ, ²Bayer CropScience, Research Triangle Park, NC (36)

PROJECT 3. Weeds of Agronomic Crops

Pyroxsulam and Florasulam Injury to Pea, Lentil, and Chickpea. Joan Campbell*, Traci Rauch, Donn Thill; University of Idaho, Moscow, ID (37)

†**Field Pea Competitive Abilities for Weed Suppression in Organic Agriculture.** Aman Anand*¹, Greta Gramig², Kevin McPhee³; ¹North Dakota State University, Bozeman, ND, ²North Dakota State University, Fargo, ND, ³NDSU, Fargo, ND (38)

Dry Bean Response to Fluthiacet-methyl. Jared C. Unverzagt*¹, Andrew R. Kniss¹, Ryan Rapp², Robert G. Wilson³, Shiv D. Sharma⁴; ¹University of Wyoming, Laramie, WY, ²University of Nebraska, Concord, NE, ³University of Nebraska-Lincoln, Scottsbluff, NE, ⁴FMC Corporation, Philadelphia, PA (39)

†**Eco-Efficiency as a Tool to Compare Herbicide-Resistant and Conventional Cropping Systems.** Andrew R. Kniss, Carl W. Coburn*; University of Wyoming, Laramie, WY (40)

Effect of Flaming and Cultivation on Weed Control and Yield in Sunflower. Robert K. Higgins*¹, Brian D. Neilson², Strahinja V. Stepanovic³, Avishek Datta³, Chris A. Bruening², George Gogos², Stevan Knezevic⁴, Drew Lyon⁵; ¹University of Nebraska-Lincoln, Sidney, NE, ²University of Nebraska-Lincoln, Lincoln, NE, ³University of Nebraska-Lincoln, Concord, NE, ⁴University of Nebraska, Concord, NE, ⁵University of Nebraska-Lincoln, Scottsbluff, NE (41)

†**Clearfield Sunflower Tolerance to Pyroxasulfone.** Justin Mack*¹, Rich Zollinger¹, Brian M. Jenks², Phillip W. Stahlman³, Siyuan Tan⁴, Leo Charvat⁵, Scott Fitterer⁶; ¹North Dakota State University, Fargo, ND, ²North Dakota State University, Minot, ND, ³Kansas State University, Hays, KS, ⁴BASF Corporation, Research Triangle Park, NC, ⁵BASF Corporation, Lincoln, NE, ⁶BASF Corporation, Fargo, ND (42)

Rotational Comparisons of Mesosulfuron and Pyroxsulam With and Without Pyrasulfotole Plus Bromoxynil in Eastern Washington. Monte D. Anderson*; Bayer CropScience, Spangle, WA (43)

†**Feral Rye Control with Imazamox Plus Growth Regulator Herbicides.** Louise Lorent*¹, Ryan Rapp², Jared C.

Unverzagt¹, Andrew R. Kniss¹; ¹University of Wyoming, Laramie, WY, ²University of Nebraska, Concord, NE (44)

Analyzing Terrain Attribute Effects on Italian Ryegrass Presence using Zero Inflated Poisson and Poisson GLM Models. Rachel Unger*¹, Mark E. Swanson¹, Ian C. Burke¹, David R. Huggins², Eric R. Gallandt³, Stewart Higgins¹; ¹Washington State University, Pullman, WA, ²USDA-ARS, Pullman, WA, ³University of Maine, Orono, ME (45)

†**Effects of Planting Density and Weed Pressure on Grain Quality in Eastern Washington.** Misha R. Manuchehri*, E. P. Fuerst, Ian C. Burke; Washington State University, Pullman, WA (46)

Broadleaf Herbicide Tolerance in *Brassica carinata*. Eric N. Johnson*; Agriculture and Agri-Food Canada, Scott, SK (47)

†**Kochia in Western Kansas: Prevalence, Post-Wheat Harvest Management, and Glyphosate Resistance.** Amar S. Godar*¹, Phillip W. Stahlman², Johanna A. Dille¹; ¹Kansas State University, Manhattan, KS, ²Kansas State University, Hays, KS (48)

Dynamic of Sugarcane Herbicides Applied on the Crop Residue Influenced by Drought Conditions. Ana B. Prado*, Caio A. Brunharo, Marcel S. Melo, Flávio E. Obara, Marcelo Nicolai, Pedro J. Christoffoleti; ESALQ/USP, Piracicaba, Brazil (49)

†**Volunteer Plant of Green Manure Control in Sugarcane.** Caio A. Brunharo*¹, Scott Nissen², Marcelo Nicolai¹, Luiz F. Campos¹, Marcel S. Melo¹, Ana B. Prado¹, Pedro J. Christoffoleti¹; ¹ESALQ/USP, Piracicaba, Brazil, ²Colorado State University, Fort Collins, CO (50)

Sourgrass Resistance to Glyphosate in Soybean Crop in Brasil. Fernando S. Adegas*¹, Scott Nissen², Philip Westra³; ¹Embrapa, Londrina, Brazil, ²Colorado State University, Fort Collins, CO, ³Colorado State University, Ft. Collins, CO (51)

†**Glyphosate-resistant Kochia Control in Failed Winter Wheat.** David Brachtenbach*¹, Phillip W. Stahlman²; ¹Colorado State University, Ft. Collins, CO, ²Kansas State University, Hays, KS (52)

Control of Rattail Fescue in Winter Wheat. Nevin Lawrence*, Ian C. Burke; Washington State University, Pullman, WA (53)

Rattail Fescue Control in Winter Wheat. Traci Rauch*, Joan Campbell, Donn Thill; University of Idaho, Moscow, ID (54)

Comparison of Fluroxypyr Herbicide Combinations for Broadleaf Weed Control in Spring Wheat. Vipin Kumar*, Prashant Jha, Nicholas Reichard; Montana State University, Huntley, MT (55)

Florasulam Plus Fluroxypyr for Broadleaf Weed Control in Cereals. Joseph P. Yenish*¹, Harvey Yoshida², Roger Gast³, Kevin D. Johnson⁴; ¹Dow AgroSciences, Billings, MT, ²Dow AgroSciences, Richland, WA, ³Dow AgroSciences, Indianapolis, IN, ⁴Dow AgroSciences, Barnesville, MN (56)

Weed Control in Sunflower with Premixed S-Metolachlor and Sulfentrazone. Seshadri S. Reddy*¹, Phillip W. Stahlman²; ¹Kansas State University, Hays, KS, ²Kansas State University, Hays, KS (57)

Broadleaf and Grass Control with Sulfentrazone and Metolachlor. Brian M. Jenks¹, Gary P. Willoughby*²; ¹North Dakota State University, Minot, ND, ²North Central Research Ext. Center, Minot, ND (58)

Dissipation of Pyroxasulfone Under Minimum, Strip, and Conventional Till Furrow Irrigated Corn in Northern Colorado. Jordan A. Driscoll*¹, Philip Westra², Neil C. Hansen¹, Troy A. Bauder¹, Erik Wardle¹; ¹Colorado State University, Fort Collins, CO, ²Colorado State University, Ft. Collins, CO (59)

†Translocation Rate of Foliar-applied Quinclorac and Aminocyclopyrachlor in Field Bindweed. Andrew R. Kniss, Jared C. Unverzagt, Ariana E. Roe*; University of Wyoming, Laramie, WY (60)

Use of Pyroxasulfone for Preemergence Residual Weed Control in Glyphosate-Resistant Corn. Prashant Jha*, Vipin Kumar, Nicholas Reichard; Montana State University, Huntley, MT (61)

Volunteer Glyphosate Resistant Canola Control: Increasing the Database. Rich Zollinger*, Angela Kazmierczak; North Dakota State University, Fargo, ND (62)

Effects on Spray Droplet Size, Drift, and Efficacy from an Acidic, AMS Replacement Adjuvant. Jim T. Daniel*¹, Geig R. Kuger², Scott K. Parrish³, Philip Westra⁴; ¹Self, Keenesburg, CO, ²University of Nebraska-Lincoln, North Platte, NE, ³Agrasyst, Sponkane, WA, ⁴Colorado State University, Ft. Collins, CO (63)

PROJECT 4. Teaching and Technology Transfer

WSWS Noxious Weed Short Course. Sandra K. McDonald*; Mountain West PEST, Fort Collins, CO (64)

The WeedOlympics: A National Weed Science Contest. Greg Armel*¹, James T. Brosnan¹, Jose J. Vargas¹, Gregory K. Breeden¹, Vanelle F. Peterson²; ¹University of Tennessee, Knoxville, TN, ²Dow AgroSciences, Mulino, OR (65)

A Classroom Activity for Teaching Proactive Herbicide Resistance Management. Andrew R. Kniss*; University of Wyoming, Laramie, WY (66)

Advanced Plant Identification System (APIS): The Answer to EDRR? George E. Meyer¹, Ashok Samal¹, Stephen L. Young²; ¹University of Nebraska-Lincoln, Lincoln, NE, ²University of Nebraska-Lincoln, North Platte, NE (67)

Education & Outreach Efforts to Achieve Land Stewardship Awareness. Chad Clark*; Larimer County Weed District, Ft. Collins, CO (68)

PROJECT 5. Basic Biology and Ecology

Perennial Pepperweed: Monitoring Stem Density During 18 Years of Invasion. Robert Blank*, Tye Morgan; USDA-ARS, Reno, NV (69)

†**Determining Whether a Population of Japanese Knotweed *s.l.* (*Fallopia japonica*) Contains Multiple Biotypes.** John J. Miskella*, Elena Sanchez, Andrew G. Hulting; Oregon State University, Corvallis, OR (70)

Photosynthetic Patterns of Two Invasive Toadflax Species and their Hybrids. Marie F. Turner¹, Sarah M. Ward¹, Sharlene E. Sing²; ¹Colorado State University, Fort Collins, CO, ²United States Forest Service, Bozeman, MT (71)

Using Aminocyclopyrachlor to Control Dalmatian Toadflax and Promote Native Plant Community Recovery and Diversity. James R. Sebastian¹, George Beck², Derek Sebastian³, Sam Rodgers⁴; ¹CSU, Loveland, CO, ²Colorado State University, Ft. Collins, CO, ³Creighton University, Omaha, CO, ⁴University of Colorado, Boulder, CO (72)

Synergistic Interaction of Flumioxazin and Emulsifiable Concentrate Formulations of Pesticides. Jamshid Ashigh, Nina S. Klypina*, Brian Schutte, Isaac Dorrance; New Mexico State University, Las Cruces, NM (73)

†**Absorption and Translocation of Aminopyralid and Clopyralid in Rush Skeletonweed.** Jared L. Bell*, Misha R. Manuchehri, Heather Malone, Ian C. Burke; Washington State University, Pullman, WA (74)

Downy Brome Seed Ecology: From Flower to Emergence. Daniel N. Harmon*, Charlie D. Clements, James A. Young; USDA, Reno, NV (75)

Population Level Response of Downy Brome to Soil Growing Medium. Daniel N. Harmon*, Charlie D. Clements; USDA, Reno, NV (76)

Impacts of Insect Biological Control on Soil N Transformations in *Tamarix*-Invaded Ecosystems in the Great Basin. Shauna M. Uselman*, Keirith A. Snyder, Robert Blank; USDA-ARS, Reno, NV (77)

Invasive Weed Mapping of Lebanon. Mustapha A. Haidar¹, Alia Sabra²; ¹American University of Beirut, Beirut, Lebanon, ²American University of Beirut, Beirut, Lebanon (78)

TUESDAY MORNING MARCH 13

General Session

LOCATION: Tuscany C & D
TIME: 9:30 am - 11:40 am
CHAIR: Kai Umeda
University of Arizona
Phoenix, AZ
MODERATOR: Kai Umeda
University of Arizona
Phoenix, AZ

9:30 Introduction

9:40 Presidential Address. Vanelle F. Peterson; Dow AgroSciences, Mulino, OR (79)

10:00 WSSA and Regional Weed Science Societies Report. Lee Van Wychen; WSSA, Washington, DC (80)

10:20 Historical Perspectives on the First Regional Weed Science Society. Robert F. Norris; University of California, Davis, Davis, CA (81)

10:40 An Ethical Challenge. Robert Zimdahl; Colorado State University, Ft. Collins, CO (82)

11:10 Aquatic Weed Management at Lake Tahoe: Collaborative Research, Regulatory and Response Actions are Working! Lars W. Anderson*; USDA-ARS Exotic and Invasive Weed Research, Davis, CA (83)

11:40 Adjourn

TUESDAY AFTERNOON MARCH 13

PROJECT 1. Weeds of Range and Natural Areas

LOCATION: Tuscany 5
TIME: 1:30 pm - 5:45 pm
CHAIR: John (Lars) Baker
Fremont County Weed and Pest
Lander, WY
CHAIR-ELECT: Todd Neel
National Park Service
Marblemount, WA
MODERATOR: John (Lars) Baker
Fremont County Weed and Pest
Lander, WY

***SPEAKER † STUDENT CONTEST**

- 1:30 Yellowtuft Alyssum: A Super Weed in a Super Place.** Shawna L. Bautista*; US Forest Service, Portland, OR (84)
- 1:45 †Predicting Wind Dispersal of Rush Skeletonweed Within Canyon Lands of Central Idaho.** Sandya Rani Kesoju*, Bahman Shafii, Timothy Prather, Larry W. Lass, William Price; University of Idaho, Moscow, ID (85)
- 2:00 †Using Soil Bioassays to Assess Imazapic Degradation to Improve Cheatgrass Management.** Krista A. Ehlert*¹, Rick Engel¹, Jane Mangold²; ¹Montana State University - Bozeman, Bozeman, MT, ²Montana State University, Bozeman, MT (86)
- 2:15 Timing of Low Rates of Glyphosate for Control of Downy Brome in Rangeland.** J. Earl Creech*¹, Kent McAdoo², Guy B. Kyser³, Joseph M. DiTomaso³; ¹Utah State University, Logan, UT, ²University of Nevada Cooperative Extension, Elko, NV, ³University of California, Davis, CA (87)
- 2:30 †Response of Native Species to Imazapyr and Triclopyr Soil Residues.** Cameron Douglass*, Scott Nissen; Colorado State University, Fort Collins, CO (88)
- 2:45 Aminocyclopyrachlor for Invasive Weed Control in Western Rangeland.** Jim Harbour*¹, Norm McKinley², Keith Johnson³, Bill Kral⁴; ¹DuPont Crop Protection, Lincoln, NE, ²DuPont, Salem, OR, ³DuPont Crop Protection, Wilmington, DE, ⁴DuPont, Twin Falls, ID (89)
- 3:00 ☞Break Compliments BASF Corporation**

- 3:15 Aminocyclopyrachlor: A New Active for Brush Control in Range and Pasture.** Craig M. Alford*¹, Jeff H. Meredith², Eric P. Castner³, Case Medlin⁴; ¹DuPont Crop Protection, Lakewood, CO, ²DuPont Crop Protection, Memphis, TN, ³DuPont Crop Protection, Weatherford, TX, ⁴DuPont Crop Protection, Wilmington, DE (90)
- 3:30 †Aminocyclopyrachlor and Various Herbicides Applied to Relatively Large Russian Olive.** Thomas J. Getts*¹, Philip Westra², Brad Lindenmayer³, Dale L. Shaner⁴; ¹Colorado State University, Fort Collins, CO, ²Colorado State University, Ft. Collins, CO, ³Syngenta Crop Protection, Inc., Fort Collins, CO, ⁴USDA, Fort Collins, CO (91)
- 3:45 Effects on Established Perennial Grasses of DPX-MAT 28 Combined with Selected Sulfonylurea Herbicides Applied in Spring.** Gustavo M. Sbatella*¹, Robert G. Wilson²; ¹Oregon State University, Madras, OR, ²University of Nebraska-Lincoln, Scottsbluff, NE (92)
- 4:00 †Response of Dunccecap Larkspur and Associated Vegetation to Aminocyclopyrachlor.** Brandon J. Greet*, Andrew R. Kniss, Brian Mealor; University of Wyoming, Laramie, WY (93)
- 4:15 Soil Residual Activity of Aminocyclopyrachlor, Aminopyralid, and Clopyralid.** Brad Lindenmayer*¹, Philip Westra², Scott Nissen³, Dale L. Shaner⁴, Thomas Mueller⁵, Greg Armel⁶; ¹Syngenta Crop Protection, Inc., Fort Collins, CO, ²Colorado State University, Ft. Collins, CO, ³Colorado State University, Fort Collins, CO, ⁴USDA, Fort Collins, CO, ⁵University of Tennessee, Knoxville, TN, ⁶University of Tennessee, Knoxville, TN (94)
- 4:30 †Desirable Reclamation and Restoration Species Seedling Response to Aminocyclopyrachlor.** Holden J. Hergert*, Brian A. Mealor, Andrew R. Kniss, Rachel D. Mealor; University of Wyoming, Laramie, WY (95)
- 4:45 GF-2791 - A New Herbicide Containing Aminopyralid and Clopyralid for Honey Mesquite Control in Southwestern Rangelands.** Daniel Chad Cummings*¹, Vernon Langston², Pat Burch³, Vanelle F. Peterson⁴; ¹Dow AgroSciences LLC, Perry, OK, ²Dow AgroSciences LLC, The Woodlands, TX, ³Dow AgroSciences LLC, Christiansburg, VA, ⁴Dow AgroSciences, Mulino, OR (96)

- 5:00 Influence of Aminopyralid, Clopyralid, Metsulfuron, and Picloram Application Timing on Grass Establishment.** Cameron Douglass*¹, Scott Nissen¹, Joseph D. Vassios¹, Corey V. Ransom², Vanelle F. Peterson³; ¹Colorado State University, Fort Collins, CO, ²Utah State University, Logan, UT, ³Dow AgroSciences, Mulino, OR (97)
- 5:15 Managing Canada Thistle Invasion in Constructed Grasslands with Aminopyralid and Fire.** Greta G. Gramig*, Amy C. Ganguli; North Dakota State University, Fargo, ND (98)
- 5:30 Indaziflam - A New Herbicide for the U.S. Industrial Vegetation Market.** Hans C. Olsen*¹, David Spak²; ¹Bayer CropScience, Wildomar, CA, ²Bayer CropScience, RTP, NC (99)
- 5:45 Adjourn**

TUESDAY AFTERNOON MARCH 13

PROJECT 2. Weeds of Horticultural Crops

LOCATION: Tuscany 6
TIME: 1:30 pm - 4:15 pm
CHAIR: Hank Mager
 Bayer CropScience
 Fountain Hills, AZ
CHAIR-ELECT: John Roncoroni
 University of California
 Cooperative Extension
 Napa, CA
MODERATOR: Hank Mager
 Bayer CropScience
 Fountain Hills, AZ

***SPEAKER**

- 1:30 Why Common Lambsquarters May Become a Problem Weed in Idaho Potatoes.** Pamela Hutchinson*; University of Idaho, Aberdeen, ID (100)
- 1:45 Potato Daughter Tuber Response to Aminopyralid.** Kevin B. Kelley*, Lloyd C. Haderlie; AgraServ, Inc., American Falls, ID (101)
- 2:00 Management of Weeds in Processing Onions Grown in Northeast California.** Rob G. Wilson*¹, Steve B. Orloff²; ¹University of California, Tulelake, CA, ²University of California, Yreka, CA (102)

- 2:15 Announcing the Existence of *Cyperus esculentus* var. *heermannii* in Eastern Oregon.** Joel Felix*¹, Kevin V. Osborne²; ¹Oregon State University, Ontario, OR, ²Oregon State University, Nyssa, OR (103)
- 2:30 The Challenge of Chicory as a Crop and a Weed.** Don W. Morishita*, Donald L. Shouse; University of Idaho, Twin Falls, ID (104)
- 2:45 Evaluating Methyl Bromide Alternatives for Commercial Vegetable Production: From Small-Plot to On-Farm Trials.** Lynn M. Sosnoskie*¹, Alfred S. Culpepper¹, Theodore M. Webster²; ¹University of Georgia, Tifton, GA, ²USDA-ARS, Tifton, GA (105)
- 3:00 ☕Break Compliments BASF Corporation**
- 3:15 Testing of Herbicide Combinations for Use in Newly-Planted Strawberry.** Timothy W. Miller*, Carl R. Libbey; Washington State University, Mount Vernon, WA (106)
- 3:30 Post-Dispersal Seed Predation by Carabid Beetles in Vegetable Row Crop Rotations.** Ed Peachey*¹, Jessica M. Green²; ¹Oregon State University, 97331, OR, ²Oregon State University, Corvallis, OR (107)
- 3:45 Control of Crabgrass and Field Bindweed with Consumer Formulations of Quinclorac and Phenoxies.** Joseph R. Scoresby*¹, Paul Scoresby²; ¹Green Light Chemical, Mosinee, WI, ²Shiess & Associates, Ucon, ID (108)
- 4:00 Effect of Application Timing on Efficacy of Indaziflam.** Seth Gersdorf*¹, Darren Unland², Steven R. King³; ¹Bayer CropScience, Sacramento, CA, ²Bayer CropScience, Research Triangle Park, NC, ³Bayer CropScience, Huntley, MT (109)
- 4:15 Adjourn**

TUESDAY AFTERNOON MARCH 13

**PROJECT 2. Weeds of Horticultural Crops
Discussion**

**What Role Does Horticulture Have
in the Future of the WSWS?**

LOCATION: Tuscany 6
TIME: 4:30 pm - 6:00 pm
CHAIR: Hank Mager
Bayer CropScience
Fountain Hills, AZ
CHAIR-ELECT: John Roncoroni
University of California
Cooperative Extension
Napa, CA
MODERATOR: Hank Mager
Bayer CropScience
Fountain Hills, AZ


Elect Project Chair for 2013

TUESDAY AFTERNOON MARCH 13

PROJECT 3. Weeds of Agronomic Crops

LOCATION: Tuscany 4
TIME: 1:30 pm - 6:00 pm
CHAIR: Chad Asmus
BASF Corporation
Newton, KS
CHAIR-ELECT: Joe Armstrong
Oklahoma State University
Stillwater, OK
MODERATOR: Chad Asmus
BASF Corporation
Newton, KS

***SPEAKER † STUDENT CONTEST**

- 1:30 Pyroxsulam - A Five-Year Overview of Weed Control Research Across U.S. Winter Wheat.** Roger E. Gast*¹, Larry C. Walton², Daniel C. Cummings³, Joseph Yenish⁴, Harvey Yoshida⁵, Jonathon A. Huff⁶, Brian D. Olson⁷, Marvin E. Schultz¹; ¹Dow AgroSciences, Indianapolis, IN, ²Dow AgroSciences, Tupelo, MS, ³Dow AgroSciences, Perry, OK, ⁴Dow AgroSciences, Billings, MT, ⁵Dow AgroSciences, Richland, WA, ⁶Dow AgroSciences, Herrin, IL, ⁷Dow AgroSciences, Geneva, NY (110)
- 1:45 Rotational Crop Safety with Pyroxsulam in California and Arizona Wheat.** Jesse M. Richardson*¹, Roger Gast², Byron B. Sleugh³, Marc Fisher⁴, Deb Shatley⁵, Barry Tickes⁶, Steve B. Orloff⁷; ¹Dow AgroSciences, Hesperia, CA, ²Dow AgroSciences, Indianapolis, IN, ³Dow AgroSciences, Clovis, CA, ⁴Dow AgroSciences LLC, Fresno, CA, ⁵Dow AgroSciences, Lincoln, CA, ⁶University of Arizona, Yuma, AZ, ⁷University of California, Yreka, CA (111)
- 2:00 Downy Brome and Winter Wheat Response to Pre-plant Applications of Propoxycarbazone-sodium and Pyroxsulam.** David A. Claypool*, Andrew R. Kniss; University of Wyoming, Laramie, WY (112)
- 2:15 Introduction to Pyrasulfotole Plus Thiencarbazone-methyl Plus Bromoxynil Plus Mefenpyr-diethyl - A New Herbicide for Grass and Broadleaf Weed Control in Northern Plains Cereals.** Dean W. Maruska*¹, Kevin B. Thorsness², Steven R. King³, Mike C. Smith², Bradley E. Ruden⁴, Mary D. Paulsgrove⁵, Mark A. Wrucke⁶; ¹Bayer CropScience, Warren, MN, ²Bayer CropScience, Fargo, ND, ³Bayer CropScience, Huntley, MT, ⁴Bayer CropScience, Bruce, SD, ⁵Bayer CropScience, Raleigh, NC, ⁶Bayer CropScience, Farmington, MN (113)
- 2:30 Pyrasulfotole Plus Bromoxynil for Broadleaf Weed Control in Grain Sorghum.** Charles P. Hicks*¹, Greg Hudec², Russ Perkins³; ¹Bayer CropScience, Fort Collins, CO, ²Bayer CropScience, Manhattan, KS, ³Bayer CropScience, Lubbock, TX (114)
- 2:45 Saflufenacil Use in Cool-season Grasses Grown for Seed.** Daniel W. Curtis*, Andrew G. Hulting, Carol Mallory-Smith, Kyle C. Roerig; Oregon State University, Corvallis, OR (115)
- 3:00  Break Compliments BASF Corporation**

- 3:15 Pyroxasulfone Interaction with Plants.** Eric P. Westra*¹, Dale L. Shaner², Philip Westra³; ¹Colorado State University, Fort Collins, CO, ²USDA, Fort Collins, CO, ³Colorado State University, Ft. Collins, CO (116)
- 3:30 Searching for Improved Lentil Tolerance to PPO Inhibitor Herbicides.** Ken L. Sapsford*¹, Eric N. Johnson², Albert Vandenberg³; ¹University of Saskatchewan, Saskatoon, SK, ²Agriculture and Agri-Food Canada, Scott, SK, ³University of Saskatchewan, Saskatoon, Mexico (117)
- 3:45 Progress in Managing Herbicide Resistant Weeds in Lentil.** Eric N. Johnson*; Agriculture and Agri-Food Canada, Scott, SK (118)
- 4:00 Performance of Novel Broadleaf Herbicides.** Gregory K. Dahl*¹, Joe V. Gednalske², Lillian C. Magidow³, Eric P. Spandl³; ¹Winfield Solutions LLC, St. Paul, MN, ²Winfield Solutions LLC, River Falls, WI, ³Winfield Solutions, LLC., St. Paul, MN (119)
- 4:15 Broadleaf Weed Control in Field Corn with Preemergence Followed by Sequential Postemergence Herbicides.** Richard N. Arnold*, Michael K. O'Neill, Kevin A. Lombard; New Mexico State University ASC, Farmington, NM (120)
- 4:30 Herbicide Programs for Kochia Management Revisited.** Vipam Kumar*, Prashant Jha, Nicholas Reichard; Montana State University, Huntley, MT (121)
- 4:45 Herbicide Programs for Control of Volunteer Glyphosate-Resistant Canola in Glyphosate-Resistant Sugarbeet.** Prashant Jha*, Vipam Kumar, Nicholas Reichard; Montana State University, Huntley, MT (122)
- 5:00 Weed Management in Alfalfa to Avoid Evolution of Glyphosate-Resistant Weeds: Grower Survey and Initial Field Results.** Steve B. Orloff*¹, Robert G. Wilson², Daniel H. Putnam³; ¹University of California, Yreka, CA, ²University of Nebraska-Lincoln, Scottsbluff, NE, ³University of California, Davis, CA (123)
- 5:15 Reductions in Corn Leaf Area Induced by Drought Stress and Level of Irrigation Impacts Weed Control.** Randall S. Currie*¹, Jennifer L. Jester², Norman Klocke²; ¹Kansas State Univ., Garden City, KS, ²Kansas State univ., Garden City, KS (124)

- 5:30 Herbicide Resistant Italian Ryegrass: Any Options Left?** Carol Mallory-Smith*, Andrew G. Hulting, Daniel W. Curtis, Kyle C. Roerig, Mingyang Liu; Oregon State University, Corvallis, OR (125)
- 5:45 Fitness Costs of Multiple Herbicide Resistant Wild Oat?** Erik A. Lehnhoff*, Fabian Menalled, Barbara Keith, William Dyer; Montana State University, Bozeman, MT (126)
- 6:00 Adjourn**

TUESDAY AFTERNOON MARCH 13

PROJECT 5. Basic Biology and Ecology

LOCATION: Tuscany 3
TIME: 1:30 pm - 4:30 pm
CHAIR: William McCloskey
 University of Arizona
 Tucson, AZ
CHAIR-ELECT: Sarah Ward
 Colorado State University
 Ft. Collins, CO
MODERATOR: William McCloskey
 University of Arizona
 Tucson, AZ

***SPEAKER † STUDENT CONTEST**

1:30 †Fitness Associated with EPSPS Gene Amplification in Glyphosate Resistant Palmer Amaranth. Darci A. Giacomini*¹, Sarah M. Ward¹, Philip Westra²; ¹Colorado State University, Fort Collins, CO, ²Colorado State University, Ft. Collins, CO (127)

1:45 †Gene Amplification of EPSP Synthase in Glyphosate Resistant *Kochia scoparia*. Andrew T. Wiersma*¹, Stephen T. Chisholm¹, Amar Godar², Phillip W. Stahlman³, Jan Leach¹, Philip Westra⁴; ¹Colorado State University, Fort Collins, CO, ²Kansas State University, Manhattan, KS, ³Kansas State University, Hays, KS, ⁴Colorado State University, Ft. Collins, CO (128)

- 2:00 Using Molecular Techniques to Understand Glyphosate Resistance in Palmer Amaranth, Kochia, Giant Ragweed, and Common Lambsquarter.** Philip Westra*¹, Todd Gaines², Jan Leach³, Stephen T. Chisholm³, Andrew Wiersma³, Darci A. Giacomini³, Chris Preston⁴; ¹Colorado State University, Ft. Collins, CO, ²University of Western Australia, Perth, Australia, ³Colorado State University, Fort Collins, CO, ⁴University of Adelaide, Adelaide, Australia (129)
- 2:15 †Mechanism of Resistance to Glyphosate in Palmer Amaranth (*Amaranthus palmeri*) Populations from New Mexico.** Mohsen Mohseni-Moghadam*, Jamshid Ashigh, Jill Schroeder; New Mexico State University, Las Cruces, NM (130)
- 2:30 †Comparison of the Eco-Efficiency of Conventional and Glyphosate-Resistant Sugarbeet Production.** Andrew R. Kniss, Carl W. Coburn*; University of Wyoming, Laramie, WY (131)
- 2:45 Compensatory Growth in Palmer Amaranth: Effects on Weed Seed Production and Crop Yield.** Lynn M. Sosnoskie*¹, Alfred S. Culpepper¹, Timothy L. Grey¹, Theodore M. Webster²; ¹University of Georgia, Tifton, GA, ²USDA-ARS, Tifton, GA (132)
- 3:00 ☞Break Compliments BASF Corporation**
- 3:15 †Characterizing Shade-Avoidance Responses in Sugarbeet.** Louise Lorent*¹, David A. Claypool¹, Ryan Rapp², Jared C. Unverzagt¹, Andrew R. Kniss¹; ¹University of Wyoming, Laramie, WY, ²University of Nebraska, Concord, NE (133)
- 3:30 †Sorption Characteristics and Metabolism of Pyroxsulam in Inland Pacific Northwest Soils.** Alan J. Raeder*¹, Ian C. Burke¹, Joseph Yenish²; ¹Washington State University, Pullman, WA, ²Dow AgroSciences, Billings, MT (134)
- 3:45 Herbicide Absorption and Translocation in Eurasian Watermilfoil.** Scott Nissen*, Joseph D. Vassios; Colorado State University, Fort Collins, CO (135)
- 4:00 †Absorption and Translocation of Aminocyclopyrachlor in Black Walnut.** Nevin Lawrence*, Shawn Wetterau, Jared L. Bell, Ian C. Burke; Washington State University, Pullman, WA (136)
- 4:15 †The Biology of *Dittrichia graveolens*: A Foundation for Developing Management Strategies.** Rachel N. Brownsey*¹, Joseph M. DiTomaso², Guy B. Kyser²; ¹UC Davis, Red Bluff, CA, ²University of California, Davis, CA (137)

4:30 Adjourn

WEDNESDAY MORNING MARCH 14

PROJECT 5. Basic Biology and Ecology

LOCATION: Tuscany 3
TIME: 9:15 am - 9:30 am
CHAIR: William McCloskey
University of Arizona
Tucson, AZ
CHAIR-ELECT: Sarah Ward
Colorado State University
Ft. Collins, CO
MODERATOR: William McCloskey
University of Arizona
Tucson, AZ

***SPEAKER**

9:15 The USA National Phenology Network: A Platform for Education, Research and Decision-making in a Changing World. Jake F. Weltzin*; U.S. Geological Survey, Tucson, AZ (138)

WEDNESDAY MORNING MARCH 14

**PROJECT 5. Basic Biology and Ecology
Discussion**

**Can the National Phenology Network
Be Used in Invasive Weed Research?**

LOCATION: Tuscany 3
TIME: 9:30 am - 11:30 am
CHAIR: William McCloskey
University of Arizona
Tucson, AZ
CHAIR-ELECT: Sarah Ward
Colorado State University
Ft. Collins, CO
MODERATOR: William McCloskey
University of Arizona
Tucson, AZ

Elect Project Chair for 2013

 Coffee and drinks available from 10:00 am to 10:30 am. Sponsored by DuPont Crop Protection.

WEDNESDAY MORNING MARCH 14

**PROJECT 1. Weeds of Range and Natural Areas
Discussion**

**Cooperative Weed Mapping - Sharing Skills and
Resources Across Jurisdictional Boundaries**

LOCATION: Tuscany 5
TIME: 9:30 am - 11:30 am
CHAIR: John (Lars) Baker
Fremont County Weed and Pest
Lander, WY
CHAIR-ELECT: Todd Neel
National Park Service
Marblemount, WA
MODERATOR: John (Lars) Baker
Fremont County Weed and Pest
Lander, WY

Elect Project Chair for 2013

 Coffee and drinks available from 10:00 am to 10:30 am. Sponsored by DuPont Crop Protection.

WEDNESDAY MORNING MARCH 14

**PROJECT 3. Weeds of Agronomic Crops
Discussion Session**

**How Can Industry and Academia Work
Together to Encourage Growers to Proactively
Adopt Herbicide Resistance Management
Strategies?**

LOCATION: Tuscany 4
TIME: 9:30 am - 11:30 am
CHAIR: Chad Asmus
BASF Corporation
Newton, KS
CHAIR-ELECT: Joe Armstrong
Oklahoma State University
Stillwater, OK
MODERATOR: Chad Asmus
BASF Corporation
Newton, KS

Elect Project Chair for 2013

 Coffee and drinks available from 10:00 am to 10:30 am. Sponsored by DuPont Crop Protection.

WEDNESDAY, MARCH 14	
WSWS AWARDS LUNCHEON	
TUSCANY C & D	
11:45 am – 1:30 pm	
Master of Ceremonies:	<i>Vanelle Peterson</i> WSWS President
Presentation of Awards:	-Distinguished Achievement Awards - Outstanding Weed Scientists - Professional Staff - Weed Manager -Presidential Award of Merit -WSWS Fellows

WEDNESDAY AFTERNOON MARCH 14

Education and Regulatory Section

LOCATION: Tuscany 3
TIME: 1:45 pm - 4:05 pm
CHAIR: Timothy Prather
University of Idaho
Moscow, ID
MODERATOR: Timothy Prather
University of Idaho
Moscow, ID

- 1:45 Introduction**
- 1:50 Communicating Weed Impacts Through a Weed Awareness Campaign.** Roger Batt; Idaho Weed Awareness Campaign, Meridian, ID (139)
- 2:10 Sharing Impacts Using Social Media – Practical Solutions for Everyday Use.** Jim Lindstrom; Washington State University, Spokane, WA (140)
- 2:30 Non-Market Costs of Weeds Within a Weed Planning Tool: Communicating Importance of Weed Management.** Tyron Venn; University of Montana, Missoula, MT (141)
- 2:50 Program Impacts: Strategies for Effective Evaluation Using Surveys.** Stephanie Kane; University of Idaho, Moscow, ID (142)
- 3:10 ☞Break Compliments Helena Chemical**
- 3:25 CAST Reports Threats to Soil Conservation Gains from Herbicide-Resistant Weeds.** Robert G. Wilson; University of Nebraska-Lincoln, Scottsbluff, NE (143)
- 3:45 Refining Your Ask: How Do We Communicate the Importance of Weeds to Legislators?** John D. Cantlon*; DuPont Land management, Lakewood, CO (144)
- 4:05 Adjourn**

**PROJECT 2. Weeds of Horticultural Crops
Symposium**

**Tree and Vine Weed Control:
New Issues and Opportunities in the U.S.**

LOCATION: Tuscany 6
TIME: 1:45 pm - 5:30 pm
CHAIR: Richard Mann
Dow AgroSciences
Indianapolis, IN
MODERATOR: Richard Mann
Dow AgroSciences
Indianapolis, IN

***SPEAKER**

- 1:45 Introduction**
- 1:55 Managing Glyphosate-resistant Weeds in California Orchards and Vineyards.** Brad Hanson*¹, Anil Shrestha², Kurt J. Hembree³, Steve Wright⁴, John A. Roncoroni⁵; ¹Univ. of California, Davis, Davis, CA, ²California Fresno State University, Fresno, CA, ³UCCE, Fresno, CA, ⁴UCCE, Tulare, CA, ⁵UCCE, Napa, CA (145)
- 2:25 Weed Control in Young Orchards, Special Problems and Solutions.** Timothy J. Smith*; Washington State University, Wenatchee, WA (146)
- 2:45 Weed Control and Resistance Management in Florida Citrus.** Steve Futch*; University of Florida, Gainesville, FL (147)
- 3:05 ☞Break Compliments Helena Chemical**
- 3:20 Preemergence Herbicides and Weed Management in Southwestern Pecans.** William B. McCloskey*¹, Jill Schroeder², Jesse M. Richardson³; ¹University of Arizona, Tucson, AZ, ²New Mexico State University, Las Cruces, NM, ³Dow AgroSciences, Hesperia, CA (148)
- 3:40 Weed Control and Resistance Management in NM Pecan Orchards.** Mohsen Mohseni-Moghadam, Jamshid Ashigh*, Jill Schroeder; New Mexico State University, Las Cruces, NM (149)
- 4:00 The Effect of Adjuvants and Spray Volume on Saflufenacil Activity on *Conyza* species.** Ben Duesterhaus*¹, Curtis R. Rainbolt²; ¹BASF Corporation, Oakdale, CA, ²BASF Corporation, Fresno, CA (150)

- 4:20 Resistance Management with Bayer CropScience Herbicides in Tree Crops.** Monte D. Anderson*¹, Darren Unland²; ¹Bayer CropScience, Spangle, WA, ²Bayer CropScience, Research Triangle Park, NC (151)
- 4:40 Dow AgroSciences Weed Control Programs and Strategies in Tree Crops.** Deb Shatley*¹, Richard K. Mann², Barat Bisabri³, James Mueller⁴, Jesse M. Richardson⁵, Byron B. Sleugh⁶; ¹Dow AgroSciences, Lincoln, CA, ²Dow AgroSciences, Indianapolis, IN, ³Dow AgroSciences LLC, Orinda, CA, ⁴Dow AgroSciences LLC, Brentwood, CA, ⁵Dow AgroSciences, Hesperia, CA, ⁶Dow AgroSciences, Clovis, CA (152)
- 5:00 Panel Discussion**
- 5:20 Closing Comments**
- 5:30 Adjourn**


WEDNESDAY AFTERNOON MARCH 14

PROJECT 1. Weeds of Range and Natural Areas

LOCATION: Tuscany 5
TIME: 1:45 pm - 5:00 pm
CHAIR: John (Lars) Baker
 Fremont County Weed and Pest
 Lander, WY
CHAIR-ELECT: Todd Neel
 National Park Service
 Marblemount, WA
MODERATOR: John (Lars) Baker
 Fremont County Weed and Pest
 Lander, WY

***SPEAKER † STUDENT CONTEST**

1:45 Implementation of IPM Strategies on a Remote, Insipient Infestation of Spotted Knapweed in Fremont County, WY. John (Lars) L. Baker*¹, Kimberly K. Johnson¹, Mike Wille², Nancy A. Webber¹; ¹Fremont County Weed and Pest, Lander, WY, ²Fremont County Weed and Pest Control District, Riverton, WY (153)

- 2:00 Russian Knapweed Control and Grass Establishment in Response to Tillage and Herbicide Applications.** Scott Nissen*¹, Corey V. Ransom², Vanelle F. Peterson³, Joseph D. Vassios¹, Cameron Douglass¹; ¹Colorado State University, Fort Collins, CO, ²Utah State University, Logan, UT, ³Dow AgroSciences, Mulino, OR (154)
- 2:15 Monitoring and Simulating the Spatial Distribution Change of Invasive Plant Species Using Geospatial Information Technologies.** Nil Narumalani¹, Qingfeng (Gene) Guan², Stephen L. Young*³; ¹University of Nebraska-Lincoln, Lincoln, NE, ²University of Nebraska-Lincoln, Lincoln, NE, ³University of Nebraska-Lincoln, North Platte, NE (155)
- 2:30 Status of Biological Control Projects on Yellow Starthistle, Russian Thistle, Scotch Thistle, Cape-Ivy and French Broom.** Lincoln Smith*; USDA-ARS, Albany, CA (156)
- 2:45 Control of Mesquite-Pricklypear Complex with Aerial Herbicide Applications.** William L. Hatler*, Charles R. Hart; Texas AgriLife Extension Service, Stephenville, TX (157)
- 3:00  Break Compliments Helena Chemical**
- 3:15 Testing Control Options for Western Salsify on Conservation Reserve Program Lands in Montana.** Jane Mangold*; Montana State University, Bozeman, MT (158)
- 3:30 Suppressing Downy Brome Following Wildfires.** Charlie D. Clements*, Daniel N. Harmon; USDA, Reno, NV (159)
- 3:45 Efficacy Trials for Total Vegetation Control in the Pacific Northwest.** Harvey A. Holt*¹, Galen M. Wright², Joshua Sharpes³; ¹Green Systems Analytics, LLC, Seattle, WA, ²Washington Forestry Consultants, Inc., Olympia, WA, ³Washington Forestry Consultants Inc, Olympia, WA (160)
- 4:00 Toward Herbicidal Control of Buffelgrass.** John H. Brock*; Brock Habitat Restoration and Invasive Plant Management, Tempe, AZ (161)
- 4:15 Efficacy of Glyphosate and Imazapic Mixtures for Postemergence Control of Buffelgrass.** Travis M. Bean*¹, William B. McCloskey¹, Grant Casady²; ¹University of Arizona, Tucson, AZ, ²Whitworth University, Spokane, WA (162)
- 4:30 Biology and Management of Hare Barley in Cool-Season Grass Pastures.** Andrew G. Hulting*, Jessica L. Haavisto, Gene Pirelli; Oregon State University, Corvallis, OR (163)

4:45 Utilizing Herbicide Treatments for Ventenata and Medusahead Encroachment in a Central Oregon Native Bunchgrass System. Fara A. Brummer*¹, Marvin D. Butler², Rhonda R. Simmons², ¹Oregon State University Extension, Warm Springs, OR, ²Oregon State University, Madras, OR (164)

5:00 Adjourn

WEDNESDAY AFTERNOON MARCH 14

PROJECT 3. Weeds of Agronomic Crops

LOCATION: Tuscany 4
TIME: 1:45 pm - 4:15 pm
CHAIR: Chad Asmus
BASF Corporation
Newton, KS
CHAIR-ELECT: Joe Armstrong
Oklahoma State University
Stillwater, OK
MODERATOR: Chad Asmus
BASF Corporation
Newton, KS

***SPEAKER † STUDENT CONTEST**

1:45 †Glyphosate Resistance in Several Kochia Populations in Kansas. Amar S. Godar*¹, Phillip W. Stahlman², Johanna A. Dille¹, Philip Westra³; ¹Kansas State University, Manhattan, KS, ²Kansas State University, Hays, KS, ³Colorado State University, Ft. Collins, CO (165)

2:00 Herbicide Options for Glyphosate-Resistant Kochia Control. Andrew R. Kniss*¹, Phillip W. Stahlman², Patrick W. Geier², Robert G. Wilson³, Gustavo M. Sbatella⁴, Philip Westra⁵, Richard M. Cole⁶, Jeffrey M. Tichota⁷; ¹University of Wyoming, Laramie, WY, ²Kansas State University, Hays, KS, ³University of Nebraska-Lincoln, Scottsbluff, NE, ⁴Oregon State University, Madras, OR, ⁵Colorado State University, Ft. Collins, CO, ⁶Monsanto, St. Louis, MO, ⁷Monsanto, Centennial, CO (166)

2:15 †Weed Control with Corn Herbicides that Allow Rotation to Dry Bean and Sugarbeet. Jared C. Unverzagt*, Andrew R. Kniss; University of Wyoming, Laramie, WY (167)

- 2:30 Influence of Different Levels of Corn Stover on Preemergence and Postemergence Herbicide Performance in Dry Beans.** Robert G. Wilson*¹, Gustavo M. Sbatella²; ¹University of Nebraska-Lincoln, Scottsbluff, NE, ²Oregon State University, Madras, OR (168)
- 2:45 Development of a New Herbicide Resistance Trait in Wheat.** Michael Ostlie*¹, Philip Westra², Dale L. Shaner³, Scott Haley¹; ¹Colorado State University, Fort Collins, CO, ²Colorado State University, Ft. Collins, CO, ³USDA, Fort Collins, CO (169)
- 3:00 ☞Break Compliments Helena Chemical**
- 3:15 †Estimating the Frequency and Impact of Transgene Introgression from Wheat and Jointed Goatgrass.** Craig T. Beil*¹, Philip Westra², Pat Byrne³, Dale L. Shaner⁴, Scott Haley¹; ¹Colorado State University, Fort Collins, CO, ²Colorado State University, Ft. Collins, CO, ³Co-Advisor, Fort Collins, CO, ⁴USDA, Fort Collins, CO (170)
- 3:30 Italian Ryegrass Control in Winter Wheat with 1- and 2-Pass Herbicide Programs.** Joe Armstrong*; Oklahoma State University, Stillwater, OK (171)
- 3:45 †Management Strategies for Transition from Conservation Reserve Program to Crop Production.** Shawn P. Wetterau*; Washington State University, Pullman, WA (172)
- 4:00 †The Effects of Crop Rotation and Terrain Attributes on the Weed Seed Bank.** Rachel Unger*¹, Mark E. Swanson¹, Ian C. Burke¹, David R. Huggins², Eric R. Gallandt³, Stewart Higgins¹; ¹Washington State University, Pullman, WA, ²USDA-ARS, Pullman, WA, ³University of Maine, Orono, ME (173)
- 4:15 Adjourn**

WEDNESDAY AFTERNOON MARCH 14

What's New In Industry?

LOCATION: Tuscany 3
TIME: 5:30 pm - 6:30 pm
ORGANIZER & MODERATOR Charles Hicks
 Bayer CropScience
 Fort Collins, CO

THURSDAY, MARCH 15	
WSWS BUSINESS BREAKFAST	
TUSCANY C & D	
6:30 am – 9:00 am	
PRESIDING:	<i>Vanelle Peterson</i> WSWS President
WSWS Business Meeting	<ul style="list-style-type: none"> ✓ Committee Reports ✓ Student Poster and Paper Awards ✓ Passing of the Gavel

THURSDAY MORNING MARCH 15

PROJECT 4. Teaching and Technology Transfer

LOCATION: Tuscany 3
TIME: 9:30 am - 10:15 am
CHAIR: Gustavo Sbatella
Oregon State University
Madras, OR
CHAIR-ELECT: Kelly Young
University of Arizona
Phoenix, AZ
MODERATOR: Gustavo Sbatella
Oregon State University
Madras, OR

***SPEAKER**

9:30 Herbicide Resistance Education from WSSA - A Critical Step in Proactive Management. Jill Schroeder*¹, Wes Everman², Les Glasgow³, Lynn Ingegneri⁴, David Shaw⁵, John Soteres⁶, Jeff Stachler⁷, Francois Tardif⁸; ¹New Mexico State University, Las Cruces, NM, ²Michigan State University, Lansing, MI, ³Syngenta Crop Protection, Greensboro, NC, ⁴consultant, Ft. Collins, CO, ⁵Mississippi State University, Starkville, MS, ⁶Monsanto Company, St. Louis, MO, ⁷North Dakota State University and University of Minnesota, Fargo, ND, ⁸University of Guelph, Guelph, ON (174)

- 9:45 The Development and Adoption of the Ecofallow and Ecofarming Cropping Systems.** Robert N. Klein*; University of Nebraska, North Platte, NE (175)
- 10:00 Mobile Apps and Weeds. A Potential Useful Tool or Just a New Gadget?** Gustavo M. Sbatella*; Oregon State University, Madras, OR (176)
- 10:15 Adjourn**

THURSDAY MORNING MARCH 15

**PROJECT 4. Teaching and Technology Transfer
Discussion Session**

**Adding Mobile Apps to the
Weed Management Tool Box**

LOCATION: Tuscany 3
TIME: 10:15 am - 11:30 am
CHAIR: Gustavo Sbatella
Oregon State University
Madras, OR
CHAIR-ELECT: Kelly Young
University of Arizona
Phoenix, AZ
MODERATOR: Gustavo Sbatella
Oregon State University
Madras, OR

Elect Project Chair for 2013

THURSDAY MORNING MARCH 15

**Ecology and Management of Downy Brome
(*Bromus tectorum*) in the West:
What Can the Past Tell Us About the Future?**

LOCATION: Tuscany E & F
TIME: 9:30 am - 3:00 pm
CO-CHAIRS: Cynthia Brown
Colorado State University
Invasive *Bromus* REENet
Ft. Collins, CO
Ian Burke
Washington State University
Pullman, WA
Jane Mangold
Montana State University
Bozeman, MT
MODERATOR: Ian Burke
Washington State University
Pullman, WA

***SPEAKER**

- 9:30 Introduction**
- 9:40 Downy Brome Management in Great Basin Cropland - Past, Present, and Future.** Ralph E. Whitesides*, Corey V. Ransom; Utah State University, Logan, UT (177)
- 10:00 Ecological Factors Influencing the Outcome of Downy Brome Control in Semi-Arid Wildlands.** Thomas A. Monaco*; USDA, Logan, UT (178)
- 10:20 Managing Downy Brome in Canyon Grasslands and Sagebrush Steppe.** Timothy Prather*; University of Idaho, Moscow, ID (179)
- 10:40 Downy Brome Plant Growth and Herbicide Resistance Modeling.** Daniel Ball*; Oregon State University, Pendleton, OR (180)
- 11:00 Impacts of and a Novel Control Strategy for Annual Bromes.** Matt Rinella*; USDA-Agricultural Research Service, Miles City, MT (181)
- 11:20 Keeping Cheatgrass Honest: Assessing the Role of Biological and Environmental Stressors in Mediating the Ecological Role of Cheatgrass in Cropping Systems.** Fabian Menalled*; Montana State University, Bozeman, MT (182)
- 11:40 Lunch (on your own)**

- 1:00 Systems in Transition: Integrated Management of Annual Brome at the Intersection of Great Plains Grasslands and Sagebrush Steppe.** Brian A. Meador*; University of Wyoming, Laramie, WY (183)
- 1:20 Integrated Management Prevents Cheating in Winter Wheat Cropping Systems.** Drew Lyon*¹, Phillip W. Stahlman²; ¹University of Nebraska-Lincoln, Scottsbluff, NE, ²Kansas State University, Hays, KS (184)
- 1:40 Developing Biocontrols for Cheatgrass: Progress and Future Prospects.** Susan Meyer*; USDA Forestry Service, Provo, UT (185)
- 2:00 Synthesis**
- 2:20 Panel Discussion**
- 2:50 Closing Comments**
- 3:00 Adjourn**

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1940	G. R. Hyslop	1981	L. E. "Jack" Warren
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	Arthur H. Lange		Frank L. Young
1978	David E. Bayer	2001	Barbra Mullin
	Kenneth W. Dunster		Jill Schroeder
1979	Louis A. Jensen	2002	Jeff Tichota
	Gary A. Lee		Philip Westra
1980	W.L. Anliker	2003	Vanelle Peterson
1981	P. Eugene Heikes		Carol Mallory-Smith
	J. Wayne Whitworth	2004	Don Morishita
1982	Bert L. Bohmont		Phil Banks
	Lowell S. Jordan	2005	Nelroy Jackson
1983	Richard D. Comes		Roland Shirman
	Clyde L. Elmore	2006	Celestine Duncan
1984	Larry C. Burrill		Joan Campbell
1985	L.E. "Jack" Warren	2007	Bill Cobb
1986	Dwight V. Peabody		Phil Stahlman
	Robert L. Zimdahl	2008	K. George Beck
1987	Alex G. Ogg, Jr.		Rick Boydston
	Jean H. Dawson	2009	Kassim Al-Khatib
1988	Harvey D. Tripple		Scott Nissen
	E. Stan Heathman	2010	Tracy Sterling
1989	John O. Evans		Rick Arnold
	W.B. "Jim" McHenry	2011	Daniel A. Ball
			Roger Gast

OUTSTANDING WEED SCIENTISTS

1989	Jean H. Dawson	2001	John E. Orr
1990	Arnold P. Appleby		Phillip W. Stahlman
1991	Stephen D. Miller	2002	Doug Ryerson
	Harvey D. Tripple		Tom Whitson
1992	Alex G. Ogg, Jr.	2003	Frank Young
	Kenneth W. Dunster	2004	Ron P. Crockett
1993	Edward E. Schweizer		Joe DiTomaso
	Sheldon E. Blank		Jim Vandecoeving
1994	Larry C. Burrill	2005	Kassim Al-Khatib
1995	Larry W. Mitich		Kelly Luff
	Paul J. Ogg	2006	Rick Arnold
1996	Donald C. Thill	2007	John Fenderson
	Neal R. Hageman		Rod Lym
1997	Jeff Tichota	2008	Robert G. Wilson
	Harry S. Agamalian		Leo Charvat
1998	Donald R. Colbert		Pat Clay
	Clyde L. Elmore	2009	Carol Mallory-Smith
1999	Gus J. Foster	2010	Drew Lyon
	Philip Westra		Ian Burke
2000	Bart Brinkman	2011	Monte D. Anderson
	K. George Beck		Bradley D. Hanson

OUTSTANDING ACHIEVEMENT AWARDS

2003	Bill Brewster	Professional Staff
2005	Guy Kyser	Professional Staff
	Eric Lane	Weed Manager
2006	Ed Peachey	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
2010	Cheryl Fiore	Professional Staff
2011	Robert Higgins	Professional Staff

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

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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.

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Valent

Wilbur-Ellis Company

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FUTURE MEETING DATES AND SITES

March 11-14, 2013

Catamaran Resort Hotel

San Diego, CA

March 10-13, 2014

Crowne Plaza Hotel

Colorado Springs, CO

TIME	TUESDAY	WEDNESDAY	THURSDAY	
6:30			WSWS Business Breakfast and Student Awards Tuscany C&D	
6:45				
7:00				
7:30				
7:45	Poster Session Odd # Authors Present Tuscany E&F	Poster Session Even # Authors Present Tuscany E&F		
8:00				
8:15				
8:30				
8:45				
9:00				
9:15				
9:30	General Session Tuscany C&D		Symposium: Ecology and Management of Downy Brome (<i>Bromus tectorum</i>) in the West: What Can the Past Tell Us About the Future? Tuscany E&F Session ends at 3:00 pm	
9:45				
10:00				
10:15				
10:30				
10:45				
11:00				
11:15				
11:30				
11:45				
12:00		WSWS Awards Luncheon Tuscany C&D		
1:15				
1:30				
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5:00				
5:15				
5:30		What's New in Industry? Tuscany 3		
5:45				
6:00				
6:15				
6:30				