



**WORKING LANDSCAPES
PROVIDING FOR THE FUTURE**

**Society for Range Management
and
Weed Science Society of America**

Annual Meeting Program Guide

Sheraton Denver Hotel
Denver, Colorado
February 7-11, 2010



**Our commitment to the
cattle industry is growing.**

With a broad portfolio of herbicides available to them, our Range & Pasture Specialists can help you find products to help increase forage production, control brush or create wildlife habitat. These consultants can make recommendations based on your land and your needs.



**Tradeoffs of Dow AgroSciences LLC. Grazon P+D, Tordon 22K and Summit are Federally Restricted Use Pesticides. Spike 80DF is registered for range and pasture use only in AL, KS, LA, MD, MS, NM, OK and TX. State restrictions on the sale and use of Spike 80DF apply. Chaparral, GrazonNext and Milestone are not registered for sale of use in all states. Contact your state pesticide regulatory agency to determine if a product is registered for sale of use in your state. Label precautions apply to forage treated with Chaparral, GrazonNext and Milestone and to animals that have consumed treated forage within the last three days. Consult the label for full details. Always read and follow label directions. (800) 866-8127 (6/09) OR (916) 570-5700 (04/2010/0905)

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Remedy® Herbicide

Redeem® R&P Herbicide

PastureGard® Herbicide

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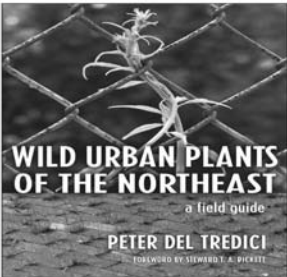
GrazonNext™ Herbicide

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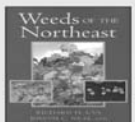


WILD URBAN PLANTS OF THE NORTHEAST
a field guide
PETER DEL TREDICI
FOREWORD BY STEWARD T. A. PICKETT

Wild Urban Plants of the Northeast
A Field Guide
PETER DEL TREDICI
FOREWORD BY STEWARD T. A. PICKETT

“Del Tredici has written one of those rare books that completely overturns the way you look at the landscape—in this case, the landscape of the city’s derelict cracks and corners, which in his hands becomes a place of unusual interest, value, and beauty. Though ostensibly a field guide, this book is much more than that—it offers a deep and wise reconsideration of our most cherished ideas about nature. You will never look at an ‘invasive species’ the same way again.”
—Michael Pollan, author of *The Botany of Desire*
\$29.95 hylflex | 966 color photographs, 1 chart/graph, 2 maps | A COMSTOCK BOOK

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Weeds of the Northeast
RICHARD H. UVA, JOSEPH C. NEAL, AND JOSEPH M. DITOMASO

Weeds of the Northeast
RICHARD H. UVA, JOSEPH C. NEAL, AND JOSEPH M. DITOMASO

“This detailed and user-friendly guide identifies nearly 300 weedy plant species commonly found from southeastern Canada south to Virginia and west to Wisconsin. Sharp color photographs illustrate each plant in seed, seedling, and mature stages.”
—*The American Gardener*
\$29.95 paper | 746 color photos, 118 drawings, 17 tables | A COMSTOCK BOOK

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Welcome to Denver, Colorado

The Colorado Section members of the Society for Range Management in partnership with the Weed Science Society of America welcomes you to Denver, Colorado. This event is the 63rd Annual Meeting of the Society for Range Management and the 50th Annual Meeting of the Weed Science Society of America.

Members of the two Societies have been working for over 2 years to make this meeting a rewarding experience for all. Both Societies have long been involved in creating the scientific basis for the protection, conservation and management of the Nation's productive lands. The meeting theme "Working Landscapes- Providing for the Future" sets the stage to promote discussions that move us all beyond our traditional disciplinary boundaries. From the Plenary Session through the broad mix of technical programs, symposiums, and social activities, we have strived to create an atmosphere of collaboration while retaining the character and interests of each Society.

As a joint meeting you will find participants from other disciplines and areas that you may never have a chance to meet otherwise. Please take advantage of the many opportunities to advance your knowledge in technical areas, become acquainted with a broad spectrum of professionals, renew old friendships and enjoy the Mile High city of Denver, Colorado. We also hope that you will use this occasion to form new friendships, expand your network and provide the basis for new and productive partnerships. We are committed to your enjoyment and learning experience. Please contact us with any particular needs or questions you might have.

General Co-Chairs

Roy Roath
Lana Pearson
Society for Range Management

John Jachetta
Dale Shaner
Weed Science Society of America

BUILDING-ROOM LOCATION

PLAZA BUILDING CONCOURSE LEVEL

PLAZA BALLROOM
PLAZA A, B, C, D, E, F
PLAZA COURT 1, 2, 3, 4, 5, 6, 7, 8
GOVERNOR'S SQUARE 9, 10, 11, 12, 13, 14, 15, 16, 17
PLAZA REGISTRATION OFFICE
PLAZA EXHIBIT

PLAZA BUILDING STREET LEVEL

DIRECTOR'S ROW E, F, G, H, I, J

TOWER BUILDING SECOND LEVEL

GRAND BALLROOM 1,2
NORTH CONVENTION LOBBY
SOUTH CONVENTION LOBBY
TOWER COURT 1, 2, 3, 4
WINDOWS

TOWER BUILDING MEZZANINE LEVEL

DENVER
SPRUCE
CENTURY
GOLD
SILVER
COLORADO
ASPEN BOARDROOM

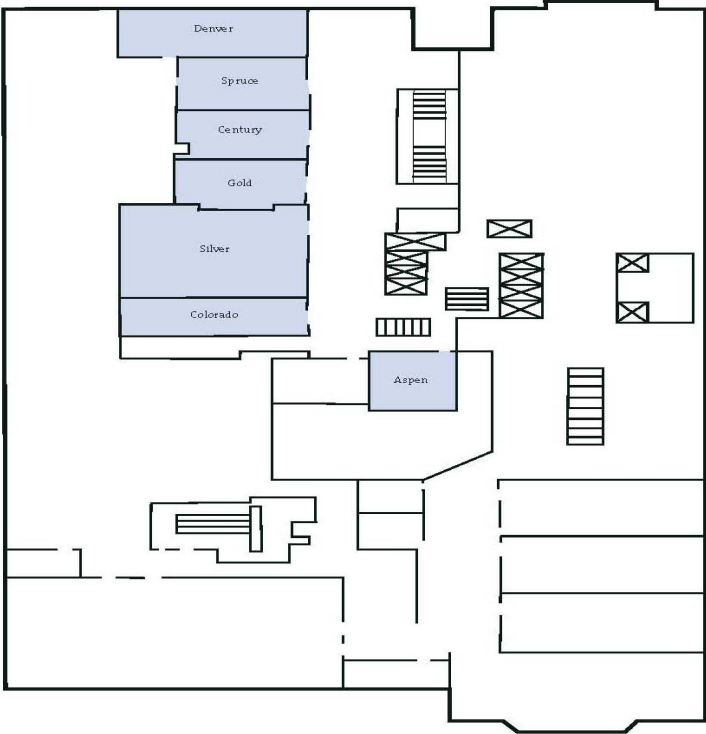
TOWER BUILDING TERRACE LEVEL

COLUMBINE
TERRACE
CAPITOL
BILTMORE
BEVERLY

TOWER BUILDING MAJESTIC LEVEL

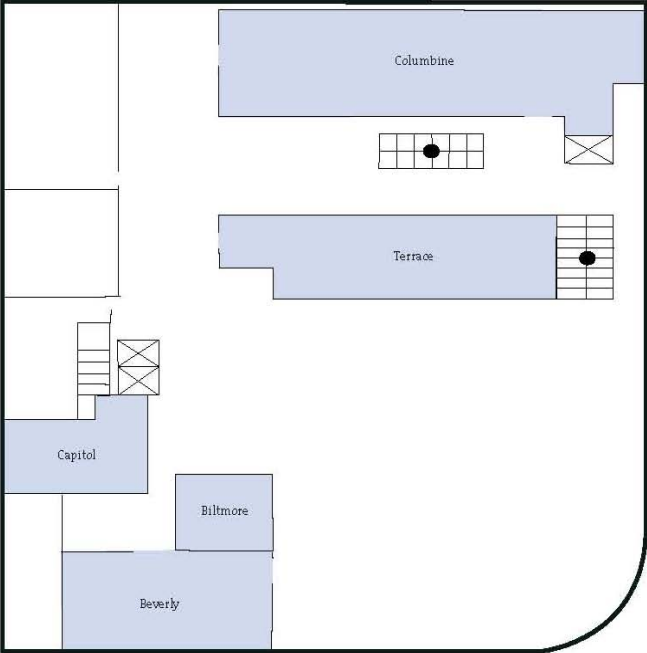
MAJESTIC BALLROOM
VAIL
SAVOY

TOWER BUILDING MEZZANINE LEVEL

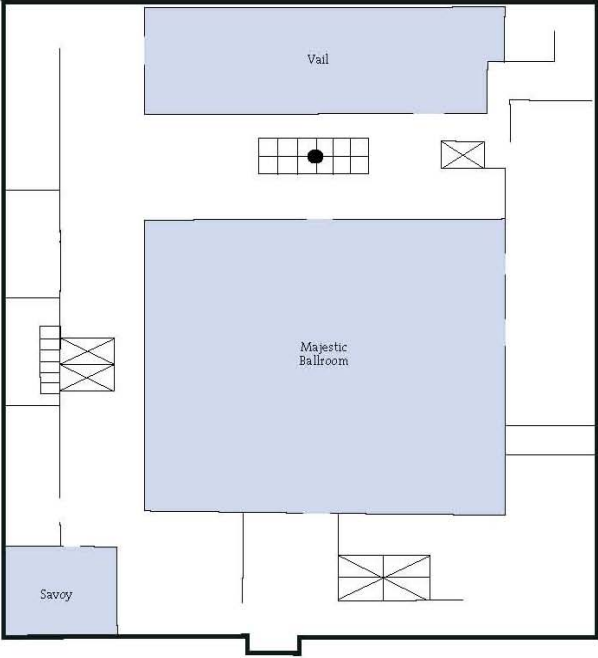


Court Place

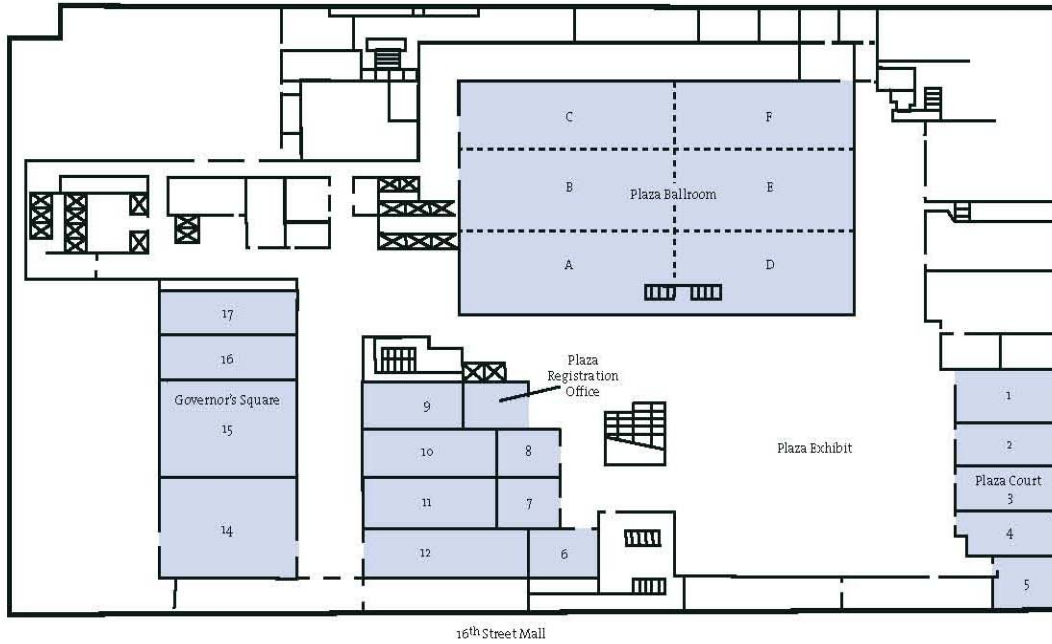
TOWER BUILDING TERRACE LEVEL



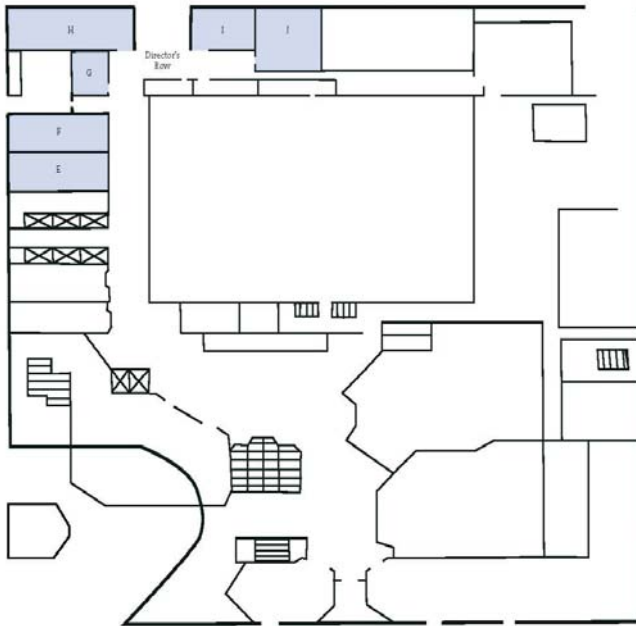
TOWER BUILDING MAJESTIC LEVEL



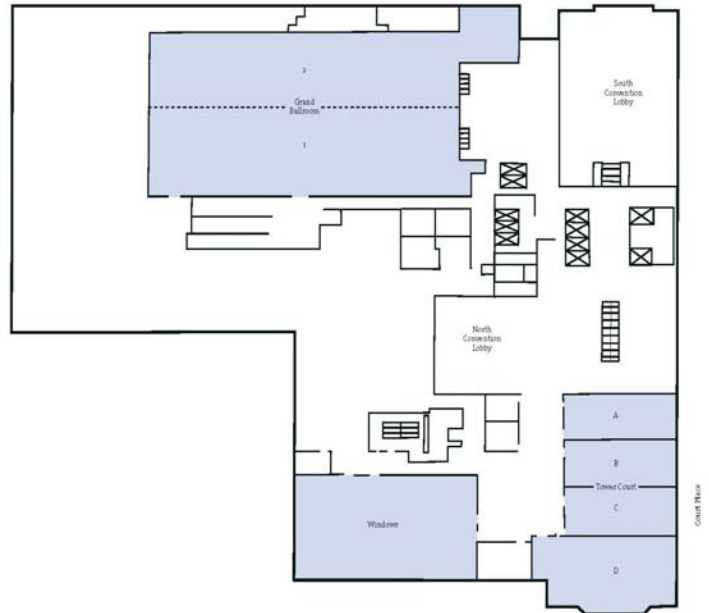
PLAZA BUILDING CONCOURSE LEVEL



PLAZA BUILDING STREET LEVEL



TOWER BUILDING SECOND LEVEL



SRM COMMITTEE ACTIVITIES

Committee/Activity	Start Time	End Time	Location
Saturday February 6			
SRM Board of Directors	7:00 AM	5:00 PM	Century
ARS/CEAP	8:00 AM	6:00 PM	Plaza Court 3
2010 Planning Committee	1:30 PM	3:30 PM	Plaza Court 1
Registration	5:00 PM	7:00 PM	Plaza Registration Office
SRM Board of Directors Meeting w/ Committee Chairs and Vice-Chairs	6:00 PM	8:00 PM	Tower Court D
Sunday February 7			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
Registration & Information	7:00 AM	5:30 PM	Plaza Registration Office
ARS/CEAP	8:00 AM	12:00 PM	Plaza Court 1
SRM Advisory Council	8:00 AM	4:30 PM	Governor's Square 12
SRM Nominations Committee	8:00 AM	5:00 PM	Colorado
SRM RAM Committee	8:00 AM	5:00 PM	Spruce
SRM Section Membership Chairs	8:00 AM	11:00 AM	Governor's Square 11
SRM Public Affairs	8:00 AM	12:00 PM	Governor's Square 15
SRM Government Policy and Programs Committee	8:00 AM	12:00 PM	Governor's Square 14
SRM Watershed/Riparian Committee	8:00 AM	12:00 PM	Plaza Court 5
SRM Rangelands Steering Committee	8:00 AM	12:00 PM	Plaza Court 4
SRM Range Science Education Council	8:00 AM	12:30 PM	Governor's Square 9
Rangeland CEAP	9:00 AM	12:00 PM	Plaza Court 3
SRM Student Activities Committee	9:00 AM	2:00 PM	Columbine
SRM -Finance Committee	9:00 AM	3:00 PM	Plaza Court 7
SRM Coordinated Resource Management Committee	10:00 AM	12:00 PM	Tower Court D
SRM Information & Education Committee	12:00 PM	4:00 PM	Plaza Court 5
Silent Auction set-up	12:00 PM	6:00 PM	Plaza Court 2
Tradeshow set up	12:00 PM	6:00 PM	Plaza Exhibit Area
SRM REM Editorial Board & Steering Committee	1:00 PM	3:00 PM	Governor's Square 9
SRM Accreditation Panel	1:00 PM	3:00 PM	Tower Court C
SRM Publications Committee	1:00 PM	3:00 PM	Tower Court B

SRM COMMITTEE ACTIVITIES (CONTINUED)

Committee/Activity	Start Time	End Time	Location
Sunday February 7 (Continued)			
SRM Rangeland Invasive Species Committee	1:00 PM	4:00 PM	Gold
SRM Wildlife Habitat Committee	1:00 PM	4:00 PM	Plaza Court 1
SRM Remote Sensing/GIS Committee	1:00 PM	4:00 PM	Windows
SRM Public Affairs	1:00 PM	5:00 PM	Governor's Square 15
SRM Government Policy and Programs Committee	1:00 PM	5:00 PM	Governor's Square 14
SRM International Affairs Committee	1:00 PM	5:00 PM	Governor's Square 16
SRM (CPRM) Certified Professional Range Managers Committee	1:00 PM	5:00 PM	Silver
SRM Rangelands Editorial Board	1:00 PM	5:00 PM	Plaza Court 4
SRM Awards Committee	3:00 PM	5:00 PM	Tower Court C
SRM Endowment Fund Board of Governors	3:00 PM	5:00 PM	Tower Court D
SRM GLCI Task Force	3:00 PM	5:00 PM	Governor's Square 10
SRM History Archives & Library Committee	3:00 PM	5:00 PM	Plaza Court 7
SRM Membership Task Force	3:00 PM	5:00 PM	Tower Court B
SRM Leadership Development Committee	4:00 PM	6:00 PM	Gold
SRM Contestants Registration	5:00 PM	6:00 PM	Grand Ballroom - Section 2
SRM Young Professionals Conclave	5:00 PM	7:00 PM	Governor's Square 9
SRM International Producer's Program Social hosted by Dow AgroSciences	5:00 PM	8:00 PM	Governor's Square 16
SRM Student Conclave Business Meeting & Mixer	5:00 PM	8:00 PM	Grand Ballroom - Section 2
Targeted Grazing Committee	5:00 PM	9:00 PM	Colorado
SRM Youth Activities Workshop	5:30 PM	7:00 PM	Tower Court A
SRM Association of Range Consultants	7:00 PM	9:00 PM	Windows
Monday February 8			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
2011 Annual Meeting Planning Committee	7:00 AM	9:00 AM	Plaza Court 7
Registration & Information	7:00 AM	5:30 PM	Plaza Registration Office
Tradeshaw Set-Up	8:00 AM	11:00 AM	Plaza Exhibit Area

SRM COMMITTEE ACTIVITIES (CONTINUED)

Committee/Activity	Start Time	End Time	Location
Monday February 8 (Continued)			
Daily Trail Boss	8:00 AM	6:00 PM	Plaza Court 6
Tours Desk	8:00 AM	6:00 PM	hotel lobby
Silent Auction	8:00 AM	8:00 PM	Plaza Court 2
Press Room	9:00 AM	12:00 PM	Governor's Square 9
SRM Past Presidents, Founding & Charter Member Luncheon	12:00 PM	2:00 PM	Governor's Square 10
Tradeshow	12:00 PM	8:00 PM	Plaza Exhibit Area
SRM Advisory Council	1:00 PM	4:30 PM	Windows
SRM - CPRM Exam Review	1:00 PM	5:00 PM	Tower Court C
Tuesday February 9			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
Registration & Information	7:00 AM	5:30 PM	Plaza Registration Office
New Members Breakfast	7:00 AM	8:00 AM	Plaza Ballroom F
SRM Board of Directors Meeting (Committee/Advisory Council Reports)	8:00 AM	10:00 AM	Governor's Square 9
SRM - CPRM Exam	8:00 AM	12:00 PM	Plaza Court 3
Forest Service Rangeland Management Director's Meeting	8:00 AM	12:00 PM	Capital
Daily Trail Boss	8:00 AM	6:00 PM	Plaza Court 6
Tours Desk	8:00 AM	6:00 PM	hotel lobby
Silent Auction	8:00 AM	6:00 PM	Plaza Court 2
Tradeshow	8:00 AM	8:00 PM	Plaza Exhibit Area
Association of University Rangeland Resource Programs	1:00 PM	3:00 PM	Plaza Court 1
US Forest Service I-web Training	1:00 PM	4:00 PM	Terrace
SRM Board of Director's Meeting Continuation	1:00 PM	5:00 PM	Plaza Court 5
SRM - Chicago Climate Exchange Verifier Review and Exam	1:00 PM	5:00 PM	Capital

SRM COMMITTEE ACTIVITIES (CONTINUED)

Committee/Activity	Start Time	End Time	Location
Wednesday, February 10			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
SRM Board of Directors and Committee Chairs discussion	7:00 AM	8:00 AM	Vail
Registration & Information	7:00 AM	12:00 PM	Plaza Registration Office
Joint Planning Planning Committee Meeting	7:30 AM	9:30 AM	Plaza Court 7
Silent Auction	8:00 AM	12:00 AM	Plaza Court 2
Trade Show	8:00 AM	12:00 AM	Plaza Exhibit Area
BLM Agency Workshop	8:00 AM	12:00 PM	Windows
Tours Desk	8:00 AM	6:00 PM	hotel lobby
Daily Trail Boss	8:00 AM	6:00 PM	Plaza Court 6
SRM Association of University Rangeland Resource Programs Committee	10:00 AM	12:00 PM	Plaza Court 5
Tradeshow Tear Down	1:00 PM	6:00 PM	Plaza Exhibit Area
USDA - CSREES Project Director's Meeting	7:00 PM	9:00 PM	Plaza Court 5
Thursday, February 11			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
Registration & Information	7:00 AM	10:30 PM	Plaza Registration Office
2011 Meeting Planning Committee	7:30 AM	9:00 AM	Plaza Court 7
SRM Board of Directors Meeting	12:30 PM	7:00 PM	Vail
NRCS Technical meeting	1:00 PM	5:30 PM	Windows
Friday, February 12			
Joint WSSA/SRM Board of Directors Recap and Breakfast	7:00 AM	9:00 AM	Tower Court D
SRM Board of Directors	9:00 AM	5:00 PM	Tower Court C

WSSA Committee Activities

Committee/Activity	Start Time	End Time	Location
Saturday February 6			
WSSA Board of Directors	7:30 AM	5:00 PM	Denver
2010 Planning Committee	1:30 PM	3:30 PM	Plaza Court 1
Sunday February 7			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
WSSA Board of Directors	7:30 AM	5:00 PM	Denver
WSSA - Weed Science Editorial Board (P2)	9:00 AM	11:00 PM	Governor's Square 10
WSSA Invasive Plant Science and Management Editorial Board (P4)	11:00 AM	1:00 PM	Governor's Square 10
WSSA Biological Control of Weeds Committee (W16)	1:00 PM	2:00 PM	Capital
WSSA Extension Committee (W11)	1:00 PM	2:00 PM	Aspen
WSSA International Affairs (F8)	1:00 PM	2:00 PM	Century
WSSA Science Policy Committee (E2)	1:00 PM	2:00 PM	Plaza Court 3
WSSA Weed Technology Editorial Board (P2)	1:00 PM	3:00 PM	Governor's Square 10
WSSA Professional Development Committee (S64)	1:00 PM	3:00 PM	Tower Court D
WSSA Formulation, Adjuvant and Application Committee (W15)	2:00 PM	3:00 PM	Plaza Court 3
Professional Development Training for WSSA Students hosted by Monsanto	2:00 PM	6:00 PM	Terrace
WSSA Endowment Fund Committee (F3)	3:00 PM	4:00 PM	Plaza Court 3
WSSA CD Reviews for Monday's papers	3:00 PM	4:00 PM	Plaza Court 8
WSSA Federal Noxious and Invasive Weeds Committee (E4)	3:00 PM	5:00 PM	Columbine
WSSA Parent Awards Committee (W3)	3:00 PM	5:00 PM	Century
WSSA Biology of Weeds Committee (W4)	3:00 PM	5:00 PM	Aspen
Professional WSSA Students Mixer hosted by Monsanto	6:00 PM	11:00 PM	Terrace
Monday February 8			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
WSSA Membership & Affiliations Committee (F4)	7:00 AM	8:00 AM	Tower Court C
WSSA Sustaining Member Committee (F5)	7:00 AM	8:00 AM	Tower Court D
WSSA Standardized Plant Names Committee (P22B)	7:00 AM	8:00 AM	Tower Court B
WSSA Foundation Committee	7:00 AM	9:00 AM	Plaza Court 3
WSSA Education Committee (W5)	7:00 AM	9:00 AM	Plaza Court 5

WSSA Committee Activities (Continued)

Committee/Activity	Start Time	End Time	Location
Monday February 8 (Continued)			
WSSA Publication Board	7:00 AM	9:00 AM	Capital
WSSA 2010/2011 Program Committee (W1)	7:00 AM	9:00 AM	Denver
WSSA Integrated Weed Management Committee (W17)	7:00 AM	9:00 AM	Savoy
WSSA CAST Committee (E3)	8:00 AM	9:00 AM	Governor's Square 10
WSSA Sustaining Agriculture Committee (W20)	8:00 AM	9:00 AM	Tower Court D
WSSA Research and Competitive Grants Committee (E6)	8:00 AM	9:00 AM	Tower Court B
WSSA Fellows & Honorary Member Committee (W3a)	8:00 AM	9:00 AM	Tower Court C
WSSA CD Reviews for Tuesday's papers	8:00 AM	6:00 PM	Plaza Court 8
WSSA Photo Contest Judging (W3J)	12:00 PM	3:00 PM	Tower Court B
WSSA Poster Session Business Meeting	3:00 PM	3:30 PM	Plaza Ballroom DE
WSSA Awards Ceremony	4:00 PM	6:00 PM	Grand Ballroom - Section 2
NRI Awardees Reception	5:30 PM	7:30 PM	Governor's Square 10
CSREES Funded Projects	6:00 PM	8:00 PM	Plaza Court 3
BASF Weed Science Reception	6:00 PM	8:00 PM	Windows
Tuesday February 9			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
WSSA Website Committee (P23)	7:00 AM	8:00 AM	Plaza Court 3
WSSA Environmental Quality Committee (E8)	7:00 AM	8:00 AM	Governor's Square 9
WSSA Herbicides for Minor Use Committee (E10)	7:00 AM	9:00 AM	Tower Court D
WSSA Christian Fellowship Breakfast	7:00 AM	9:00 AM	Plaza Court 5
WSSA Herbicide Resistant Plants Committee (E12)	7:00 AM	9:00 AM	Plaza Court 4
WSSA Public Relations Steering (S65)	7:00 AM	9:00 AM	Savoy
WSSA Weed Loss Committee (E11)	7:00 AM	9:00 AM	Tower Court C
WSSA Weed Alert Committee (W13)	7:30 AM	9:30 AM	Tower Court B
WSSA - NE-1026 Weed Mgt. Strategies for Sustainable Cropping Systems	8:00 AM	12:00 PM	Plaza Court 1
Global HRAC Committee Meeting	4:00 PM	7:00 PM	Plaza Court 1
IWSS Board of Directors	6:00 PM	8:00 PM	Tower Court B

WSSA Committee Activities (Continued)

Committee/Activity	Start Time	End Time	Location
Wednesday, February 10			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
Syngenta	6:45 AM	8:00 AM	Governor's Square 9
WSSA Terminology Parent Committee (P22)	7:00 AM	8:00 AM	Plaza Court 4
WSSA History and Archive Committee (W8)	7:00 AM	8:00 AM	Tower Court B
WSSA President's Breakfast w. Regional Presidents	7:00 AM	8:30 AM	Terrace
WSSA Finance Committee (F2)	7:00 AM	9:00 AM	Plaza Court 3
WSSA CD Reviews for Thursday's papers	8:00 AM	6:00 PM	Plaza Court 8
WSSA Business Meeting	5:30 PM	6:30 PM	Terrace
Thursday, February 11			
2010 Planning Committee	6:30 AM	7:30 AM	Plaza Court 1
WSSA President's Breakfast with Committee Chairs	7:00 AM	8:30 PM	Plaza Court 4
Friday, February 12			
Joint WSSA/SRM Board of Directors Recap and Breakfast	7:00 AM	9:00 AM	Tower Court D
WSSA Board of Directors	9:00 AM	3:30 PM	Tower Court B

Student and Young Professional Activities

Committee/Activity	Start Time	End Time	Location
Sunday February 7			
SRM Student Plant ID Study Room	12:00 AM	11:59 PM	Beverly
SRM High School Youth Home Room	6:00 AM	11:00 PM	Tower Court A
Employment Interview Rooms - BLM	7:00 AM	10:00 PM	Director's Row H and E
Employment Interview Rooms - FS	7:00 AM	10:00 PM	Director's Row I and J
Employment Interview Room - other	7:00 AM	10:00 PM	Governor's Square 17
Employment Interview Room - NRCS	7:00 AM	10:00 PM	Director's Row F
Human Resources Room	7:00 AM	10:00 PM	Director's Row G
Job fair set up	8:00 AM	10:00 AM	Majestic Ballroom
Career Opportunities Room (includes WSSA Placement Service information and interviews)	8:00 AM	10:00 PM	plaza/governor foyer
Job Fair Business Center	10:00 AM	6:00 PM	Biltmore
Student Speaker Prep Room	10:00 AM	6:00 PM	Biltmore
2010 Job Fair	10:00 AM	6:00 PM	Majestic Ballroom
Rangeland Career Development Workshop	1:00 PM	5:00 PM	Vail
SRM High School Youth Orientation/Social	7:00 PM	10:00 PM	Tower Court A
Monday February 8			
SRM Student Plant ID Study Room	12:00 AM	11:59 PM	Beverly
SRM High School Youth Home Room	6:00 AM	11:00 PM	Tower Court A
Employment Interview Rooms - BLM	7:00 AM	10:00 PM	Director's Row H and E
Employment Interview Rooms - FS	7:00 AM	10:00 PM	Director's Row I and J
Employment Interview Room - other	7:00 AM	10:00 PM	Aspen
Employment Interview Room - NRCS	7:00 AM	10:00 PM	Director's Row F
Human Resources Room	7:00 AM	10:00 PM	Director's Row G
SRM Undergraduate Range Management Exam	7:00 AM	12:00 PM	Majestic Ballroom
SRM UG Public Speaking Contest Registration Room	8:00 AM	5:00 PM	Biltmore
Student Exhibits Set-Up	8:00 AM	6:00 PM	Plaza Exhibit Area
Career Opportunities Room (includes WSSA Placement Service information and interviews)	8:00 AM	10:00 PM	plaza/governor foyer
Job Fair Business Center	10:00 AM	6:00 PM	Biltmore

Student and Young Professional Activities (Continued)

Committee/Activity	Start Time	End Time	Location
Monday February 8 (Continued)			
Student Speaker Prep Room	10:00 AM	6:00 PM	Biltmore
UMRE Coaches Critique	10:30 AM	12:00 PM	Majestic Ballroom
SRM UG Public Speaking Contest Rooms A and B	1:00 PM	5:00 PM	Terrace and Capital
SRM URME Grading	2:00 PM	5:00 PM	Savoy
Plant ID room set up	4:00 PM	11:00 PM	Majestic Ballroom
SRM/WSSA Tapping the Top	5:00 PM	6:30 PM	Plaza Ballroom F
SRM HSYF Professional Interaction dinner	6:00 PM	8:00 PM	off site
Tuesday February 9			
SRM Student Plant ID Study Room	12:00 AM	11:59 PM	Beverly
SRM High School Youth Home Room	6:00 AM	11:00 PM	Tower Court A
SRM Plant ID Staging/Coaches Workshop	6:00 AM	1:00 PM	Vail
SRM High School Youth Forum	7:00 AM	5:00 PM	Governor's Square 10
Employment Interview Rooms - BLM	7:00 AM	10:00 PM	Director's Row H and E
Employment Interview Rooms - FS	7:00 AM	10:00 PM	Director's Row I and J
Employment Interview Room - other	7:00 AM	10:00 PM	Aspen
Employment Interview Room - NRCS	7:00 AM	10:00 PM	Director's Row F
Human Resources Room	7:00 AM	10:00 PM	Director's Row G
SRM Plant ID Contest/Viewing	8:00 AM	3:00 PM	Majestic Ballroom
Student Exhibits	8:00 AM	6:00 PM	Plaza Exhibit Area
Career Opportunities Room (includes WSSA Placement Service information and interviews)	8:00 AM	10:00 PM	plaza/governor foyer
Job Fair Business Center	10:00 AM	6:00 PM	Biltmore
Student Speaker Prep Room	10:00 AM	6:00 PM	Biltmore
Young Professional Conclave Luncheon	10:30 AM	12:30 PM	Windows
WSSA Graduate Student Luncheon and Business Meeting	12:00 AM	1:30 PM	Tower Court C
SRM Student Conclave Lunch & Meeting	12:00 PM	2:00 PM	Plaza Ballroom F
Rangeland Cup	1:00 PM	5:00 PM	Plaza Ballroom DE
SRM Plant ID Contest Grading	1:00 PM	7:00 PM	Savoy
Student Conclave Tour	2:30 PM	6:00 PM	off site
SRM Plant ID Coaches critique	6:00 PM	7:00 PM	Vail

Student and Young Professional Activities (Continued)

Committee/Activity	Start Time	End Time	Location
Wednesday, February 10			
SRM Student Plant ID Study Room	12:00 AM	11:59 PM	Beverly
SRM High School Youth Business Mtg & Workshop	6:00 AM	11:59 PM	Tower Court A
Employment Interview Rooms - BLM	7:00 AM	10:00 PM	Director's Row H and E
Employment Interview Rooms- FS	7:00 AM	10:00 PM	Director's Row I and J
Employment Interview Room - other	7:00 AM	10:00 PM	Aspen
Employment Interview Room - NRCS	7:00 AM	10:00 PM	Director's Row F
Human Resources Room	7:00 AM	10:00 PM	Director's Row G
Student Exhibits	8:00 AM	12:00 AM	Plaza Exhibit Area
Special Session - SRM Undergraduate Student Contributed (Technical) Papers	8:00 AM	12:00 PM	Spruce
Career Opportunities Room (includes WSSA Placement Service information and interviews)	8:00 AM	10:00 PM	plaza/governor foyer
Thursday, February 11			
Employment Interview Rooms - BLM	7:00 AM	12:00 noon	Director's Row H and E
Employment Interview Rooms- FS	7:00 AM	12:00 noon	Director's Row I and J
Human Resources Room	7:00 AM	12:00 noon	Director's Row G
SRM Student Activities Committee Breakfast Meeting	8:00 AM	10:00 AM	Savoy
Career Opportunities Room (includes WSSA Placement Service information and interviews)	8:00 AM	12:00 PM	plaza/governor foyer

TOURS AND SOCIAL EVENTS

Committee/Activity	Start Time	End Time	Location
Saturday February 6			
Breckenridge Ski Tour	7:00 AM	5:30 PM	off site
Sunday February 7			
Christian Fellowship for Rangeland Stewardship	6:30 AM	7:00 AM	Plaza Court 7
Breckenridge Ski Tour	7:00 AM	5:30 PM	off site
Lasater Ranch Technical Tour	9:00 AM	5:00 PM	off site
SRM International Producer's Program Social hosted by Dow AgroSciences	5:00 PM	8:00 PM	Governor's Square 16
Tribute to Bob Hammer	5:30 PM	11:00 PM	Silver
USDA/ARS Scientists Meeting	6:00 PM	7:00 PM	Governor's Square 11
Extension Family Meeting	6:00 PM	8:00 PM	Governor's Square 10
Forest Service Award Ceremony and Family Meeting	6:00 PM	9:00 PM	Grand Ballroom - Section 1
NRCS Family Meeting	7:00 PM	9:00 PM	Governor's Square 15
BLM Family Meeting & Reception	7:00 PM	10:00 PM	Governor's Square 14
NPS Family Meeting	7:00 PM	10:00 PM	Governor's Square 12
Monday February 8			
Christian Fellowship for Rangeland Stewardship	6:30 AM	7:00 AM	Plaza Court 5
SRM High School Youth Forum Tour	8:00 AM	4:45 PM	off site
Companion Tour - Brown Palace Hotel Tour and Tea	12:30 PM	3:00 PM	off site - meet at Ships Tavern
SRM/WSSA Trade Show Mixer	6:00 PM	8:00 PM	Plaza Exhibit Area
President's and VIP Reception (Invitational)	7:30 PM	9:00 PM	off site - Governor's Mansion
Tuesday February 9			
Texas Tech Alumni Breakfast	6:30 AM	8:30 AM	Denver
Companion tour - Mint	8:30 AM	?	off site
Companion tour - Mint	9:30 AM	?	off site
Companion tour - Molly Brown House	1:30 PM	3:15 PM	off site
Companion tour - Molly Brown House	2:30 PM	4:15 PM	off site
Northern Great Plains SRM Section Meeting	4:00 PM	6:00 PM	Plaza Court 7
Crop Protection Reception hosted by DuPont	5:00 PM	7:00 PM	Plaza Ballroom F

TOURS AND SOCIAL EVENTS (CONTINUED)

Committee/Activity	Start Time	End Time	Location
Tuesday February 9 (Continued)			
University of Arizona Alumni and Friends	5:30 PM	7:30 PM	Capital
University of Wyoming	6:00 PM	8:00 PM	Majestic Ballroom
Idaho Social - University of Idaho and Idaho SRM	6:00 PM	8:00 PM	Denver
Cal Pac Section Meeting	6:00 PM	8:00 PM	Plaza Court 3
Montana State University Alumni Social	6:00 PM	8:00 PM	Governor's Square 9
Oregon State University Alumni Social	6:00 PM	8:00 PM	Tower Court D
Texas A&M University Alumni Social	6:00 PM	8:00 PM	Tower Court C
Oklahoma State University Alumni	6:00 PM	8:00 PM	Plaza Court 4
Wildland Resources Department, Utah State University	6:00 PM	8:00 PM	Windows
Invasive Weed Mixer-Poster Session	6:00 PM	8:00 PM	Ball Room DE
CSU/Colorado Section Gathering	6:00 PM	8:30 PM	Katie Mullens Irish Pub
Dance	8:00 PM	12:00 AM	Majestic Ballroom
Wednesday, February 10			
Rocky Flats/Boulder Technical Tour	8:00 AM	12:00 AM	off site
Companion Tour - State Capital	8:30 AM	?	off site
Companion Tour - State Capital	9:15 AM	?	off site
Companion Tour - DAM	1:30 PM	?	off site
SRM Business Luncheon & Meeting	12:00 PM	2:15 PM	Plaza Ballrooms ABC
SRM Awards Ceremony	2:30 PM	5:00 PM	Plaza Ballrooms ABC
Wild Women of Range	5:30 PM	7:00 PM	off site CCC foyer
Taste of Colorado	6:00 PM	9:30 PM	off site CCC
WSSA Reception hosted by Syngenta Crop Protection	6:30 PM	9:30 PM	Majestic Ballroom
Thursday, February 11			
2010 Planning Committee Party	6:00 PM	?????	off site
Friday, February 12			
Rocky Mountain National Park Technical Tour	9:00 AM	5:00 PM	off site

AGENCY ON-THE-SPOT HIRING PROGRAMS

Several federal agencies (USFS, BLM and NRCS) have successfully coordinated On-the-Spot Hiring programs at the SRM annual meetings in past years. At the 60th Annual Meeting in Reno, Nevada, 18 Rangeland Management Specialist (RMS, GS-454) entry level vacancies were successfully filled; at the 2008 Joint Annual SRM/AFGC meetings in Louisville, Kentucky, the BLM and USFS successfully filled 17 Rangeland Management Specialist (GS-454) entry level vacancies; and at the 62nd Annual Meetings in Albuquerque, NM last year over 40 positions representing several job series were successfully filled between both agencies.

Agencies will be present this year at the annual SRM RANGELAND JOB FAIR and the CAREER DEVELOPMENT WORKSHOPS on Sunday February 7th, 2010. During these programs agencies will circulate job outreach notices and explain the agency hiring process. All interested candidates must have their applications submitted by the end of the JOBFAIR. Agency teams of Human Resource Specialists will review and qualify submitted applications immediately on-site.

During the next 2-3 days qualified applicants may be provided with ~ 30 minute interviews. Applicants should plan to be available for interviews at any time during this period. The interview panels will consist of managers and/or program leads delegated with hiring authority and representing all available vacancies. At the completion of the interviews, tentative offers may be made to exceptional candidates with the intent to fill all available positions by Thursday.

OPEN SPACE GRASSLANDS: SCIENCE & MANAGEMENT

This day-long symposium on Thursday, February 11, 2010, 8 am - 4 pm, will focus on the application of science to management of open space grasslands. Speakers will provide insights on open space grasslands and the associated science to open space professionals and advisory councils, county and municipal officials, special interest groups and SRM members interested in the management of open space grassland resources. The symposium will provide knowledge and understanding of the complexities of open grassland management to all the participants.

Morning Topics: Ecology

- Ecological Processes
- Role of Ecological Disturbance in Grasslands
- Influence of Fire and Grazing on Grasslands
- Riparian Management in Grassland Environments

Afternoon Topics: Management Issues

- Managing for Desired Outcomes
- Human Influence on Desired Outcomes
- Integrating Cultural Values into Management

PRODUCER FORUM

The 2010 SRM/WSSA Producer Forum at 1:00 pm on Monday, February 11, 2010 will concentrate on sustainable landscapes, active production and management that are producing healthy, productive ecosystems. Producers across the west are managing complex landscapes and increasing the biodiversity and health of the system but too many times their efforts are viewed as the problem rather than the solution. The producer forum will highlight their importance on the landscape with research, case examples and information.

Dr. Rick Knight will highlight the importance of active management, working ranches and boots on the ground from the conservation community. There will be poisonous plant information and research provided by Dr. Jim Pfister and Dr. Daniel Cook from the ARS Poisonous Plant Lab. Charley Orchard, owner of Land EKG will highlight where grazing is being done and the response from the land. The highlight of the producer forum will be the panel discussion and presentation where producers from Colorado and Nebraska will show how they are improving the rangeland and providing for a host of multiple uses and species.

2010 ANNUAL MEETING SPONSORS

DIAMOND (\$20,000)--Dow AgroSciences
DuPont Land Management

GOLD (\$5,000)--Colorado State Land Board
Public Land Council

SILVER (\$2,500)-- National Park Service
Blue Valley Ranch
GLCI State Committee

BRONZE (\$1,000) -- Gyling Data Management

COPPER (\$300) -- Rocky Mountain Bird Observatory
Synergy Resource Solutions Inc
Resource Education & Consulting

TASTE OF COLORADO SOCIAL

Wednesday, February 10, 7:00 – 9:00 p.m.

Colorado Convention Center

This is the SRM's pinnacle event of the 2010 meeting! Instead of the traditional banquet we've had each year, this year's dinner event will be different. Changing tastes of our members, coupled with high priced banquets of recent years, have led to a new concept – the "NON-BANQUET." This year's event will be held away from the hotel, just down the street at the fabulous Colorado Convention Center.

John Stulp, Colorado Agriculture Commissioner, will be your host, along with the Colorado Section. For dinner we proudly present a collage of foods; from Colorado beef, lamb, pork and vegetables to Colorado wines and beers.

Complimentary beer and wine will be served at the Reception from 6:00 to 7:00.

Colorado commodity groups will be on hand to sponsor this event and share information on their products. You'll enjoy the sounds of "Crowboy" at the pre-dinner reception (6:00 – 7:00 pm) and after dinner listening/dancing. Some stories and skits are also planned.

The Honor Awards ceremony will not take place at the dinner, but will occur in the hotel earlier in the day. You'll have the opportunity to meet and congratulate these deserving award winners at SRM's "Taste of Colorado."

Note: The Colorado Convention Center is conveniently located just 5 blocks away from the Sheraton. Walk or take the free 16th Street Shuttle. A map will be provided at the meeting. For those requiring assistance (only), a shuttle van will run from 5:30 – 9:30 p.m. Be a part of this landmark event – you'll be glad you did! The room accommodates a maximum of 1,000 participants. Sign up today! Tickets are just \$35/Adult and \$25/Student. You must purchase a ticket to attend this function.

2010 PLENARY SESSION

WORKING LANDSCAPES-PROVIDING FOR THE FUTURE

Monday, February 8, 2010 – 9:00 am to 12:00 Noon

Presentation of Colors

“Opening Remarks” –Co-Chairs, Roy Roath, Society for Range Management and John Jachetta Weed Science Society of America

“Welcome to Colorado”. -- Governor Ritter of Colorado (Invited)

“History of the Development of the West” -- Dr. Elliott West – Professor of history at the University of Arkansas. Author of “The Way to the West”, and “Essays on the Central Plains and Growing Up with the Country: Childhood on the Far-Western Frontier”, both of which received the Western Heritage Award for the best non-fiction book on the American West.

“Waging War on Cheatgrass”: The Need for New Tools, Tactics, and Strategies” -- Dr. Richard Mack – Washington State University. A world authority on the invasion of plants into new regions, the circumstances that facilitate their persistence, and the reasons for an introduced plant to become invasive and damaging the natural environment, national economies and even human health.

“A Tour of Sustainable Landscapes in Colorado” -- Mr. John Fielder – Colorado’s premier nature photographer.

Secretary of Interior, Ken Salazar (Invited)

Adjournment

Note: A Press Conference will be held immediately following the Plenary Session. A book signing session by John Fielder will be conducted immediately following Plenary Session in the Dow Tradeshow Booth .

TECHNICAL PROGRAM SUMMARY

Day-Time	Titles	Room
Friday	NRCS West Region Grazing Consortium	Governor's Square 16
Saturday	ESD Workshop NRCS West Region Grazing Consortium (Continued)	Windows Governor's Square 16
Sunday	Working Landscapes Rangeland Technology and Equipment Workshop: Green Technology and Equipment for Rangeland Applications NRCS West Region Grazing Consortium (Continued) Committee Meetings etc.	Governor's Square 11 Governor's Square 16
Monday		
8:00 to 12:00am	Plenary session	
12:00 to 1:00pm	Lunch	
1:00pm	WSSA Workshop 1 - Technology and Communication Skills for the 21st Century WSSA Sym 4 - Impact of Herbicide-Resistant Weeds in Agroecosystems SRM Sym 9 - Pastoralists and Property Rights SRM OOS 12 - Rangeland Restoration in the Presence of Persistent Invasive Plants SRM OOS 15 - Conservation Management on Private Rangelands SRM SYM 20 - Energy Production - Infrastructure and Development SRM OOS 23 - Producer Forum: Sustainable Landscapes, Ecosystems, Active Production and Producers	Colorado Silver Governor's Square 17 Governor's Square 11 Governor's Square 12 Governor's Square 16
	Section 8 - Formulation, Adjuvant and Application Technology Section 12 - Soil and Environmental Aspects Section 16 - Rangeland Ecology	Grand Ballroom Section 1 Century Gold Governor's Square 14
1 to 8 pm	Poster session A	Plaza Ballroom D & E
Tuesday		
8:00am	SRM/WSSA Invasive Species Keynote Symposium WSSA Sym 2 - Advances in Regulations and Methods for Measuring Herbicide Soil Residues SRM Sym 10 - Community Based Conservation on Rangelands	Plaza Ballroom ABC Silver Governor's Square 17

TECHNICAL PROGRAM SUMMARY (CONTINUED)

Day-Time	Titles	Room
Tuesday (Continued)		
8:00am	Poster session B	Plaza Ballroom D & E
	Section 1 - Agronomic Crops (Session 1)	Columbine
	Section 2 - Horticultural Crops (Session 1)	Century
	Section 3 - Turf and Ornamentals	Colorado
	Section 11 - Physiology (Session 1)	Gold
	Section 13 - Integrated Weed Management	Spruce
	Section 14a - Grazing in Relation to Ecosystem Disturbance and Reclamation	Governor's Square 14
	Section 15 - Ecological Sites and Thresholds	Governor's Square 11
	Section 17 - Rangeland Restoration (Session 1)	Governor's Square 15
	Section 20 - Wildlife Habitat	Governor's Square 16
	Section 23 - Rangeland Economics and Human Dimensions	Governor's Square 12
12:00 to 1:00pm	Lunch	
1:00pm	SRM/WSSA Invasive Species Keynote Symposium (Continued)	Plaza Ballroom ABC
	WSSA Sym 8 - Where did all the weeds go? A global perspective on site-specific weed management	Silver
	SRM OOS 16 - Wind Energy and Wildlife	Governor's Square 17
	SRM OOS 19 - Sustainable Rangelands: Planning, Monitoring, and Managing for Economic, Ecological and Social Benefits	Governor's Square 11
	SRM OOS 24 - Working Landscapes	Grand Ballroom Section 1
	Section 1 - Agronomic Crops (Session 2)	Columbine
	Section 2 - Horticultural Crops (Session 2)	Century
	Section 11 - Physiology (Session 2)	Gold
	Section 14b - Rangeland Disturbance Factors	Governor's Square 14
	Section 17 - Rangeland Restoration (Session 2)	Governor's Square 15
	Section 18 - Rangeland Seeding	Spruce
	Section 19 - Inventory and Monitoring	Governor's Square 12
	Section 21 - Sagegrouse Habitat and Restoration	Governor's Square 16

TECHNICAL PROGRAM SUMMARY (CONTINUED)

Day-Time	Titles	Room
Wednesday 8:00am	WSSA Sym 6 - Spray drift minimization technology symposium	Silver
	SRM Sym 13 - Climate Change and potential Natural Vegetation	Governor's Square 10
	SRM Sym 14 - Applying State and Transition Models Across Diverse Ecoregions	Governor's Square 11
	SRM Sym 17 - Biodiversity and Plant Material Development	Gold
	SRM Sym 27 - Management of Lekking Bird Habitat	Columbine
	Section 4 - Pastures, Rangelands, Forests and Right-of-Ways (Session 1)	Governor's Square 15
	Section 5 - Wildland and Aquatic Invasives (Session 1)	Governor's Square 16
	Section 7 - Teaching and Extension (Session 1)	Terrace
	Section 9 - Weed Biology and Ecology (Session 1)	Governor's Square 14
	Section 10 - Biocontrol of Weeds	Governor's Square 12
	Section 22 - Grazing Management	Governor's Square 17
	SRM Undergraduate Student Papers	Spruce
	Poster session C	Plaza Ballroom D & E
12:00 to 1:00pm	Lunch	
1:00pm	WSSA Sym 1 - Advancements in Automation and machine Guided Technologies for PrecisionWeed Control	Silver
	WSSA Sym 5 - Biology of weedy and Invasive Species in Agroecosystems Competitive Grant Program: Case Studies	Governor's Square 16
	Section 1 - Agronomic Crops (Session 3)	Columbine
	Section 4 - Pastures, Rangelands, Forests and Right-of-Ways (Session 2)	Governor's Square 15
	Section 7 - Teaching and Extension (Session 2)	Terrace
	Section 9 - Weed Biology and Ecology (Session 2)	Governor's Square 14

TECHNICAL PROGRAM SUMMARY (CONTINUED)

Day-Time	Titles	Room
Thursday		
8:00am	WSSA Sym 3 - Dicamba resistant soybean: How will it fit? WSSA Sym 7 - Weed Management in Organic Agriculture: Current Needs and Future Prospects SRM OOS 11 - Targeted Grazing - Applying the Research to the Land SRM OOS 18 - Sustainable Rangelands Through Low-input Grassfed Production SRM Sym 21 - Larkspur - 100 Years of Research, Perspectives and Future Directions SRM OOS 25- Carbon Sequestration SRM OSS 26 - Reclaiming Formerly Irrigated Farmland SRM Sym 28 - Medicinal Uses of Veratrum SRM OOS 29 - Open Space Grasslands: Science & Management Section 4 - Pastures, Rangeland, Forests, and Right-of-Ways (Session 3) Section 5 - Wildland and Aquatic Invasives (Session 2) Section 6 - Regulatory Aspects Section 9 - Weed Biology and Ecology (Session 3)	Governor's Square 12 Silver Governor's Square 17 Governor's Square 10 Spruce Columbine Governor's Square 11 Gold Grand Ballroom Section 1 Governor's Square 15 Governor's Square 16 Colorado Governor's Square 14
12:00 to 1:00pm	Lunch	
1:00pm	SRM OOS 11 - Targeted Grazing: Applying the Research to the Land SRM OOS 18 - Sustainable rangelands Through Low-Input Grassfed Production SRM OOS 25 - Carbon Sequestration SRM OOS 29 - Open Space Grasslands: Science & Management	Governor's Square 17 Governor's Square 10 Columbine Grand Ballroom Section 1
Friday		
8:00 AM to 5:00 PM	Rangelands Carbon Sequestration Workshop	Tower Court A

TECHNICAL PROGRAM

Saturday-February 6, 2010

ESD WORKSHOP

Windows

Chair: Cinthia Villa

- 8:00 AM ESD-1 Do stable states exist in unstable systems? Perspectives from South Texas
Timothy E. Fulbright, J. Alfonso Ortega-S
- ESD-2 Using Ecological Site Descriptions as a Guide for Rangeland Management
J. Alfonso Ortega-S, Timothy E. Fulbright
- ESD-3 CEA Tools
Jason Karl, Bob Unnasch, Megan Kanaga, Leonardo Frid
- ESD-4 Overview discussion regarding transition of plant states across Mid western, South western, and Inter-mountain landscapes observed using Land EKG Monitoring.
Charley Orchard
- ESD-5 Ecological Site Descriptions: Practical Guidance for Ranch Newcomers
Jim Thorpe
- ESD-6 Using ESDs to get out of the office and back in the field. How ESDs make NEPA work go faster.
Jack D. Alexander III

Sunday-February 7, 2010

RTEC

Governors Square 11

Chair: Mike Pellant and Nancy Shaw

- 1:00 PM Rangeland Technology and Equipment Workshop: Green Technology and Equipment for Rangeland Applications

Committee Meetings etc.

Monday-February 8, 2010

8:00 to 12:00am **PLENARY SESSION**

12:00 to 1:00pm Lunch

WSSA Workshop 1 - Technology and Communication Skills for the 21st Century 1:00pm Colorado

Chair: Chad Brommer/Dave Horvath

Open to all meeting registrants; limited to 30 participants. No fee for participation. Where does technology fit into the marketplace of learning and outreach? Sections of this workshop include: The power and pitfalls of social networking. Subtitle: How not to get fired using social networking tools; presentation and demonstration of Facebook's online software. Twitter is not a bird; it is your key to relevance; introduction and demonstration of the technology of Twittering. Included is a discussion of the integration of Twitter for monitoring your students (old and new), colleagues, shareholders, and family-friends into your day, without absorbing all of your time. Blogs are not just for pundits (Subtitle, Tying the web together as a gatekeeper). Blogs have been hijacked by the shrill and semi-informed; this session will show you how to use your blog to reach your professional goals and master the skills of an information gatekeeper. Blogs are the tie that can bind together the previous techniques and software presented in this workshop. Required items: Mac or PC laptop/personal computer (any operating system). Optional items: cell phone, camera, PDA, audio recorder, or iPod-MP3 player.

WSSA Sym 4 - Impact of Herbicide-Resistant Weeds in Agroecosystems 1:00pm Silver

Chair: William Vencill

Increasing reports of herbicide-resistant weeds, weed shifts caused by herbicides, and controversies surrounding the introduction of herbicide-resistant crops have revealed a lack of understanding on these topics by scientists, regulatory officials, and the public. The objective of this symposium will be to present the state of knowledge on the development, management, and impact of herbicide-resistant weeds and weed shifts in conventional and herbicide-resistant crops. Emphasis will be on the impact of herbicide-resistant weeds in the agroecosystem.

- 1:00pm SYM-1 Herbicide-Resistance in Crops and Weeds: A Historical and Current Perspective
William Vencill, Robert Nichols, John Soteris, Theodore Webster, Carol Mallory-Smith, Nilda Burgos, William Johnson
- 1:30pm SYM-2 Impact of Herbicide-Resistant Weeds - Southern States
Robert Nichols
- 2:00pm SYM-3 An Industry Perspective on Managing Herbicide-Resistant Weeds
John Soteris
- 2:30pm SYM-4 Herbicide resistant weeds - using economic information to change grower practices.
William Chism, William Phillips, Derek Berwald
- 3:00pm SYM-5 Gene Flow and Herbicide Resistance.
Nilda Burgos, Carol Mallory-Smith

Monday-February 8, 2010 (Continued)

SRM Sym 9 - Pastoralists and Property Rights

1:00pm

Governor's 17

Chair: Maria Fernandez-Gimenez

Around the world pastoral production systems operate successfully under a wide variety of different property rights regimes, including private property, public (state) property, various versions of common (community-owned or managed) property, and complex patchworks of all of these. However, many pastoral societies are undergoing or have recently undergone significant socio-economic or political change, leading to transformations in herders' and ranchers' rights to land, forage, water, stock driveways, and other crucial pastoral resources. Interestingly, in some regions dominated by private property and exclusive leasehold regimes, producers are reconstructing a commons of sorts in order to facilitate cross-boundary, landscape-scale management, while in other regions where common property or state property regimes have long flourished, policy-makers have implemented or are considering private property policies, or their functional equivalent in long-term individual leaseholds. Conflicting theories suggest, on the one hand, that the flexibility and mobility required for sustainable livestock husbandry in arid and semiarid landscapes call for collective ownership and management of vast areas, and on the other, that private property, and by extension land markets, are needed to provide pastoralists necessary incentives for sustainable stewardship and to ensure the most productive and economically efficient use of land. This symposium examines this paradox of pastoral land tenure (the simultaneous demands for tenure security and flexible access to spatially heterogeneous resources), bringing together pastoralists and scholars from multiple continents to reflect on their experiences with pastoral tenure transformations, and their implications for the well-being of livestock keepers and the lands they depend upon.

1:00pm SYM-6 Setting the Stage: The Paradox of Pastoral Land Tenure

Maria Fernandez-Gimenez

1:25pm SYM-7 The Paradox of Land Tenure among Tibetan Pastoralists

Kenneth Bauer

1:50pm SYM-8 Mongolia: Pastoral Land Tenure at a Policy Crossroads

Dorligsuren Dulamsuren

2:15pm SYM-9 The Group Ranch and its aftermath in Kenya's Southern Rangelands: Lessons from a failed Experiment

David Ole Nkedianye

2:40pm SYM-10 Regional scale spatial strategies to cope with temporal variability in rangelands of northern Australia

Andrew Ash, Ryan McAllister, Chris Stokes

3:05pm Break

3:20pm SYM-11 USA: Reconstituting a Commons through Collaborative Landscape-scale Management?

Nathan Sayre

3:55pm SYM-12 The paradox of poor farmers' settlements on expensive public land in Patagonia, Argentina

Sebastian Villagra

4:20pm SYM-13 Round Table Discussion

Robin Reid, Quin Zhang, Nathan Sayre

Monday-February 8, 2010 (Continued)

SRM OOS 12 - Rangeland Restoration in the Presence of Persistent Invasive Plants

1:00pm **Governors Square 11**

Chair: Cynthia Brown and Jeff Fehmi

This session will address the challenges posed by invasive plants for rangeland restoration, and will provide examples of innovative approaches to meeting these challenges in arid, semi-arid, and mesic upland systems. An ecological conceptual framework for approaching restoration and invasive plant management will be presented, and connections among the approaches taken for different invasion problems in different systems will be discussed.

- 1:00pm SYM-14 Applying Ecologically-based Invasive Plant Management
Roger Sheley
- 1:20pm SYM-15 Methods to Improve Arid Rangelands in Uzbekistan
Tolibjon Mukimov, Rakhmatullo Haitbaev, Shodiyer Sindarov
- 1:40pm SYM-16 Prescribed extreme fire for restoring Texas rangelands degraded by persistent invasive plants
William E. Rogers, Dirac Twidwell, Gabriela Sosa, Charles A. Taylor, Jr.
- 2:00pm SYM-17 Options for Rangeland Restoration in the Presence of Persistent Invasive Plants in Southern Arizona
Jeffrey Fehmi, Jason Stevens
- 2:20pm SYM-18 Invasive plants in mesic grasslands: the role of litter as a mechanism to maintain dominance
Mary Ann Vinton
- 2:40pm SYM-19 Can native insect herbivores mediate interactions between native and exotic plants?
David Branson
- 3:00pm Break
- 3:20pm SYM-20 Longevity of Blue Wildrye (*Elymus glaucus* Buckley ssp. *glaucus*) transplants (Six Rivers National Forest, Trinity Co.,CA)
Susan Edinger-Marshall, Andrea Craig
- 3:40pm SYM-21 Applied strategies to overcome persistence of invasive annual grasses
Thomas Monaco, Christopher Call
- 4:00pm SYM-22 Grassland Restoration Following Mesquite Invasion in the Northern Chihuahuan Desert: Persistence, Patience, and Perspectives from the Past and Present
Laurie Abbott, Jeffrey Herrick, Kendal Young
- 4:20pm SYM-24 Overgrazing as a trigger for invasion in California rangelands
Katharine Suding, Claudia Stein
- 4:40pm SYM-23 Invasive Plants and Rangeland Restoration in a Changing World: Taking Aim at a Moving Target
Cynthia Brown

Monday-February 8, 2010 (Continued)

SRM OOS 15 - Conservation Management on Private Rangelands

1:00pm

Governors Square 12

Chair: Dave Engle

The challenge for natural resource managers and land owners of grasslands is to manage working agricultural lands to provide agricultural production and other ecosystem services while maintaining grassland ecosystem resiliency. While these mutual goals may seem competitive rather than complementary, recent advancements in the science of patch-burn grazing offer management strategies to achieve both goals. However, one major barrier to implementing these management strategies is our capacity to transfer what we've learned from public lands and experimental sites to private landowners and managers. A number of scientists are experimenting to discover key variables that are necessary to support the rangeland ecosystem under production agriculture conditions. These key variables include biota on the physical landscape and human beliefs, perceptions and actions that influence rangeland ecosystem resiliency. This symposium shares recent advances [e.g. patch-burn grazing] in rangeland management with a focus on the contrast between conservation management of rangeland and commodity management on privately owned rangeland.

1:00pm SYM-25 Introduction to Conservation Management on Private Rangelands: Status, Barriers, and Opportunities

David Engle

1:20pm SYM-26 Managing for Grassland Resilience: Humans as a Key Variable

Lois Wright Morton

1:40pm SYM-27 Identifying Barriers to Landowner Learning and Adoption of Conservation Practices that Promote Biodiversity on Privately-owned Rangeland

Lois Wright Morton, James R. Miller, David Engle

2:00pm SYM-28 USDA investments in private rangeland priorities. The nation's most pressing environmental problems cannot be addressed without the help of private landowners. The nation's largest source of conservation incentives is the farm bill. Rangelands face a myriad of threats including expanding energy development, subdivision, climate change, and others.

Ted Toombs

2:20pm SYM-29 Contrasting Conservation Management and Commodity Management of Privately Owned Rangeland

Samuel Fuhlendorf, David Engle, R. Dwayne Elmore, Terrence Bidwell

2:40pm SYM-30 The Southern Plains: Social Dimensions of Conservation Management

Urs Kreuter

3:00pm Break

3:40pm SYM-31 Status of privately owned rangelands: the extent and impact of conservation programs and practices.

Joel Brown, Kris Havstad

4:00pm SYM-32 Conservation Management of Western Private Lands: A Behavior-Based Path to Resilience Thinking

Mark Brunson

4:20pm SYM-33 Reserves-as-Catalysts Model: Expanding the Influence of Public Lands

James Miller, Lois Morton, David Engle, Diane Debinski, Ryan Harr

Monday-February 8, 2010 (Continued)

SRM SYM 20 - Energy Production - Infrastructure and Development

1:00pm **Governors Square 16**

Chair: Joel Brown

- 1:00pm SYM-34 New technologies for reducing impacts of infrastructure development on rangelands
David Burnett, Rich Haut, Tom Williams
- 1:20pm SYM-35 Oil and gas infrastructure development impacts in the San Juan Basin, NM.
Shawn Salley, Joel Brown
- 1:40pm SYM-36 Impact of energy development on greater sage-grouse habitats in Wyoming
Matt Holloran, Ann Hild, Ginger Paige
- 2:00pm SYM-37 Setting the Stage: Impacts of energy exploration and extraction in rangeland ecosystems
William Fox, Joel Brown
- 2:20pm SYM-38 Energy and sequestration infrastructure in the Southwest Region.
Brian McPherson, Joel Brown
- 2:40pm SYM-39 Impacts of new energy development and extraction on rangeland ecosystems
Abbas Ghassemi, Joel Brown
- 3:00pm Break
- 3:20pm SYM-40 Impacts of coalbed methane development on soil, vegetation and water resources.
Ginger Paige
- 3:40pm SYM-41 Modeling tools to aid mitigation of energy infrastructure development
Jay Angerer
- 4:40pm SYM-42 Accomplishing Ecological Goals by Extracting Biomass Energy from Rangelands
Sherman Swanson, Tim Deboodt

SRM OOS 23 - Producer Forum

1:00pm **Governor Square 15**

Chair: Tom Matza

- Sustainable Landscapes, Ecosystems, Active Production and Producers
- 1:00pm SYM-43 Welcome
Tim Canterbury
- 1:15pm SYM-44 Poisonous plant research presentation
Jim Pfister, Daniel Cook
- 2:30pm SYM-45 Working Landscapes, Research, Long-Term Stewardship and Producers
Rick Knight
- 3:00pm Break

Monday-February 8, 2010 (Continued)

3:15pm SYM-46 Grazing Done Right

Charley Orchard

3:45pm SYM-47 Panel Discussion - Producers and researchers presenting information and case examples of species richness, profit and working landscapes.

Grady Grissom, Steve Wooten, John Young

Section 8 - Formulation, Adjuvant and Application Technology

1:00pm

Century

Chair: Mark Bernards

1:00pm O-1 U46 (2,4-D+MCPA) and foramsulfuron mixtures' effects on redroot pigweed (*Amaranthus retroflexus* L.)

Yahid Sarabi, Mohammad Hasan Rashed Mohassel, Navid Nasirzadeh

1:20pm O-2 Comparing glyphosate acid + adjuvants with experimental and commercial glyphosate formulations.

Rich Zollinger, Dallas Peterson, Mark Bernards, Christy Sprague, Bryan Young

1:40pm O-3 Effect of Nozzle Type on Glyphosate Efficacy and Spray Drift.

Jeff Stachler, Erdal Ozkan, Mark Loux

2:00pm O-4 Differential Shikimic Acid Concentration Shows Promise as a Means of Detecting Differences in Surfactant Effectiveness.

Cody Massey, David Shaw, Jonathan Huff, Jason Weirich, Marshall Wixson

2:20pm O-5 Effect of adjuvants on evaporation and deposition patterns of spray droplets on various types of target plants

Linyun Xu, Yang Yu, Heping Zhu, Erdal Ozkan

2:40pm O-6 Performance of s-metolachlor and diuron with humic and fulvic acids and fish hydrolyzed adjuvants applied on sugar cane green harvest residue

Luiz Foloni, Evandro Souza, Edivaldo Velini, Pedro Christoffoleti

3:00pm Break

3:20pm O-7 Evaluation of humic acid on the rate reduction of pre emergence herbicides in plant sugarcane

Luiz Foloni, Evandro Souza, Pedro Christoffoleti

3:40pm O-8 Section 8- **Formulation, Adjuvant and Application Technology** Business meeting

Mark Bernards

Section 12 - Soil and Environmental Aspects

1:00pm

Gold

Chair: Dale Shaner

1:00pm O-9 Concentrated Flow Erosion After Pinyon-Juniper Cutting

Katie Costigan, Mark Weltz, Jeffry Stone, Christo Morris

1:20pm O-10 The Evaluation of Soil Carbon Levels on post-contract Conservation Reserve Program Lands.

Eva Sebesta, Benjamin Geaumont, Miranda Meehan, Christopher Schauer, Kevin Sedivec

Monday-February 8, 2010 (Continued)

- 1:40pm O-11 Monitoring of Trace Metals in Coalbed Natural Gas (CBNG) Produced Water and Pond Sediment in the Powder River Basin, Wyoming
Ashley Whitman, K.J. Reddy
- 2:00pm O-12 Assessing Off-site Pesticide Movement in a Nebraska-Kansas Watershed Using Novel Landscape Vulnerability Models.
Maribeth Milner, Kundan Dhakal, *Mark Bernards*, Phil Barnes, Patrick Shea
- 2:20pm O-13 Imazethapyr, imazapic and fipronil dissipation in rice paddy field under continuous and intermitent flooding
Luis Avila, Rafael Mezzomo, Luiz Martini, Enio Marchesan, Guilherme Cassol, Diogo Cezimbra, Renato Zanella,
Sandra Peixoto, Joseph Massey
- 2:40pm O-14 Soil Dissipation of Pyroxasulfone (KIH-485) and S-Metolachlor in the Field
Eric Westra, Dale Shaner, Philip Westra
- 3:00pm Break
- 3:20pm O-15 How rapidly does enhanced atrazine degradation in the soil develop?
Dale Shaner, Raj Khosla, Mary Stromberger
- 3:40pm O-16 Section 12- **Soil and Enviornmental Aspects** Business meeting
Dale Shaner

Section 16 - Rangeland Ecology

1:00pm Governors Square 14

Chair: Marty Vavra

- 1:00pm O-17 Carabid Beetle Diversity in Eight Plant Communities the U. S. Army Pinon Canyon Maneuver Site
Jerry Michels, Heather Lynn Lindon, Joy Newton
- 1:20pm O-18 Environmental conditions influences relative growth rate differences between native and invasive plant species.
Seema Mangla, Roger Sheley, Steve Radosevich
- 1:40pm O-19 Managing Rare Plants and Livestock Grazing in Botanical Areas in the Black Hills
Beth Burkhart
- 2:00pm O-20 Soil seed bank seasonal variation and similarity with the standing vegetation in a pasture of Tenerife (Canary Islands)
Silvia Fernández, Lea de Nascimento, Javier Méndez, Luis Bermejo, José Ramón Arévalo
- 2:20pm O-21 Effects of cattle grazing, water quality attributes and hydrologic conditions on occupancy of Yosemite toad (*Bufo canorus*) breeding habitat in
Sierra Nevada mountain meadows
Leslie Roche, Amy Lind, Robert Grasso, Kenneth Tate
- 2:40pm O-22 Effect of lunar phase on diurnal activity of Rocky Mountain elk (*Cervus elaphus nelsonii*)
Gail Woodside, Pat Clark, Michael Johnson, Marty Vavra, Kerry Wilson, Larry Larson, Douglas Johnson
- 3:00pm Break

Monday-February 8, 2010 (Continued)

- 3:20pm O-23 Estimation Aboveground Net Primary Production in Grasslands: a Comparison of Non-Destructive Methods
Kerry Byrne, William Lauenroth, Christine Byrne
- 3:40pm O-24 Lupine Induced "Crooked Calf Disease" in Washington and Oregon: Identification of the Alkaloids Profiles of *Lupinus Sulphureus*
Daniel Cook, Stephen T. Lee, James A. Pfister, Dale R. Gardner, Kip E. Panter
- 4:00pm O-25 Characteristics of hummocked and non-hummocked riparian areas and wetlands in Colorado
Mae Smith, Paul Meiman, Joe Brummer
- 4:20pm O-26 Environmental services and pasture based milk production: assets that need to be further accounted
Abdon Schmitt, Felipe Giassi, Joshua Farley, Juan P. Alves, Giselle Alves
- 4:40pm O-27 Relationship Between Allometric Variables and Biomass in Western Juniper (*Juniperus occidentalis*)
Breanna S Sabin
- 5:00pm O-28 Assessing productivity potential of landscape depressions in arid pastoral ecosystems
Mounir Louhaichi, Amin Khatib Salkini, Fahim Ghassali, Douglas E. Johnson

Poster Session A

Posters manned 1:30 PM to 3:00 PM

Monday, February 8, 2010

1 to 8 pm

Plaza Ballroom D & E

- P A-1 Study on effect of plant density and N-fertilizer on Radiation Use Efficiency and extinction coefficient in Milk thistle (*Silybum marianum* (L)) as a medicinal plant
Majid Gholybaigian
- P A-2 Long-spine sandbur control in corn
Peter H. Sikkema, Melissa Kumagai, Lynette Brown, Nader Soltani
- P A-3 Impact of time of day on herbicide efficacy in corn
Peter H. Sikkema, Christie L. Stewart, Robert E. Nurse, Nader Soltani
- P A-4 Response of adzuki bean (*Vigna angularis*) to preplant-incorporated, pre-emergence and post-emergence herbicides
Peter H. Sikkema, Christie L. Stewart, Robert E. Nurse, Chris Gillard, Nader Soltani
- P A-5 Tolerance of spring barley, oats and wheat to mesotrione
Nader Soltani, Christy Shropshire, Peter H. Sikkema
- P A-6 Interactions between saflufenacil and glyphosate on selected broadleaf weeds.
Stevan Z. Knezevic, Avishek Datta, Jon Scott, Leo D. Charvat
- P A-7 The spread of resistance to ACCase inhibiting herbicides in Phalaris minor in Iran
Javid Gherekhloo, Maria Dolores Osuna, Francisco Barro, Rafael De Prado
- P A-8 Controlling Glyphosate-Resistant Palmer Amaranth Prior to Planting Cotton
Stanley Culpepper, Alan York, Lynn Sosnoskie
- P A-9 Current status of imidazolinone herbicide-resistant rice regarding the evolution of red rice and barnyardgrass herbicide resistance in Southern Brazil
Aldo Merotto Jr., Valmir G. Menezes, Carla A. Delatorre, Ana C. Roso
- P A-10 Influence of Carrier Volume on Control of Palmer Amaranth (*Amaranthus palmeri*) in Peanut
M. Dobrow, J. Ferrell Ferrell, W. Faircloth, G. MacDonald, B. Brecke
- P A-11 Performance of Dow AgroSciences Herbicide Tolerance Trait in Soybean.
David Simpson, Thomas Hoffman, Mark Peterson, Eric Scherder, David Ruen, Andrew Ellis, Cory Cui, Terry Wright, John Richburg
- P A-12 Comparison of weed removal timings between soybean with different herbicide-resistant traits.
Molly Buckham, Christy Sprague
- P A-13 Evaluation of dicamba tolerant soybean in Kentucky: a three-year review.
Sara K. Carter, Charles H. Slack, Glen P. Murphy
- P A-14 Tolerance of potato mini-tubers to pre and post herbicide applications.
Calvin Glaspie, Wesley Everman, Christopher Long, Andrew Chomas

Poster Session A (Continued)

Monday, February 10, 2010 1-8 PM

Posters manned 1:30 PM to 3:00 PM

- PA-15 Performance of Dow AgroSciences herbicide tolerance trait in corn.
Mark A. Peterson, David M. Simpson, Cory Cui, John S. Richburg, David C. Ruen, Eric F. Scherder, Samuel M. Ferguson, Patricia L. Prasifka, Terry R. Wright
- PA-16 Cross-resistance to ALS-inhibiting herbicides in *Sinapis alba*
Hugo Cruz-Hipolito, Gerardina Ioli, Maria Dolores Osuna, Reid Smeda, Rafael De Prado
- PA-17 Tolerance of sweet corn to broadcast flaming at different growth stages
Santiago M. Ulloa, Avishek Datta, Stevan Z. Knezevic, Goran Malidza, Robert Leskovsek
- PA-18 Tolerance of two popcorn hybrids to nicosulfuron applied at three growth stages.
Sidnei D. Cavalieri, Santiago M. Ulloa, Avishek Datta, Goran Malidza, Eivaldo D. Velini, Stevan Z. Knezevic
- PA-19 Timing of winter annual weed removal in no-till soybean based on growing degree days.
Kelly A. Barnett, Christy L. Sprague, Christina D. DiFonzo, Fred W. Warner
- PA-20 Glyphosate dose response on two horseweed (*Coryza canadensis*) populations from Nebraska.
Lowell Sandell, Stevan Knezevic, Mark Bernards
- PA-21 Grasp Xtra™ and RebelEXTM - Two New Penoxsulam Formulations for Southern US Rice.
Rick Mann, John Richburg, Ralph Lassiter, Larry Walton, Bobby Haygood, Andrew Ellis, Vernon Langston, Amy Gwinn
- PA-22 Pigweed Emergence and Seed Cotton Yield as Affected by Tillage System.
Andrew Price, Kipling Balkcom, Dale Monks, Mike Patterson
- PA-23 Yellow nutsedge (*Cyperus esculentus*) is a persistent weed in Ontario with a limited number of effective herbicide options.
Peter Smith, François Tardif
- PA-24 Reduced rates of ethofumesate for use in glyphosate-resistant sugarbeet.
Dennis C. Odera, Andrew R. Kniss
- PA-25 Proso millet cultivar response to saflufenacil.
Andrew R. Kniss, Nevin C. Lawrence, Drew J. Lyon
- PA-26 Strategies for using glyphosate and glufosinate in GlyTo™ plus LibertyLink® cotton.
Peter Dotray, Wayne Keeling, Lyndell Gilbert, Jacob Reed
- PA-27 Weed management in soft red winter wheat with pyroxsulam
Suzanne Angle, Bill Williams, Rakesh Godara, Gustavo Shiomi
- PA-28 Difficulties in controlling henbit (*Lamium amplexicaule*) in Louisiana
Gustavo Shiomi, Bill Williams, Suzanne Angle, Rakesh Godara, Jonathan Sharp
- PA-29 The Great Basin Research and Management Partnership
Stuart Hardegree, Jeanne Chambers, Michael Pellant

Poster Session A (Continued)

Monday, February 10, 2010 1-8 PM

Posters manned 1:30 PM to 3:00 PM

- P A-30 Goal Driven Leases as an Ecosystem Service
Stephanie Larson, Theresa Becchetti, Larry Forero
- P A-31 Vegetation changes after 12 years in private ranches under different grazing systems
Francisco Gonzalez, Mukaddes Darwish
- P A-32 Effects of Intensive Early Season Grazing and Patch-Grazing on Structural Heterogeneity
Shannon Ims, Alexander Smart, Kyle Kelsey
- P A-33 Grazing Management: A key for productivity and profit in cow-calf operations in south Texas
Carlos E. Gonzalez-G., Steven D. Lukefahr, J. Alfonso Ortega-S.
- P A-34 Rangeland management and protein sublementre feedeng of lambs of karakul sheep in Uzbekistan
Erach Mamedov
- P A-35 Residual herbage effect on subsequent-year herbage production
Walter Schacht, Eric Mousel, Ann Koehler
- P A-36 Rye living-mulch and irrigation affect weed management in asparagus
Daniel Brainard
- P A-37 Evaluation of Aim and Rage for broadleaf weed control in citrus
Megh Singh, Mayank Malik
- P A-38 Weed Control Efficacy with Racer (Ammonium Nonanoate)
Charles Webber, James Shrefler, Lynn Brandenberger, Merritt Taylor, Lynda Carrier, Kent Shannon
- P A-39 Management of *Cuscuta pentagona* in Processing Tomato
Tom Lanini
- P A-40 Onion and weed response to mustard (*Sinapis alba*) seed meal.
Rick Boydston
- P A-41 Utilizing Common Buckwheat (*Fagopyrum esculentum* Moench) as a short-cycle cover crop in pickling cucumber production
Katherine Kelley, John B. Masiunas
- P A-42 Brassica greens herbicide screening
Lynn Brandenberger, *Charles III Webber*, Lynda Carrier
- P A-43 Anaerobic soil disinfestation for non-chemical weed control in Florida raised-bed vegetable production.
Erin Rosskopf, David Butler, Nancy Kokalis-Burelle, Joji Muramoto, Carol Shennan
- P A-44 Postemergence propane flaming for non-chemical weed control in snap bean and carrot.
Chad M. Herrmann, Bernard H. Zandstra
- P A-45 Influence of isoxaflutole on colonization of corn roots with the arbuscular mycorrhizal fungus *Glomus intraradices*.
Agnieszka Stoklosa, Ranganayaki Nandanavanam, Urszula Puczel, *Mahesh K. Upadhyaya*

Poster Session A (Continued)

Monday, February 10, 2010 1-8 PM

Posters manned 1:30 PM to 3:00 PM

- P A-46 Effect of turnip green manure on yellow nutsedge (*Cyperus esculentus*) interference in polyethylene-mulched bell pepper
Sanjeev Bangarwa, Jason Norsworthy, Griff Griffith
- P A-47 Performance of Gallery® (isoxaben) Herbicide for weed control in tree and vine crops.
James Mueller, Monica Sorribas, Barat Bisabri, Deborah Shatley, Marc Fisher, Jesse Richardson, Richard Mann
- P A-48 Canola Response to Residual Effects of Summer-applied Herbicides
Nilda Burgos, Vinod Shivrain, Ed Allan Alcober, Dennis Motes, Stephen Eaton, Te Ming Tseng, Larry Martin
- P A-49 Efficacy of Kixor® (Saflufenacil) as a spring burndown herbicide
Anil Shrestha, Marcelo Moretti, Curtis Rainbolt
- P A-50 Community-based Integration of Local Knowledge and Data-driven State and Transition Models
Aleta Rudeen, Maria Fernandez-Gimenez, Emily Kachergis, Corrie Knapp
- P A-51 Free-ranging cow behavior pre and post-weaning
Dean Anderson, Marek Doniec, Roy Libeau, Daniela Rus, Carrick Detweiler, Barbara Nolen
- P A-52 Livestock responses to complementary forages in shortgrass steppe
Justin Derner, Richard Hart
- P A-53 Northern Nevada Riparian Grazing - Trends and the Effects of Wildfire
Kristen Schmidt, *Sherman Swanson*, Donald Kozlowski, Kurtiss Schmidt, Ryan Shane, George Fernandez
- P A-54 Mineral concentration of livestock water varies from surface to ground sources in Eastern Montana
Jennifer Muscha, Travis Mulliniks, Mark Petersen
- P A-55 Modifications in Buffalograss Floral Biology
Juan Manuel Martinez Reyna, Sigifredo Armendariz Erives
- P A-56 Development of native plant materials for the Black Hills, SD: a germination study of *Sporobolus heterolepis* (A. Gray) A. Gray, *Heterotheca villosa* (Pursh) Shinniers, and *Gaillardia aristata* Pursh
Aurora Roemmich, Jack Butler, Gary Larson
- P A-57 Big Squirreltail in Great Basin: Regional-Farmed vs. Local-Wild Seed Source
C.J. Rowe, Elizabeth Leger
- P A-58 Colorado Plateau Seeds of a Successful Native Plant Program
Jim Free, Pam Motley
- P A-59 Poa annua control with MRC-01 in bentgrass putting green in different application times
SJ Koo, KH Hwang
- P A-60 Postemergence Crabgrass Control on Golf Putting Greens with Metamifop
Angela R. Post, Matt J. Goddard, Shawn D. Askew

Poster Session A (Continued)

Monday, February 10, 2010 1-8 PM

Posters manned 1:30 PM to 3:00 PM

- P A-61 Annual Bluegrass Control on Golf Putting Greens with Cumyluron and Metiozolin
Brendan S. McNulty, Matt J. Goddard, Shawn D. Askew
- P A-62 Directed Herbicide Application on Golf Putting Greens for Annual Bluegrass Control
Shawn D. Askew, Matt J. Goddard
- P A-63 Selective Bermudagrass Control in Cool-Season Turfgrass
Shawn D. Askew, John B. Willis
- P A-64 Supporting Improvements on Grazing Land to Benefit Water Quality
Will Boyer, Herschel George
- P A-65 Hydrologic Impacts of Vegetation Treatments Within Bates Creek Watershed, Wyoming
Aaron Swallow, Ginger Paige, Kate Dwire
- P A-66 Soil moisture in a southwestern mixed conifer forest
Hector Garduno, Alexander Fernald
- P A-67 A stable isotope approach for tracing seepage out of coalbed methane co-produced water holding ponds
Shikha Sharma, *Joshua Baggett*
- P A-68 Hydrological effects of sheep bedding on subalpine range
Corey Moffet, April Leytem, Fred Pierson
- P A-69 Automated Geospatial Watershed Assessment Tool for Rangelands
D. Phillip Guertin, Ginger Paige, David Goodrich, Mark Nearing, Scott Miller, Philip Heilman, George Ruyle, Jeffry Stone, Shea Burns, Mariano Hernandez, Mitchel McClaran
- P A-70 Correlation between precipitation and some beef productive parameters in the state of Sonora, Mexico.
Francisco Denogean-Ballesteros, Salomon Moreno-Medina, Martha Martin-Rivera, Fernando Ibarra-Flores
- P A-71 Palmer amaranth (*Amaranthus palmeri*) control as affected by herbicide, method of application, and winter cover crop
Timothy Grey, Stanley Culpepper, Lynn Sosnoskie, Theodore Webster
- P A-72 Non chemical strategies for weed management in Cumin
Reza Ghorbani, Alireza Koocheki, *Maryam Jahani*
- P A-73 Effect of different cropping patterns and nutrient resource on weed composition and density
Golsoomeh Azizi, Alireza Koocheki, Mehdi Nassiri-mahallati, Asieh siah-marguee
- P A-74 Bioassay of allelopathic effects of fenugreek extract on germination and growth of Soybean, Sesam, Pigweed and Velvetleaf
Golsoomeh Azizi, Asieh Siah-marguee, Leila Alimoradi, Maryam Jahani
- P A-75 Early corn growth and development in response to weed competition and altered light quantity and quality.
Janet Moriles, Sharon Clay, David Clay, Stephanie Hansen, David Horvath, Graig Reicks

Poster Session A (Continued)

Monday, February 10, 2010 1-8 PM

Posters manned 1:30 PM to 3:00 PM

- P A-76 Resistance of *C. sumatrensis* to glyphosate in Spain
Fidel González-Torralva, Hugo Cruz-Hipolito, Norbert Muelleder, Fernando Bastida, Rafael De Prado
- P A-77 Weed seed bank responses to 12 years of different fertilization systems.
Benny De Cauwer, Karel Van Den Berge, Mathias Cougnon, Robert Bulcke, Dirk Reheul
- P A-78 Innovative strategies and machines for physical weed control in urban hard surfaces in central Italy.
Michele Raffaelli, Marco Fontanelli, Christian Frascioni, Leonardo Lulli, Francesca Sorelli, Andrea Peruzzi
- P A-79 Integrated mechanical weed management in high-residue cropping systems.
Ryan T. Bates, William S. Curran, Robert S. Gallagher
- P A-80 Response of selected crop and weed species to propane flaming as influenced by leaf water content
Santiago M. Ulloa, Avishek Datta, Stevan Z. Knezevic, Chris Bruening, George Gogos, Timothy J. Arkebauer
- P A-81 Performance advantages of flaming hood
Chris Bruening, George Gogos, Santiago M. Ulloa, Stevan Z. Knezevic
- P A-82 An Integrated Weed Management Approach for Switchgrass Establishment.
William Curran, Matthew Myers, Paul Adler, Matthew Ryan
- P A-83 Weed control timing using a rotary hoe in soybean and dry edible bean
Erin Taylor, Gary Powell, Karen Renner, Christy Sprague
- P A-84 On-Farm Evaluation of Reduced Herbicide Systems for Managing Perennial Weeds
John Masiunas, Dan Anderson
- P A-85 Evaluation of weed species diversity and community composition in cropping systems under various inputs
Surur Khorramdel, Alireza Koocheki, Mehdi Nassiri Mahallati, Javad Shabahang
- P A-86 Yield Stability and Grazing Preference of Warm Season Perennial Grasses
James Rogers, Jagadeesh Mosali, James Pitman, Brice Crawford, Tyler Rice
- P A-87 Corn and johnsongrass competition: above and belowground growth and biomass allocation in response to water competition
Horacio Acciaresi, Maria Soledad Zuluaga, Juan Jose Guimet
- P A-88 Evidence of inositol 1,4,5-trisphosphate and G-proteins regulation of blue light induced pre-haustoria development in dodder seedlings
Mustapha Haidar
- P A-89 Above and belowground growth, gas exchange and competitive ability of seven johnsongrass populations under corn water competition
Horacio Acciaresi, Maria Soledad Zuluaga
- P A-90 Physiological and yield response of non-glyphosate-resistant corn to simulated glyphosate drift.
Krishna N. Reddy, Nacer Bellaloui, Robert M. Zablotowicz, Wei Ding
- P A-91 Influence of metsulfuron-containing herbicides on yield, height, and seedhead reduction of tall fescue hay.
Bryan Sather, Kristin Payne, Craig Roberts, Kevin Bradley

Poster Session A (Continued)

Monday, February 10, 2010 1-8 PM

Posters manned 1:30 PM to 3:00 PM

- P A-92 A simple decision support tool for dealing with drought
Gale Dunn, Lori Wiles, Jeff Printz, Arnold Norman
- P A-93 Effect of Preemergence Herbicides on *Miscanthus* Species
Wesley Everman, Gerald Henry, Calvin Glaspie, Cynthia McKenney
- P A-94 Response of *Miscanthus* species to Postemergence Herbicide Applications
Wesley Everman, Gerald Henry, Calvin Glaspie, Cynthia McKenney
- P A-95 Relative Interference of Eight Populations of *Palmer amaranth* with Selected Crops
Aman Chandi, David Jordan, Jim Burton, Alan York, Jan Spears, Susana Milla-Lewis, Stanley Culpepper, Bill Vencill, Jared Whitaker
- P A-96 Changes in Weed Species in a Rotation of Glyphosate Resistant Corn and Soybean
Robert N. Klein, Gordon E. Hanson
- P A-97 Evaluation of *Ipomoea* spp. accessions for susceptibility to glyphosate
Daniela N. Ribeiro, David R. Shaw, Vijay K. Nandula, Krishna N. Reddy
- P A-98 Pindar™ GT (Penoxsulam+Oxyfluorfen) - New herbicide for Preemergence and Postemergence Weed Control in Tree Nut Crops
Monica Sorribas, Rick Mann, Barat Bisabri, Jim Mueller, Debbie Shatley, Marc Fisher, Jesse Richardson, Amy Gwinn
- P A-99 Perennial weed abundance in certified organic feed and forage production systems with contrasting tillage and crop sequences
Richard Smith, David Mortensen, David Sandy, Mary Barbercheck
- P A-100 Effect of Herbicide Programs on Seed Rain in Liberty Link® and Roundup Ready Flex® Cotton.
Griff Griffith, Jason Norsworthy, Terry Griffin
- P A-101 Structuring Temporal and Spatial Habitat in Row Crops to Conserve Carabid Beetles and Enhance Weed Seed Predation
Edward Peachey, Alysia Greco, Jessica Green, Andrew Moldenke, Dan McGrath
- P A-102 Efficacy of Graminicides Applied with Chloroacetamide Herbicides, Pyraclostrobin, and 2,4-DB
Gurinderbir Chahal, David Jordan, Barbara Shew, Rick Brandenburg, Jim Burton, David Danehower
- P A-103 Role of *Spartina densiflora* Brongn. as a carbon dioxide sequestration grass
Susana Feldman, Enrique Mateos-Naranjo, Susana Redondo-Gómez, Inmaculada Vecino-Bueno, Manuel Enrique Figueroa-Clemente
- P A-104 Preference and Nutritional Quality of Different Varieties of Onions
Kellen Cave, Cody Scott, Corey Owens
- P A-105 Juniper Consumption by Three Different Breeds of Sheep
Jess Anderson, Cody Scott, Corey Owens, Mike Salisbury
- P A-106 Evaluating the Effects of Monoterpenoids and Quebracho Tannins on Internal Parasite Viability in Goats
Dustin Klein, Cody Scott, Travis Whitney, Corey Owens
- P A-107 The Effects of Protein Supplementation on Bitterweed Toxicosis in Sheep
Matthew Coffman, Cody Scott, Corey Owens

Tuesday-February 9, 2010

SRM/WSSA Invasive Species Keynote Symposium

8:00am

Plaza Ballroom ABC

WSSA Sym 2 - Advances in Regulations and Methods for Measuring Herbicide Soil Residues

8:00am

Silver

Chair: Dale Shaner

There have been many changes in recent years in the regulation of herbicide residue analysis for herbicide registration and re-registration as well as in methods to detect and quantify herbicide soil residues. New regulations in NAFTA, South America and Europe will have a major impact on maintaining the availability of present herbicides as well as the registration of new herbicides. There have also been many advances in methods for extracting and measuring herbicide residue from soil. Modeling herbicide behavior in the soil is an increasingly more important method for predicting how herbicides move in the soil and how they can contaminate water supplies, however the output of these models is dependent on the input and the phenomenon of enhanced herbicide degradation can have a major impact on the predictions of these models. This symposium was developed for the WSSA and SRM researchers who are concerned with soil-herbicide interactions as well as the regulations for re-registering present herbicides and the registration of new herbicides.

8:00am SYM-48 Field soil dissipation studies - Study design and interpretation of results.

Harry Streck

8:30am SYM-49 Modern Approaches for the Analysis of Pesticides Present at Trace Levels in Soil

James Stry

9:00am SYM-50 Pesticide Kd Values: How valuable are they?

Scott Senseman, Jason Krutz, Edinaldo Camargo

9:30am SYM-51 Effects of Enhanced Atrazine Degradation on Efficacy, Leaching and Modeling

L. Jason Krutz, Dale Shaner, Mark Weaver, Richard Webb, Robert Zablotowicz, Krishna Reddy

10:00am

Break

10:30am SYM-52 Current Regulations for Registering/Re-registering Herbicides in Brazil

Pedro Christoffoleti, Vanessa Cardinali, Leticia Padrão, Alex Tornisielo, Luiz Folloni, Marcelo Nicolai, Ana Dias, Luiz Campos

11:00am SYM-53 Regulatory Changes and Activities in the Environmental Fate Area of the European Union Pesticide Registration Process

Russell Jones

11:30am SYM-54 The Impact of the National Pollutant Discharge Elimination System (NPDES) Permits on Pesticide Use

Jack Faulk

SRM Sym 10 - Community Based Conservation on Rangelands

8:00am

Governors Square 17

Chair: Robin Reid

Community-based management and conservation of rangelands has been advanced as the one strategy to maintain movement of livestock herds, secure land access in communal rangelands, increase profitability of the pastoral enterprise and improve rangeland health in many dryland systems. Over the past decade, efforts to

Tuesday-February 9, 2010 (Continued)

promote community-based rangeland conservation and management have proliferated throughout the world, with over 2000 community-based rangeland management groups organized in Mongolia during 1999-2006 alone. Yet, apart from mostly qualitative case studies, there are few rigorous, large sample size evaluations of these efforts, or few opportunities to foster cross-case learning. This symposium brings together scholars and practitioners from various regions of the world to share and discuss their experiences with community-based rangeland conservation and management, with the aim of identifying common threads, potential best practices, and needs and opportunities for broader collaborative research to document the process and outcomes of these efforts.

- 8:00am SYM-55 Lessons from Community-based Conservation Approach in the Laramie Foothills.
Heather Knight
- 8:30am SYM-56 Reconstructing Community-Based Grassland Management after Privatization of Grassland Usufruct: Comparison of Two Cases in East of Inner Mongolia
Qian Zhang, Maria Fernandez-Gimenez
- 9:00am SYM-57 "Mongolia: Comparing the Resilience of Adjacent Communities With and without community-based rangeland management"
Batkhisg Baival, Maria Fernandez-Gimenez
- 9:30am SYM-58 Is It Possible for Conservation to Benefit Local Communities in East Africa? A look at different approaches with Maasai in TZ and KY
Mara Goldman, David Nkedianye
- 10:00am Break
- 10:20am SYM-59 The Australian Landcare Model: Lessons from 20 years of community-based conservation
John Taylor, Andrew Ash, Roger Landsberg
- 10:50am SYM-60 The Promise and Pitfalls of Community-based Rangeland Conservation
Robin Reid
- 11:20am SYM-61 Panel Discussion
David Ole Nkedianye, Dorligsuren Dulamsuren, Maria Fernandez-Gimenez

Section 1 - Agronomic Crops (Session 1)

- 8:00am Columbine** **Chair: Richard Evans**
- 8:00am O-29 Weed management options in glyphosate-tolerant soybean
Peter H. Sikkema, Laura Van Eerd, Richard J. Vyn, Robert E. Nurse, Nader Soltani
- 8:20am O-30 Efficacy of Glyphosate as Influenced by Water Quality and Co-applied Agrichemicals
Gurinderbir Chahal, David Jordan, Jim Burton, David Danehower, Rick Brandenburg, Barbara Shew
- 8:40am O-31 Control of glyphosate-resistant and susceptible weeds with 2,4-D alone or in tank mixes with glyphosate.
Eric F. Scherder, Marvin E. Schultz, Mark A. Peterson, Jeff M. Ellis, Scott C. Ditmarsen, Kevin W. Bradley, Reid J. Smeda, William G. Johnson
- 9:00am O-32 Nutrient accumulation and photosynthesis in glyphosate-resistant soybeans *Glycine max* (L.) are reduced with glyphosate use
Luiz Henrique Zobiolo, Rubem Silverio de Oliveira, Robert Kremer, Antonio Saraiva Muniz, Adilson de Oliveira

Tuesday-February 9, 2010 (Continued)

- 9:20am O-33 Synergistic/antagonistic effects of glyphosate and dicamba tank-mixes in common weed species.
Jonathan Huff, David Shaw, Jason Weirich, Marshall Wixson
- 9:40am O-34 Effect of weed size on control of weeds with 2,4-D + glyphosate tank mixes in corn (*Zea mays*, L.)
David Hillger, Marvin Schultz, David Ruen, Bruce Maddy, Stanley Culpepper, Mark Loux, Bryan Young
- 10:00am Break
- 10:20am O-35 Influence of selected herbicide programs for use in conventional or glyphosate-resistant corn (*Zea mays* L.) production systems on late-season weed density and corn yield.
Kevin Bradley, Bruce Hibbard, Laura Sweets, Wayne Bailey
- 10:40am O-36 Control of volunteer glyphosate-resistant corn (*Zea mays* L.) and soybean [*Glycine max* (L.) Merr.] in cotton (*Gossypium hirsutum* L.).
Darrin Dodds, Daniel Reynolds, J. Trenton Irby, Chad Smith
- 11:00am O-37 Herbicide Programs for Optimum® GAT® Corn.
David Saunders, Wayne Schumacher
- 11:20am O-38 Herbicide Programs for Optimum® GAT® Soybeans.
David Saunders, Wayne Schumacher
- 11:40am O-39 Benchmark study - grower's attitudes towards herbicide resistance management strategies and perceived obstacles to their implementation
Wade Givens, David Shaw, William Johnson, Stephen Weller, Bryan Young, Robert Wilson, Micheal Owen, Philip Dixon, David Jordan

Section 2 - Horticultural Crops (Session 1)

- 8:00am Tower Court D**
- 8:00am O-40 Biodegradable Mulches for Weed Control and Yield in Cantaloupe and Eggplant
Russell Wallace, Alisa Petty
- 8:20am O-41 New postemergence herbicides improve weed control in onion.
Chad M. Herrmann, Bernard H. Zandstra
- 8:40am O-42 Response of Ranger Russet potato to simulated glyphosate drift
Joel Felix, Rick Boydston, Pamela Hutchinson, Ian Burke
- 9:00am O-43 Weed control in apple with flumioxazin, mesotrione, rimsulfuron, saflufenacil, and sulfentrazone.
Bernard H. Zandstra, Rodney V. Tocco Jr.
- 9:20am O-44 Efficacy of saflufenacil along with glyphosate and pendimethalin for weed control in citrus
Mayank Malik, Samar Singh, Megh Singh
- 9:40am O-45 Introduction of indaziflam for weed control in perennial crops.
R. Darren Unland, *Hank J. Mager*, William J. Bertges, Richard W. Heintzelman
- 10:00am Break

Chair: Ed Peachey

Tuesday-February 9, 2010 (Continued)

- 10:20am O-46 Broad-spectrum residual weed control with indaziflam in fruit, nut, grape, and citrus crops.
R. Darren Unland, Hank J. Mager, William J. Bertges
- 10:40am O-47 Evaluation of shank and drip applied dimethyl disulfide for use in Florida tomato.
Andrew MacRae, Gary Vallad, Joseph Noling, Clay Owens, Richard Kelly
- 11:00am O-48 The long-term effects of methyl bromide alternatives on weed pressure in spring-planted bell pepper
Lynn Sosnoskie, A. Stanley Culpepper
- 11:20am O-49 Allyl isothiocyanate: A methyl bromide replacement in bell pepper.
Sanjeev Bangarwa, Jason Norsworthy, Griff Griffith
- 11:40am O-50 Evaluation of the long term sustainability of four fumigant systems as methyl bromide alternatives.
Tyler Jacoby, Andrew MacRae, Gary Vallad, Bielinski Santos, Joseph Noling, Richard Kelly

Section 3 - Turf and Ornamentals

- 8:00am Colorado** **Chair: Prasanta Bhowmik**
- 8:00am O-51 Statues of weed control in golf turf of China
Guang Xue
- 8:20am O-52 Impact of hybrid bluegrass and tall fescue seeding combinations on disease and weed encroachment
Matthew Cutulle, Jeff Derr, Brandon Horvath
- 8:40am O-53 Postemergence control of false green kyllinga (*Kyllinga gracillima*)
Prasanta Bhowmik
- 9:00am O-54 Control of perennial Poa (*Poa annua* spp. *reptans*) with metiozolin and amicarbazone in a creeping bentgrass (*Agrostis palustris*) putting green.
Jason Belcher, Robert Walker
- 9:20am O-55 Cumyluron Effects on Annual Bluegrass and Creeping Bentgrass Root Growth
Brendan S. McNulty, Shawn D. Askew, Bob Mack
- 9:40am O-56 Tolerance of newly sprigged warm-season turfgrass to oxadiazon and quinclorac.
Barry Brecke, Daniel Stephenson, IV, Bryan Unruh
- 10:00am Break
- 10:20am O-57 Ornamental plant tolerance to halosulfuron.
Jeffrey Derr
- 10:40am O-58 The influence of synthetic growing media on the movement and longevity of dimethenamid-P.
Alexandra Williams, Mark Czarnota
- 11:00am O-59 Optimizing Mesotrione Formulations for Turfgrass Tolerance and Weed Control Efficacy
Angela R. Post, Matt J. Goddard, Shawn D. Askew

Tuesday-February 9, 2010 (Continued)

11:20am O-60 Section-3 **TURF AND ORNAMENTALS** Business meeting

Prasanta Bhowmik

Section 11 - Physiology (Session 1)

8:00am

Gold

Chair: Nilda R. Burgos

8:00am O-61

Transcriptome analysis of corn in competition with canola or grown in shade or low nitrogen

Stephanie Hansen, Janet Moriles, David Horvath, Sharon Clay

8:20am O-62

Transcriptome sequence analysis of glyphosate resistant and sensitive *Palmer amaranth* biotypes from NC.

James Burton, Jenn Schaff, Robert Nichols, Elizabeth Scholl, David Jordan, Charles Opperman

8:40am O-63

Decapitation of leafy spurge induces changes in gene expression and physiological processes associated with growth in underground buds

David Horvath, Daniel Ram

9:00am O-64

A glycine deletion in the α -8 helix of protoporphyrinogen oxidase reveals a novel resistance mechanism

Franck E. Dayan, Pankaj R. Daga, Stephen O. Duke, Ryan M. Lee, Patrick J. Tranel, Robert J. Doerksen

9:20am O-65

Field scale pollen flow from 'CL171' herbicide-resistant rice to conventional rice in Arkansas.

Nilda Burgos, Vinod Shivrain, Lazaro English, Edward Gbur, Marites Sales, Fabiane Lamego, Ernest Bradley

9:40am O-66

Feral rye sensitivity to imazamox as measured by the in-vivo enzyme assay and stage of lifecycle

Michael Ostlie, Melissa Bridges, Dale Shaner, Phil Westra

10:00am

Break

10:20am O-67

Effects of magnetized spray nozzles and iron fertilizer on lablab bean stomatal conductance and water stress tolerance.

Craig Ramsey

10:40am O-68

Interactions of tank mixed combinations of glyphosate, glufosinate, chlorimuron and thifensulfuron.

Rachel Bethke, Donald Penner, Christy Sprague, Wesley Everman

11:00am O-69

Efficacy and biokinetic evaluations of aminocyclopyrachlor-methyl alone and in mixtures with diflufenzopyr.

Jose Vargas, Greg Arnel, Thomas Muller

11:20am O-70

Synergistic or Antagonistic Mixtures: Does it Matter in Delaying Evolution of Herbicide Resistant Weeds?

Jens C. Streibig, Jerry M. Green

11:20am O-71

New mode of action herbicides to combat trifluralin resistant rigid ryegrass (*Lolium rigidum*) in Australian cereal production.

Peter Boutsalis, Christopher Preston, Gurjeet Gill

Section 13 - Integrated Weed Management

8:00am

Spruce

Chair: Robert Nurse

8:00am O-72

Selecting for weed resistance: herbicide rotation and mixture

Hugh Beckie, Xavier Reboud

Tuesday-February 9, 2010 (Continued)

- 8:20am O-73 Use of mesotrione for postemergence dodder control in Massachusetts cranberry production
Hilary Sandler, James O'Connell
- 8:40am O-74 Pindar™ and Pindar GTM, two new broad spectrum herbicide products for use in tree nut crops.
Marc Fisher, Rick Mann, Monica Sorribas, Barat Bisabri, James Mueller, Debbie Shatley, Jesse Richardson
- 9:00am O-75 Field corn tolerance to broadcast flaming
Santiago M. Ulloa, Avishek Datta, Stevan Z. Knezevic, Chris Bruening, George Gogos, Goran Malidza, Robert Leskovsek
- 9:20am O-76 Field performance of flaming hood vs open torch
Chris Bruening, George Gogos, Robert Leskovsek, Santiago M. Ulloa, Stevan Z. Knezevic
- 9:40am O-77 Innovative strategies and machines for physical weed control in vegetable crops in central and southern Italy.
Andrea Peruzzi, Marco Fontanelli, Christian Frascioni, Leonardo Lulli, Michele Raffaelli, Francesca Sorelli
- 10:00am Break
- 10:20am O-78 Increasing agricultural sustainability by reducing weed-crop competition
Matthew Ryan, David Mortensen, Richard Smith, William Curran
- 10:40am O-79 A systems approach for non-crop pest control
Stephen Young
- 11:00am O-80 Pestman: a decision support system for brush management in Texas and New Mexico
Krystal T. Lair, Courtney Chambers, David Kwiatkowski, Jr., Wayne Hamilton, Richard Conner, Allan McGinty, Kirk C. McDaniel
- 11:20am O-81 Temperature and Precipitation Covariate Effects on the Relative Competitive Ability of Canola and Small-Grain Cereals
K. Neil Harker, John O'Donovan, Robert Blackshaw, Stewart Brandt, Eric Johnson, Rick Holm, George Clayton
- 11:40am O-82 The USDA-ARS Area-wide Project for Invasive Annual Grasses in the Great Basin Ecosystem: Applying Ecologically-based Invasive Plant Management
Brenda Smith, Roger Sheley, Edward Vasquez, Jeremy James
- 12:00pm O-83 Section 13- **INTEGRATED WEED MANAGEMENT** Business meeting
Robert Nurse

Section 14a - Grazing in Relation to Ecosystem Disturbance and Reclamation

- 8:00am** **Governors Square 14**
- 8:00am O-84 Vegetation Responses to Livestock Grazing Intensity in an Alpine Meadow ecosystem: A Functional Group Approach
Dashuai Sun, Guozhen Du
- 8:20am O-85 Soil Responses to Livestock Grazing Intensity in Alpine Meadow on Qinghai-Tibetan Plateau
Dashuai Sun, Guozhen Du

Tuesday-February 9, 2010 (Continued)

- 8:40am O-86 Grazing history, soil carbon, and invasion by an exotic cool-season grass explain extraordinary community diversity in a working prairie landscape
Devan McGranahan, David Engle, Samuel Fuhlendorf, James Miller, Diane Debinski
- 9:00am O-87 Benefits of increasing grazing height on weed suppression in management intensive rotational grazing systems in Wisconsin.
Marie L. Schmidt, and Mark J. Renz
- 9:20am O-88 Traditional Wisdom of the Mongol Pastoralists and Its Inheriting Values
Jargal Enkhee
- 9:40am O-89 Managing for the best of the worst: what do we do with cheatgrass?
Gary McCuin, Charles D Clements, James A. Young, Barry Perryman
- 10:00am Break
- 10:20am O-90 The influence of multi-species rotational grazing on continuous crp
Stephen Van Vleet
- 10:40am O-91 Livestock Grazing Decreases the Risk and Potential Severity of Wildfires
Kirk Davies, Tony Svejcar, Jon Bates
- 11:00am O-92 Interactive effects of fire and grazing in shortgrass steppe
David Augustine, Justin Derner
- 11:20am O-93 The Rangeland Management System in Inner Mongolia: changes of the range property
Sharnud Orongji
- 11:40am O-94 The effect of grazing on plant species composition: the case of Mojen piosphere
Eahsan Shahriary

Section 15 - Ecological Sites and Thresholds

- 8:00am** **Governors Square 11** **Chair: Dennis Thompson**
- 8:00am O-95 Pitfalls of a systems approach to rangeland ecology
Peter Sundt
- 8:20am O-96 Dry farming legacies in the Great Basin sagebrush steppe: recovery or an alternate stable state?
Lesley Morris, Thomas Monaco
- 8:40am O-97 Examining the role of State-and-Transition Models as Decision Support Tools
Anthony Perlinski, Ginger Paige, Mitchel McClaran
- 9:00am O-98 Inferences about ecological process in data-driven state and transition models through comparison of plant species composition and Indicators of Rangeland Health
Emily Kachergis, Monique Rocca, Maria Fernandez-Gimenez

Tuesday-February 9, 2010 (Continued)

- 9:20am O-99 Prairie Pothole Species Composition within a Current Agroecosystem Landscape
Edward DeKeyser, Christina Hargiss, Donald Kirby, Michael Ell
- 9:40am O-100 Development of a State-and-Transition Model for the Riparian Complexes Associated with the Middle Sheyenne River.
Miranda Meehan, Edward DeKeyser, Kevin Sedivec, Joseph Zeleznik, Jack Norland
- 10:00am Break
- 10:20am O-101 Using spatially explicit models to evaluate the ecological and economic impacts of weed management strategies against spotted knapweed and leafy spurge in Montana
David Hanna, Nathan Korb, Brad Bauer, Katherine Bryan, *Leonardo Frid*
- 10:40am O-102 Assessing Proper functioning Condition for Fen Areas in the Sierra Nevada and Southern Cascade Ranges in California
Dave Weixelman, David Cooper
- 11:00am O-103 Simulating Effects of Cheatgrass Invasion on Native Bunchgrass Productivity Under Different Precipitation Scenarios
Mari-Vaughn V. Johnson, James R. Kiniry, Mark Weltz, Deborah Spanel, Julie Finzel, Karen Launchbaugh, Lucrecia Rodriguez-Barahona, Kimberly Rollins
- 11:20am O-104 Differences in MODIS EVI-based Rainfall Use Efficiency among Ecological States of the Northern Chihuahuan Desert
Jeb C. Williamson, Brandon T. Bestelmeyer

Section 17 - Rangeland Restoration (Session 1)

- 8:00am** **Governors Square 15** **Chair: Mark Paschke**
- 8:00am O-105 Landscape scale assessment of fire response along a sagebrush steppe / western juniper successional gradient
Eva Strand, Stephen Bunting
- 8:20am O-106 Synergistic Monitoring: Learning from the Past and the Present
John Swanson, Sherman Swanson, Gary McCuin, Kent McAdoo, Brad Schultz
- 8:40am O-107 Cheatgrass Suppression Following Wildfires in Wyoming Big Sagebrush Communities
Charlie D. Clements, Dan N. Harmon, James A. Young
- 9:00am O-108 Post-Fire Wind Erosion in Low-Elevation Rangelands: Lessons from the Milford Flat Fire
Mark Miller, Richard Reynolds, Marith Reheis, Harland Goldstein, James Yount
- 9:20am O-109 Fire effect over soil seed bank seedling emergency of Natal grass ((*Melinis repens* (Willd.) Zizka) in Chihuahua grasslands.
Nathalie Hernández-Quiroz, *Carlos Ortega-Ochoa*, Carmelo Pinedo-Alvarez, Oscar Viramontes-Olivas, Juan A. Ortega-Gutierrez
- 9:40am O-110 Invasive buffelgrass (*Pennisetum cilare*) control with herbicides in Arizona.
John Brock, Will Coffee
- 10:00am Break

Tuesday-February 9, 2010 (Continued)

- 10:20am O-111 Transplanting Wyoming Big Sagebrush to Increase Site Diversity
Kent McAdoo, Chad Boyd, Roger Sheley, John Swanson, Clare Poulsen
- 10:40am O-112 Evaluating Strategies for Increasing Plant Diversity in Crested Wheatgrass Seedings
Kent McAdoo, John Swanson, Clare Poulsen, Brad Schultz, Nancy Shaw

Section 20 - Wildlife Habitat

8:00am **Governors Square 16**

- 8:00am O-113 Nest Site Selection by Pleskes Ground Jay (*Podoces pleskei*)
Hadi Radnezhad, Mohammad Kaboli, Mahmoud Karami, Nematollah Khorasani, Maryam Foroughi Abari
- 8:20am O-114 Site fidelity of desert mule deer in northern coahuila, mexico: a comparison of soft vs hard release
Alfonso Ortega-Sanchez, Jose de la Luz Martinez Garcia, Louis Harveson, Roel Lopez, Billy Pat McKinney
- 8:40am O-115 Habitat Selection by White-tailed Deer in Relation to Operative Temperature
Dean Wiemers, Timothy Fulbright, Alfonso Ortega-Santos, G. Allen Rasmussen, David Hewitt, Mickey Hellickson, Kandace London, Marcus Blum
- 9:00am O-116 Ring-necked Pheasant Egg Dumping: Its Occurrence and Influence on Sharp-tailed Grouse Production in Southwest North Dakota.
Benjamin Geaumont, Christopher Schauer, Kevin Sedivec
- 9:20am O-117 Spatial relationships in shrub steppe habitat: refining how we quantify structure
Mary Williams, Ginger Paige, Ann Hild
- 9:40am O-118 Habitat use and parasitology of the South Thompson California bighorn sheep herd
Terri France, Wendy Gardner
- 10:00am Break
- 10:20am O-119 Effects of burning and grazing treatments on small mammals in the central Platte River Valley, Nebraska
Justin Anderson, Felipe Chavez-Ramirez, Elmer Finck
- 10:40am O-120 Does livestock grazing intensity influence nest failure for grassland-breeding songbirds?
Tracey Johnson, Patricia Kennedy
- 11:00am O-121 Recovery Credit System: A New Incentive Based Tool for Managing Landscapes
Brian Hays, Neal Wilkins, Justin Tatum
- 11:20am O-122 Determining the Impact of Forage Consumption by Aleutian Cackling Geese on Livestock Production from North Coastal Pasture Lands in Humboldt County, California
Frances Tjarnstrom, Kenneth Fulgham, Alan Bower, Melvin George, Matthew Johnson

Tuesday-February 9, 2010 (Continued)

Section 23 - Rangeland Economics and Human Dimensions

8:00am Governors Square 12

Chair: Tom Bartlett

- 8:20am O-123 Is Consensus Necessary for Collaboration? Lessons from an Inactive Collaborative Group
Aleta Rudeen, Maria Fernandez-Gimenez, Jessica Thompson, Paul Meiman
- 8:40am O-124 A framework for evaluating the economic costs and benefits of alternative invasive plant management strategies at large spatial scales
Leonardo Frid, Duncan Knowler, Carol Murray, Judith Myers, Lisa Scott
- 9:00am O-125 Optimal Regulatory Design for Ecosystem Management in the Great Basin: Private Ranchers, Public Rangelands, and the Control of Invasive Weeds
Michael Taylor, Tigran Melkonyan
- 9:20am O-126 State-and-Transition Modeling, Stated-Preference Surveys, and the Economic Valuation of Ecosystem Change and Invasive Weeds in the Great Basin
Michael Taylor, Kimberley Rollins, Tamzen Stringham
- 9:40am O-127 Farmers Perception about Brazilian Environmental Laws
Joao Da Ros, *Abdon Schmitt*, Rafael Rushel, Joshua Farley, Juan Alves, Giselle Alves
- 10:00am Break
- 10:20am O-128 Rangeland Chiseling Trials to Increase Production & Income
Matthew J. Ricketts, Jim Jacobs, Keith & Karen Schott, Sonny Smith, Valerie Robertson, Marnie Thompson
- 12:00 to 1:00pm Lunch

WSSA Sym 8 - Where did all the weeds go? A global perspective on site-specific weed management

1:00pm Silver

Chair: Trey Koger

A multitude of weed scientists have developed research and extension projects in the area of site-specific weed management over the past decade, with projects ranging from improving our understanding of the spatial distribution and patterns of weed populations, properties of weed population sites in landscapes, rangelands, and agricultural fields. Advances in site-specific weed management technologies has been synergistic with the proliferation of other site-selection technologies such as global positioning systems (GPS), geographic information systems (GIS), and remote sensing based sensors, and on-the-go patch sprayers. The state of current site-specific weed management technologies is to determine if practical, economical, and effective site-specific weed management programs can be developed and implemented on a global level. This symposium addresses current site-specific weed management technologies at the national and global scale.

1:00pm SYM-62 Invasive weed management is site-specific weed management.

L.J. Wiles

1:30pm SYM-63 Prioritizing weed management: mapping, monitoring and modeling in agricultural to wildland systems.

Lisa Rew

Tuesday-February 9, 2010 (Continued)

- 2:00pm SYM-64 Developing algorithms and prescription maps for site-specific weed management.
Anita Dille, Jeffrey Vogel, Tyler Rider
- 2:30pm SYM-65 Evaluating response to restoration efforts across a secondary successional gradient in Palouse Prairie.
Timothy Prather, Priscilla Nyamai, John Wallace
- 3:00pm Break
- 3:20pm SYM-66 Site-specific management of aquatic weeds
John Madsen
- 3:50pm SYM-67 Development and implementation of site-specific weed management in row-crop systems.
Daniel Reynolds
- 4:20pm SYM-68 Global perspectives on Site-Specific Weed Management
Sam Trengove, Christopher Preston, John Heap, Allan Mayfield

SRM OOS 16 - Wind Energy and Wildlife

1:00pm

Governor Square 17

Chair: Kirk Davies

Wind energy is rapidly growing in the United States, as are concerns of its potential impacts to wildlife. The presenters in this session will discuss the impacts of wind energy development on wildlife and discuss some of the solutions that have been developed. This topic is of interest to the entire Society of Range Management membership. Public land managers are seeing greatly increased numbers of applications for wind energy development, ranchers and farmers are being approached for wind development on their properties, and general public is interested in green energy development.

- 1:00pm SYM-69 Wind energy development and wildlife conservation: challenges and opportunities
William Kuvlesky, Jr., Leonard Brennan, Michael Morrison, Kathy Boydston, Bart Ballard, Fred Bryant, Allen Rasmussen
- 1:20pm SYM-70 Assessing bird migration dynamics along the lower Texas Coast
Suzanne Contreras, Bart M. Ballard, William P. Kuvlesky, Jr, Leonard A. Brennan, Michael L. Morrison, Kathy K. Boydston
- 1:40pm SYM-71 Potential Effects of Wind Energy Development on the Prairie-Chickens (*Tympanuchus*)
Michael Patten, Christin Pruett, Donald Wolfe
- 2:00pm SYM-72 Assessing the impacts of wind turbines on bats - a review of the current state of knowledge and contemporary research
Ed Arnett
- 2:20pm SYM-73 Demographic response of greater sage-grouse to transmission line construction in eastern Nevada, USA
Erik Blomberg, James Sedinger, Michael Atamian
- 2:40pm SYM-74 Protecting the Brand-Plotting a Course for Responsible Wind Energy Development
Wayne Walker
- 3:00pm Break
- 3:20pm SYM-75 Energy by Design: Science-Based Wind Energy Siting and Mitigation
Joseph Kiesecker, Joseph Fargione, Jeff Evans

Tuesday-February 9, 2010 (Continued)

3:40pm SYM-76 "Wind and Wildlife Updates"

Rene Braud

SRM OOS 19 - Sustainable Rangelands: Planning, Monitoring, and Managing for Economic, Ecological and Social Benefits

1:00pm

Century

Chair: Kristie Maczko

This session features presentations from the Sustainable Rangelands Roundtable (SRR), the Wyoming Business Council (WBC), Wyoming State Grazing Board (WSGB), University of Wyoming extension, Grazing Lands Conservation Initiative (GLCI), USDA Forest Service Rocky Mountain Research Station (FS-RMRS), Natural Resources Conservation Service (NRCS), and Bureau of Land Management (BLM). These groups have formed the SRR ranch assessment group to focus on implementation of a 17-indicator ranch assessment framework for ecological, economic and social sustainability. The SRR ranch assessment framework emphasizes use of economic, ecological, and social ranch monitoring to inform goals elaborated in ranchers' business plans and conservation plans. University of Wyoming and WSGB staffs have worked with ranchers to implement ecological ranch sustainability monitoring using the 17 SRR ranch assessment indicators, as well as assisting with data analysis. The WBC provides ranchers with a detailed guide to developing a ranch business plan and also works with ranchers to help with creation of a formal business plan for their ranch, addressing social and economic aspects of ranch assessment. WBC's approach to business planning for ranches is elaborated in their publication, "Sustaining Western Rural Landscapes, Lifestyles, and Livelihoods." Ranchers who have benefited from participation in business planning processes and ecological monitoring will join the SRR ranch assessment group in sharing their experiences.

1:00pm SYM-77 Sustainable Rangelands: Planning, Managing and Monitoring for Economic, Ecological, and Social Benefits

Stanley F. Hamilton, Kristie A. Maczko, Lori Hiding

1:20pm SYM-78 Sustaining Western Rural Landscapes, Lifestyles and Livelihoods Through Business Planning

Cindy Garretson-Weibel, Mike Ridenour, Dick Loper, Stan Hamilton

2:00pm SYM-79 Rangeland Ecosystem Goods and Services as Potential Sources of Income Diversification

John Tanaka, Daniel McCollum, Urs Kreuter

2:40pm SYM-80 Military, livestock producer and endangered species interests in Central Texas: An integrative approach for sustaining wildlife habitat

Urs Kreuter, William Fox

3:00pm Break

3:20pm SYM-81 SRR Ranch Assessment Monitoring Indicators

John Mitchell, Mike Smith

3:40pm SYM-82 Potential Agency Applications of the SRR Ranch Sustainability Assessment Framework

Doug Powell, Chuck Quimby, Chuck Stanley

4:20pm SYM-83 Putting the Pieces Together: Rancher's Experience with Business Planning & Monitoring System Implementation

Michael Smith, Niels Hansen, J.K. "Rooter" Brite, John Phelan, Chuck Stanley

4:40pm SYM-84 Discussion

Lori Hiding

Tuesday-February 9, 2010 (Continued)

SRM OOS 24 - Working Landscapes

1:00pm Terrace

Chair: Louis Swanson

This program brings you a variety of perspectives about why “Working Landscapes” in the west is critical to sustaining the values that we embrace and are so dear to us. Each speaker brings a special viewpoint contributing to understanding the factors that affect and change working landscapes but are also part and parcel to these landscapes. This will be your opportunity to learn from each of the speakers but in a cumulative way, understand the pathways that are our past, current, and future of these landscapes. We invite each of you to come, learn and participate in the program.

1:00pm SYM-85 Introduction - Working Landscapes of the West

Louis Swanson

1:20pm SYM-86 History of Western Landscapes

Mark Fiege

2:00pm SYM-87 Wildlife and Wildlife Values in Working Landscapes

Richard Knight

2:40pm Break

3:10pm SYM-88 Agricultural Views of Working Landscapes

Matt Heimerich

3:40pm SYM-89 Agriculture, Policy and Politics

Wally Butler

4:20pm SYM-90 Panel Discussion and Summary

Louis Swanson

Section 1 - Agronomic Crops (Session 2)

1:00pm Columbine

Chair: Richard Evans

1:00pm O-130 Exploring postemergence applications of saflufenacil in corn

Meghan Moran, Peter Sikkema, CJ Swanton

1:20pm O-131 Introducing bicyclopyrone for broad spectrum weed control in corn and sugarcane

Albrecht Michel, Gordon Vail, David Elser, Rex Wichert

1:40pm O-132 Explanation of the differences in sweet corn hybrid sensitivity to HPPD-inhibitors.

Martin Williams, Jerald Pataky

2:00pm O-133 Removal timing of winter annual weeds in a no-till corn and soybean cropping system and its effect on soil water availability and yield.

Venkatarao Mannam, Mark Bernards, Lindquist John

2:20pm O-134 CAPRENOTM (Thiencarbazone-methyl + Tembotrione + Isoxadifen-ethyl): A new herbicide for grass and broadleaf weed control in corn.

John Cantwell, David Lamore, Jerry Hora, George Simkins, Brent Philbrook, James Bloomberg

Tuesday-February 9, 2010 (Continued)

- 2:40pm O-135 Effect of isoxadifen-ethyl on corn injury caused by the interaction between rimsulfuron and terbufos
Bill Williams, Billy Leonard, Rakesh Godara
- 3:00pm Break
- 3:20pm O-136 Response of maize to weed control and different combinations of macro nutrients
Muhammad Azim Khan, M. Siraj Kakar
- 3:40pm O-137 Tolerance of pearl millet (*Pennisetum glaucum*) to HPPD-inhibiting herbicides.
William Vencill
- 4:00pm O-138 Weed management in establishment of switchgrass (*Panicum virgatum*) for biofuels in Wisconsin.
Mark Renz, Jessica Miesel, Randall Jackson, Julie Doll
- 4:20pm O-139 Amaranthus control with pyrasulfotole in grain sorghum.
Mary Paulsgrove, Greg Hudec, Charlie Hicks, Gary Schwarzlose, Kevin Watteyne
- 4:40pm O-140 Sulfonyleurea and quizalofop tolerance traits in sorghum - New weed management tools for sorghum production
Robert N. Rupp, Douglas J. Meadows, David W. Saunders, Wayne J. Schumacher
- 5:00pm O-141 Spatial Movement of Glyphosate-Resistant Palmer Amaranth in Roundup Ready Flex® Cotton
Griff Griffith, Jason Norsworthy, Terry Griffin

Section 2 - Horticultural Crops (Session 2)

- 1:00pm Tower Court D Chair: Ed Peachey**
- 1:00pm O-142 Pumpkin Crop Tolerance and Weed Control Using Combinations of S-Metolachlor and Fomesafen
Francis Itulya, *John Masiunas*, Dan Anderson
- 1:20pm O-143 Efficacy and Crop Safety of Spartan Charge on Cowpea Applied Preplant or Preemergence
Leopoldo Estorninos, Jr., Nilda Burgos, Dennis Motes, Ed Allen Alcober, Paul Tseng, Praveen Sapkota
- 1:40pm O-144 Effect of tillage sequence on emergence of wild proso millet (*Panicum miliaceum*) and interference in follow-crops.
Ed Peachey, Alysia Greco, Jessica Green,
- 2:00pm O-145 Fingerprinting the bad guys, SSR DNA-profiling of Nutsedge.
Renee Arias, Jeffery Ray, William Molin, Brian Scheffler
- 2:20pm O-146 Effect of crop rotation on weed seed-bank in Potato fields
Hossein Hamami, *Mohammad Hassan Rashed Mohassel*, Reza Ghorbani, Koorosh Shojaee
- 2:40pm O-147 Section 2. **HORTICULTURAL CROPS** Business meeting
Ed Peachey

Tuesday-February 9, 2010 (Continued)

Section 11 - Physiology (Session 2)

1:00pm	Gold	Chair: Nilda R. Burgos
1:00pm	O-148	Antagonism between glyphosate, chlorimuron and glufosinate: fluorescence analysis. <i>William Molin</i> , Rachel Bethke, Don Penner
1:20pm	O-149	Response to flooding in invasive saltcedar (<i>Tamarix ramosissima</i>). <i>Kristen Polacik</i> , Brian Maricle
1:40pm	O-150	Resistance to auxin mimic herbicides and acetohydroxyacid synthase-inhibiting herbicides in Indian hedge mustard (<i>Sisymbrium orientale</i>) in South Australia. <i>Christopher Preston</i> , Fleur Dolman, Mohammed Aman, Jenna Malone, Peter Boutsalis
2:00pm	O-151	Cantharidin and Endothall Target Protein Phosphatases in Plants <i>Stephen Duke</i> , Zhiqiang Pan, Joanna Bajsa
2:20pm	O-152	Evaluation of sweet corn safety and variations in nutritional quality following applications of multiple herbicides and crop safeners <i>Gregory Armel</i> , Dean Kopsell, Henry Wilson, Carl Sams, Jose Vargas, Thomas Hines, Rebecca Koepke-Hill
2:40pm	O-153	Selection for resistance at low and high pyroxasulfone (KIH-485) rates in susceptible annual ryegrass (<i>Lolium rigidum</i>) populations Roberto Busi, <i>Todd Gaines</i> , Stephen Powles
3:00pm		Break
3:20pm	O-154	Glyphosate resistant horseweed is sensitive again in the cold <i>Doug Sammons</i> , Marvin Spaur, William Duncan, Dafu Wang
3:40pm	O-155	Absorption and Translocation of 14C-Glyphosate in Beach Vitex <i>Sarah True</i> , Rob Richardson, Wesley Everman
4:00pm	O-156	A simple in-season method for predicting glyphosate efficacy in grass and broadleaved weeds prior to field application. <i>Shiv Shankhar Kaundun</i> , Sarah-Jane Hutchings, Richard Dale, Nick Polge
4:20pm	O-157	Evaluating the response of kochia populations to glyphosate. <i>Philip Westra</i> , Kassim Al-Khatib, Philip Stahlman, Darci Giacomini, Sarah Ward, Dale Shaner, Robert Klein
4:40pm	O-158	Update on novel glyphosate resistance mechanism in Palmer amaranth (<i>Amaranthus palmeri</i>) <i>Todd Gaines</i> , Jan Leach, Philip Westra, Christopher Preston, Jaming Jang, Steven Chisholm, Doug Sammons, Dale Shaner
5:00pm	O-159	Glyphosate accumulates in the vacuole of glyphosate-resistant horseweed Xia Ge, Andre' d'Avignon, Joseph Ackerman, <i>Doug Sammons</i>
5:20pm	O-160	Section 11- PHYSIOLOGY Business meeting <i>Nilda Burgos</i>

Tuesday-February 9, 2010 (Continued)

Section 14b - Rangeland Disturbance Factors

1:00pm **Governors Square 14**

- 1:00pm O-161 Growing season fires in warm-season prairie: Are the effects greater than herbivory?
Ryan Limb, Samuel Fuhlendorf, Jay Kerby
- 1:20pm O-162 Long-term Recovery of Sagebrush Steppe and Western Juniper Ecosystems to Prescribed Fire
Sara Hanna, K.O. Fulgham
- 1:40pm O-163 Effect of fire on soil seedbank in woodlands of *Juniperus osteosperma* (Utah Juniper)
Kert Young, Bruce Roundy
- 2:00pm O-164 Lessons from an extreme event - selected Chihuahuan Desert dynamics in the 5 decades after the 1951-1956 drought.
Kris Havstad, Brandon Bestelmeyer, Caiti Steele, Laura Burkett, Jeb Williamson, Jin Yao
- 2:20pm O-165 Changes in Vegetation Structure in the Maguerya Region of Zacatecas, Mexico
Martin Martinez-Salvador, Ricardo Mata-Gonzalez, Carlos Morales-Nieto
- 2:40pm O-166 Monitoring and Assessing Global Impacts of Roads and Off-Road Vehicle Traffic
Jeffrey Herrick, Michael Duniway, Jason Karl, Justin Van Zee
- 3:00pm Break
- 3:20pm O-167 Adapting to Climate Change on Western National Forests: A Toolkit to Incorporate Climate into Resource management and Planning
Linda Joyce, Susan Carr, Michael Furniss, Jessica Halofsky, Becky Kerns, Maureen McGlinchy, Constance Millar, Toni Lyn Morelli, Ron Neilson, Dave Peterson, Guy Pinjuv, Claudia Regan, Brendan Rogers, Nikola Smith, Andrew Tredennick, Sharon Yeh
- 3:40pm O-168 Climate Scenarios of the RPA 2010 National Renewable Resource Assessment
David Coulson, Linda Joyce, David Price, Daniel McKenney
- 4:00pm O-169 Soil and Plant Community Characteristics of Lehmann lovegrass (*Eragrostis lehmanniana*) in Invaded Sites in Central Chihuahua, Mexico Rangelands
Alfonso Sanchez-Munoz, Alicia Melgoza-Castillo, Karen R. Hickman
- 4:20pm O-170 Effects of flooding on photosynthesis and respiration in native and invasive wetland grasses of central Kansas
Elizabeth F. Waring, Brian R. Maricle
- 4:40pm O-171 Assessing human modification of rangelands in the West: Rangelands on the Edge
I. Leinwand, D.M. Theobald, J. Mitchell, M. Reeves

Section 17 - Rangeland Restoration (Session 2)

1:00pm **Governors Square 15**

Chair: Mark Paschke

- 1:00pm O-172 Influence of anchor chaining on postfire soil water repellency and subsequent revegetation success within pinyon-juniper woodlands
Matthew D. Madsen, Daniel Zvirzdin, Steven L. Petersen, Bruce R. Roundy

Tuesday-February 9, 2010 (Continued)

- 1:20pm O-173 Effects of Wetland Restoration Techniques and Vegetational Attributes on Avian Communities in Small Prairie Pothole Wetlands
Alexander L. Galt, Elmer J. Finck
- 1:40pm O-174 Rotational Grazing on the Black Mesa of the Gunnison National Forest.
David Bradford
- 2:00pm O-175 50 Years of Experience Working Landscapes in Northern Johnson County, Wyoming
Nikki Lohse, Phil Gonzales
- 2:20pm O-176 Using the fluctuating resource hypothesis and soil water availability to guide successional timing for pinyon-juniper control treatments
Bruce Roundy, Nathan Cline, April Hulet
- 2:40pm O-177 Development and Seed Releases of Three Native Annual Forbs for Restoration in South Texas
Forrest Smith, John Lloyd Reilley, William Ocumpaugh
- 3:00pm Break
- 3:20pm O-178 Western and Searls Prairie Clovers: North American Legumes for Rangeland Revegetation
Douglas Johnson, Kishor Bhattarai, Shaun Bushman, Kevin Connors
- 3:40pm O-179 The effects of light and soil N availability on N₂ fixation by *Shepherdia canadensis*
Zoe Miller, Mark Paschke

Section 18 - Rangeland Seeding

- 1:00pm Spruce**
- 1:00pm O-180 Promoting the Re-establishment of Herbaceous Native Plants on Mixed Brush Plant Communities with Roller Chopping.
Felix Ayala-A., J. Alfonso Ortega-S., Timothy E. Fulbright, G. Allen Rasmussen, D. Lynn Drawe
- 1:20pm O-181 Impact of wildfire and seeding on the range plant community in the dry forests of southern British Columbia, Canada
Wendy Gardner, John Karakatsoulis, Phil Youwe
- 1:40pm O-182 Native Habitat Restoration in the Lower Rio Grande Valley Texas
Anthony Falk, Timothy Fulbright, Forrest Smith, Stephen Benn
- 2:00pm O-183 Evaluation of roadside seeding mixtures for local site conditions in Nebraska.
Jonathan Soper, Walter Schacht, Carol Wienhold
- 2:20pm O-184 Long-Term Changes in Community Composition Following Harvest of a Mixed Aspen/Conifer Forest in Northern Utah
A. Joshua Leffler, Ronald J. Ryel, Thomas A. Monaco
- 2:40pm O-185 Multiple global change treatments interact on germination thresholds of native and invasive species in Mixed-Grass Prairie
Jin Li, Yuguang Bai, Dan LeCain, Dana Blumenthal, Jack Morgan

Tuesday-February 9, 2010 (Continued)

Section 19 - Inventory and Monitoring

1:00pm **Governors Square 12 Chair:**

David Wheeler

- 1:00pm O-186 Making Spatial Predictions of Rangeland Ecosystem Attributes Using Regression Kriging
Jason Karl
- 1:20pm O-187 Validation of the Phytomass Growth (Phygrow) model to predict wildland fire fuel or forage standing crop on Arizona rangelands.
Doug Tolleson, John Kava, Tim Brown, Ed Rhodes, Will Shaw, Richard Conner, Wayne Hamilton
- 1:40pm O-188 Arizona Strip Cooperative Rangeland Monitoring Program
Del W. Despain
- 2:00pm O-189 Documenting Rangelands Using Very-High-Resolution Panoramic Photography
Mary Nichols, George Ruyle
- 2:20pm O-190 Regional & National Scale Assessment of the Impact of the US Livestock Footprint on Dryland Productive Capacity
Robert Washington-Allen, R. Wasantha Kulawardhana, John Mitchell, Matt Reeves
- 2:40pm O-191 Evaluation of QuickBird satellite imagery for identifying dominant vegetation types in Chihuahuan Desert Rangelands
Ahmed Mohamed, Jerry Holechek, Derek Bailey, Carol Campbell
- 3:00pm Break
- 3:20pm O-192 Multiple Scale Remote Sensing for Monitoring Rangelands
Raymond Hunt, Terry Booth
- 3:40pm O-193 Using remote sensing to understand spatiotemporal landscape dynamics of aspen decline in southern Utah.
Dave Evans, Ronald Ryel, Douglas Ramsey, Dale Bartos, Chad Oukrop
- 4:00pm O-194 Sample Size Adequacy and Comparison of Three Tiered Wetland Assessment Methods for use in the Prairie Pothole Region
Christina Hargiss, Edward DeKeyser, Donald Kirby, Mike Ell
- 4:20pm O-195 Using Digital Photography to Examine Livestock Grazing in Montane Meadows
Susan Mallroy, Barbara Allen-Diaz, Alexander Berg
- 4:40pm O-196 Monitoring Irrigated Pasture Condition and Trend
Glenn Shewmaker

Section 21 - Sagegrouse Habitat and Restoration

1:00pm **Governors Square**

Chair: Jim Free

- 1:00pm O-197 Nesting and brood-rearing microhabitat selection by greater sage-grouse in southcentral Wyoming
Christopher Kirol, Jeffrey Beck
- 1:20pm O-198 Sage-grouse Response to Prescribed Burning in Mountain Big Sagebrush Communities in Northeastern Utah.
Eric Thacker, Terry Messmer, Allen Huber, Robert Christensen, Brian Maxfield, Natasha Gruber

Tuesday-February 9, 2010 (Continued)

- 1:40pm O-199 Consequences of Enhancement Treatments in Big Sagebrush Wildlife Habitats: A Review
Jeffrey L. Beck, John W. Connelly, Carl L. Wambolt
- 2:00pm O-200 Multi-Scale Remote Sensing Sagebrush Habitat Quantification and Monitoring Across Wyoming - What Can Be
Successfully Measured Over Time?
Collin Homer, Cameron Aldridge, George Xian
- 2:20pm O-201 Comparison of Prescribed Burning and Mowing to Enhance Greater Sage-Grouse Nesting and Early Brood-Rearing
Habitat in the Big Horn Basin, Wyoming
Jennifer Hess, Jeffrey Beck

Poster Session B

8 AM to 8 PM

Posters manned 6:00 PM to 8:00 PM
Plaza Ballroom D&E

Tuesday-February 9, 2010

- P B-1 Germination Arrest Factor: A Biological Herbicide for Grassy Weeds
Gary Banowetz, Don Armstrong, Dallice Mills
- P B-2 Simulated rainfall effects on disease development and weed control efficacy of two bioherbicidal fungi
Clyde Boyette, Charles Bryson, Robert Hoagland, Mark Weaver
- P B-3 Efficacy and host range of thistle tortoise beetle (*Cassida rubiginosa*) for biological control of Canada thistle (*Cirsium arvense*)
Ghorbanali Asadi, Reza Ghorbani, Alireza Koocheki, Aliasghar Mohamadabadi, Heinz Müller-Schärer
- P B-4 Control of Medusahead (*Taeniatherum caput-medusae*) and barbed goatgrass (*Aegilops triuncialis*) with precision defoliation
Jimin Zhang, Montague W. Demment, Craig Schriefer, Corey Cherr, Emilio A. Laca
- P B-5 Relative competitiveness of nimblewill (*Muhlenbergia schreberi*) with tall fescues and Kentucky bluegrass
Pedro Moraes, William Witt, Timothy Phillips
- P B-6 Comparisons of Auxin Herbicide Active Ingredients on Broadleaf Weed Control
Laura Hinrichs, Robert Mack, Johnnie Roberts
- P B-7 Effect of herbicide application timing on spiny amaranth (*Amaranthus spinosus*) control in pastures.
Meghan Edwards, J.D. Green, W.W. Witt
- P B-8 Implementing and evaluating an Early Detection-Rapid Response program for the control of invasive plant species on rangeland at the county level.
John L. Baker, Kimberly K. Johnson
- P B-9 Control of downy brome (*Bromus tectorum*) and medusahead (*Taeniatherum caput-medusae*) with rangeland herbicides in northeastern California
Jimin Zhang, Guy B. Kyser, Rob Wilson, Earl Creech, Mark Weltz, Charlie Clements, Joseph M. DiTomaso
- P B-10 Leafy spurge control with tank-mixes of imazapic and saflufenacil applied in fall.
Stevan Z. Knezevic, Avishek Datta, Ryan E. Rapp, Jon Scott, Leo D. Charvat, Joseph Zawierucha
- P B-11 Leafy spurge control with tank-mixes of imazapic and saflufenacil applied in spring.
Stevan Z. Knezevic, Avishek Datta, Ryan E. Rapp, Jon Scott, Leo D. Charvat, Joseph Zawierucha
- P B-12 Viability and invasive potential of hybrid toadflax populations
Marie Turner, Sarah Ward, Sharlene Sing
- P B-13 Abundance and Public Education of Exotic Invasive Weed Populations Along Tennessee Transportation Right-of-Ways
Rebecca Koepke-Hill, Gregory Arnel, Scott McElroy
- P B-14 Establishment of Yellow-flowered Alfalfa (*Medicago sativa* subsp. *falcata*) Interseeded into Crested Wheatgrass (*Agropyron cristatum*) Stands
Christopher Misar, Lan Xu, Roger Gates, Arvid Boe, Patricia Johnson

Poster Session B (Continued)

Tuesday-February 9, 2010 (Continued) Posters manned 6:00 PM to 8:00 PM

- P B-15 Evidence that Invasion by Cheatgrass (*Bromus tectorum* L.) Increases Soil Nitrogen Availability
Robert Blank, Tye Morgan
- P B-16 Weed Risk Assessment and the Climate-matching Approach: Differential Success by Functional Group
Lynn Sweet, Jodie Holt
- P B-17 Timing of herbicide application for *Phragmites australis* (common reed) control.
Ryan Rapp, Stevan Knezevic
- P B-18 Life along an elevation gradient: The effects of elevation on the invasiveness of *Linaria dalmatica*
Fredric Pollnac, Lisa Rew, Bruce Maxwell, Matt Lavin
- P B-19 Management Inputs and Control of Saltcedar From a Cooperative Weed Management Program
Ralph Whitesides, Kim Edvarchuk, Michael Bouck, Steven Dewey
- P B-20 Invasive plants following timber harvest on a ponderosa pine forest
Stefanie Wacker, Jack Butler, Michael Wimberly
- P B-21 Predicting Habitat for Eurasian Watermilfoil with Mahalanobis Distance Methods
Joby M. Prince, John D. Madsen, David R. Shaw, Christopher P. Brooks
- P B-22 Effects of calcium carbonate, sodium carbonate, and imazapyr for vegetation control on sandbars along Missouri River.
Avishkek Datta, Stevan Z. Knezevic, Charles A. Shapiro, Jon Scott, Mike Mainz
- P B-23 Biology and Management of Natalgrass (*Melinis repens*)
Courtney Stokes, Greg MacDonald, Carrie Reinhardt Adams, Ken Langeland
- P B-24 Persistence of Monoecious Hydrilla Turions after Three Years of Management
Justin Nawrocki, Rob Richardson, Rory Roten, Steve Hoyle, Andrew Gardner
- P B-25 Invasion of the highlands: Post-fire *Bromus tectorum* dynamics at high elevations in the southern Wind River Range, Wyoming.
Brian A. Meador, D. Terrance Booth, Samuel E. Cox
- P B-26 Identification and management for two invasive geraniums: herb robert (*Geranium robertianum*) and shiny geranium (*G. lucidum*)
Timothy Miller, Alison Halpern, Cathy Lucero
- P B-27 Root length and planting depth affect the regenerative capacity of bushkiller
Amanda West, Rob Richardson, Sarah True
- P B-28 Effect of some factors on germination of tuberous root of invasive weed *Ranunculus ficaria*
Sima Sohrabi, Mohammad Hasan Rashed Mohassel, Mehdi Nassiri Mahallati, Seyed Karim Mousavi
- P B-29 Suppression of Cheatgrass by Established Perennial Grasses: I. Mechanisms
Robert Blank, Tye Morgan
- P B-30 Cheatgrass Germination at Three Seed Maturity Stages from Five major Plant Communities in Northwestern Nevada
Dan N. Harmon, Charlie D. Clements, Michele Clark

Poster Session B (Continued)

Tuesday-February 9, 2010 (Continued) Posters manned 6:00 PM to 8:00 PM

- P B-31 Are plant invasions episodic?
Tyler Brummer, Bruce Maxwell, Barbara Keith, Lisa Rew
- P B-32 Changes in the expression of carbohydrate metabolism genes during three phases of bud dormancy in leafy spurge
Wun Chao, Marcelo Serp
- P B-33 Resilience of native grasses from invaded and non-invaded sites transplanted into weed invasions.
Brian Sebade, Ann Hild, Brian Meador, Thomas Smith
- P B-34 Edaphic and morphological characteristics that support cogongrass (*Imperata cylindrica*) populations in Mississippi
Charles Bryson, Jason Krutz, Gary Ervin, Krishna Reddy, John Byrd
- P B-35 Deciphering dispersal patterns of Dalmatian toadflax
Barbara Keith, Tyler Brummer, William Dyer, Bruce Maxwell, Lisa Rew
- P B-36 Changes in Equisetum hymenale densities and life stage on irrigation canals in southern New Mexico
James Hill, Jill Schroeder, Leigh Murray, Jamshid Ashigh, April Ulery
- P B-37 Growth of kochia plants from populations resistant to ALS inhibiting herbicides varies according to target site mutation.
Anne Légère, Hugh Beckie, Suzanne Warwick, Craig Stevenson
- P B-38 Weed seedbanks after 6 and 18 years of conservation tillage practices.
Anne Légère, Craig Stevenson, Diane Lyse Benoit
- P B-39 Mobile mapping of medusahead (*Taeniatherum caput-medusae* (L.) Nevski) infestations
Stephen Koghan Ndzeidze, Mounir Louhaichi, Michael Johnson
- P B-40 The role of developmental factors on the expression of glyphosate resistance in giant ragweed (*Ambrosia trifida* L.).
Rena Robertson, Burkhard Schulz, Stephen Weller
- P B-41 Making accurate predictive maps for invading plant species
Malcolm Herstand, Lisa Rew, Bruce Maxwell
- P B-42 Interspecific variability and phenotypic plasticity in photosynthesis for the invasive swallow-wort vines (*Vincetoxicum* spp.).
Kristine Averill, Thomas Whitlow, Lindsey Milbrath, Antonio DiTommaso
- P B-43 Survival of Weed Seeds Through the Digestive Tracts of Ruminants: A Case Study of Yellow Starthistle Seeds Ingested by Goats
Brianna Goehring, Timothy Prather, Karen Launchbaugh
- P B-44 Biological suppression of velvetleaf (*Abutilon theophrasti*) in an eastern Nebraska soil.
Jane Okalebo, Gary Yuen, Rhae Drijber, Erin Blankenship, *John Lindquist*
- P B-45 Are edges of forest fragments more invasive than interiors? Observational and experimental studies on reservoir islands
Saara DeWalt, Danielle Zoellner
- P B-46 Persistence and evolution of native plants in cheatgrass invaded systems
Elizabeth Leger, Erin Goergen, Erin Espeland

Poster Session B (Continued)

Tuesday-February 9, 2010 (Continued) Posters manned 6:00 PM to 8:00 PM

- P B-47 Population Genetic Structure of the Seed Bank Pathogen *Pyrenophora semeniperda* on *Bromus tectorum*
Susan Meyer, Steven Harrison, Mikel Stevens, David Boose
- P B-48 Species distribution models for predicting weed distributions and abundance in Hawai'i: Interactive effects of climate and land use
Curtis Daehler, Christoph Kueffer
- P B-49 Effect of shade on growth of benghal dayflower (*Commelina benghalensis*).
Barry Brecke, Ted Webster, Darcy Partridge-Telenko
- P B-50 An update on the Invasive Plant Atlas of the MidSouth project
John Madsen, Gary Ervin
- P B-51 Heat Tolerance Among Native Grasses and *Bothriochloa ischaemum* (KR Bluestem): Implications for Invasive Species Management using Prescribed Fire
Kelly Lyons, Erin Ruckman, Thomas Robinson
- P B-52 Progress in developing epidemics of *Puccinia puctiformis* rust as a biological control for Canada thistle (*Cirsium arvense*).
Steven Conaway, Paul Backman, Dana Berner
- P B-53 A Landscape-Genetic Approach to the Management of Feral Pigs in south Texas
Johanna Delgado-Acevedo, Randy DeYoung, Tyler Campbell
- P B-54 Recognition of the need for landscape to region-wide management of invasive plant species has grown among land owners and land managers.
Timothy Prather
- P B-55 On the southeast coast of the United States, two non-native species (the charru mussel *Mytella charruana* and the green mussel *Perna viridis*) have been recently documented
Eric Hoffman, Kimberly Schneider, Matt Gilg, Linda Walters
- P B-56 Sickleweed (*Falcaria vulgaris*) on the Fort Pierre National Grassland in South Dakota: An Emerging Threat to the Northern Mixed Grass Prairie.
Brian Korman, Jack Butler, Gary Larson
- P B-57 Hydrologic factors influencing establishment of *Tamarix* spp. in Montana
Erik Lehnhoff, Fabian Mehalled, Lisa Rew
- P B-58 An invasive grass creates fuelbed heterogeneity and reduces fire intensity
Devan McGranahan, David Engle, Samuel Fuhlendorf, James Miller, Diane Debinski
- P B-59 Investigation of *Tamarix* spp. in South Dakota and the Northern Great Plains Prairie Pothole Region
Tabitha Christner, Sharon Clay, David Clay, Sandy Smart, Eric Mousel
- P B-60 Development of a Rangeland Soil Health Sustainability Index
Barbara Landgraf Gibbons
- P B-61 Adaptive cluster and adaptive web sampling designs for nonindigenous plant species surveying: a comparison of designs and a discussion of technological tools for successful field implementation
Vickie Backus, Lisa Rew, Bruce Maxwell

Poster Session B (Continued)

Tuesday-February 9, 2010 (Continued)

Posters manned 6:00 PM to 8:00 PM

- P B-62 Influence of targeted grazing prescriptions on the foraging behavior of sheep grazing white locoweed infested plots
Laura Jacobson, Andres Cibils, David Graham, Lyndi Owensby
- P B-63 Strategies to Reduce Fuels and Wildfires on Public Lands in the Great Basin Using Targeted Livestock Grazing
Mike Pellant
- P B-64 Long Term Effects of Roller Chopping and Fire on Invasion of Exotic Grasses on Mixed Brush Plant Communities.
Felix Ayala-A., J. Alfonso Ortega-S., Timothy E. Fulbright, G. Allen Rasmussen, D. Lynn Drawe, David R. Synatzske
- P B-65 Evidence for Allelopathic Interference in an Exotic Invasive Grass, Medusahead (*Taeniatherum caput-medusae*)
Jimin Zhang, Montague W. Demment, Craig Schriefer, Mary B. McEachern, *Emilio A. Laca*
- P B-66 An Economic Solution for an Environmental Problem: Cheatgrass Beer
Tye Morgan, Robert Blank
- P B-67 Detection of medusahead (*Taeniatherum caput-medusae* (L.) Nevski) using high frequency, sequential, globally positioned digital images
Stephen Koghan Ndzeidze, Michael Johnson, Mounir Louhaichi, Lesley Richman, Michael Halbleib, Adele Woerz, Kipp Johnson
- P B-68 Landscape dynamics and risk of invasion of two grasses in Chihuahua, México using terrain digital models and remote sensing.
Carmelo Pinedo-Alvarez, *Nathalie Hernandez-Quiroz*, Alicia Melgoza-Castillo, Carlos Ortega-Ochoa, Alfonso Sanchez-Muñoz,
Alberto Lafon-Terrazas
- P B-69 Comparing Spectral Characteristics of Caucasian Bluestem and Native Tallgrass Prairie Over A Growing Season.
Bethany Porter Grabow, Kevin Price, Walter Fick
- P B-70 Promoting Remnant Perennial Grass Populations in Exotic Annual Grass Infestations
Aleta Nafus, Kirk Davies, Roger Sheley
- P B-71 Using grass-specific herbicides to control filaree (*Erodium* spp.) in wildlands restoration in southern California.
Kristin A. Weathers, Carl E. Bell, Milton E. McGiffen, Jr., Edith B. Allen
- P B-72 Influence of Seeding Rate and a cover crop on Rehabilitation of Medusahead-infested Plant communities Following Fire.
Clare Poulsen, Chad Boyd, Jane Mangold
- P B-73 A tale of toadflax
Justin McConkey, Dave Bradford, *Robert Gullett*
- P B-74 Tooele County noxious weed control program
L.K. Greenhalgh, J.R. Caldwell
- P B-75 The IR-4 Project: Update on weed control projects.
Marija Arsenovic, Danile L. Kunkel, Jerry J. Baron
- P B-76 Targeted sheep grazing and mowing to suppress sulfur cinquefoil on western montana rangeland
Rachel Frost, Jeffrey Mosley, Brent Roeder, Rodney Kott, Duane Griffith

Poster Session B (Continued)

Tuesday-February 9, 2010 (Continued) Posters manned 6:00 PM to 8:00 PM

- P B-77 Integrated weed management for tall ironweed (*vernonia altissima*) control and improved pasture productivity
Josh Tolson, J.D. Green, William Witt
- P B-78 Geographically segregated yellow toadflax populations and their response to chlorsulfuron and imazapyr.
Nicholas Krick, George Beck
- P B-79 Aboveground Productivity by Functional Group in Grasslands Following Integrated Management of Dalmatian Toadflax
Paul Meiman, Stephen Enloe, Timothy Collier
- P B-80 Effect of weedicides Puma (Fenoxaprop-p-ethyl 10% EC) and Hit-44 (2,4-D ethyl- Ester 38%) on mycorrhizal fungi of wheat crop
Anil Gupta, Ashok Aggarwal
- P B-81 Modeling the effect of light intensity and exposure duration on seed germination of *Phalaris minor* and *Poa annua*
Sara Ohadi, Hamid Rahimian Mashhadi, Hassan Mohammad Alizadeh, Mohsen Beheshtian
- P B-82 Effects of storage and burial on germination responses of encapsulated and naked seeds of *Rapistrum rugosum* (turnipweed) to light
Hamid Rahimian Mashhadi, Sara Ohadi, Mohsen Beheshtian Mesgaran
- P B-83 Emergence of wild barley (*Hordeum spontaneum*) under different microsite conditions
Mohsen Mesgaran, Hamid Mashhadi, Hassan Alizadeh, Sara Ohadi
- P B-84 Apomixis in glyphosate-resistant *Palmer amaranth*
Darci Giacomini, Sarah Ward, Philip Westra, Todd Gaines
- P B-85 Autoecological contribution to the study of natal grass *Melinis repens* (Willd.) Zizka in Aguascalientes, México
Ernesto Flores Ancira, Abraham Diaz Romo, José de Jesús Luna Ruíz, Víctor Olalde Portugal, Juan Teodomiro Frías Hernández, Alfonso de Luna Jiménez
- P B-86 WeedImages.org: The online image resource for weed science
Joseph LaForest, Ed Luschei, Charles T. Barger, David Moorhead, G. Keith Douce
- P B-87 Nitrogen Consumption in Weed Species as Influenced by Application Rate and Weed Removal Timing.
Laura Bast, Wesley Everman, Darryl Warncke
- P B-88 Glyphosate metabolism in resistant *Lolium rigidum*
Antonia Rojano, José Ruiz-Jiménez, Maria Dolores Luque de Castro, Antonio Rodríguez-Franco
- P B-89 Reduced absorption and translocation of glyphosate in glyphosate-resistant *Palmer amaranth* from Mississippi
Vijay Nandula, Krishna Reddy, Robin Bond
- P B-90 Competitive ability of ALS resistant and susceptible *Bidens subalternans*
Fabiane Lamego, Nilda Burgos, Ribas Vidal
- P B-91 Chlorophyll fluorescence to assess glyphosate response in herbicide resistant giant ragweed (*Ambrosia trifida* L.).
Renae Robertson, Burkhard Schulz, Stephen Weller

Poster Session B (Continued)

Tuesday-February 9, 2010 (Continued) Posters manned 6:00 PM to 8:00 PM

- P B-92 Control enhancement of propoxycarbazone-sodium/mesosulfuron-methyl mixture with various adjuvant types
Frank Sexton, Todd O'Connell, Richard Zollinger, Angela Kazmierczak
- P B-93 Analysis of the gene expression of the EPSPS in *Conyza bonariensis* resistant to glyphosate
Vanessa Cardinali, Pedro Christoffoleti, Antonio Figueira, Felipe Campana, Ana Dias
- P B-94 Development of a cDNA library from *Salsola kali*
Sam Zwenger, Chhandak Basu
- P B-95 Assessing the successful establishment of post-fire seeding in the Great Basin: A focus on Elko County, NV
Sarah M. Kulpa, Elizabeth A. Leger, Erin K. Espeland

Wednesday-February 10, 2010

WSSA Sym 6 - Spray drift minimization technology symposium

8:00am Silver

Chair: Robert Klein

Spray drift is considered to be the most important issue by many State Departments of Agriculture. Spray drift is a lose-lose situation; drift may cause damage to areas around the treated area as well as reduces the amount of the product applied. Additionally, new regulations for water, endangered species, and other items have contributed to larger buffer area to mitigate the effects of spray drift. Recent developments in application technology including spray nozzle tips, greater ability in the maintenance of desired pressure, boom height control, pesticide formulation, additives, and the ability to put all or a number of these parameters together can minimize the amount of spray drift. This symposium addresses advances in formulation development and application technology to minimize spray drift.

8:00am SYM-91 Importance of Spray Drift Management

Robert N. Klein

8:10am SYM-92 U.S. EPA Approach to Spray Drift Management

Jay Ellenberger

8:35am SYM-93 International Standards for Drift Reduction Technology Studies

Andrew Hewitt

9:00am SYM-94 DRIFTSIM: A User-Friendly Computer Program to Predict Drift Distances of Spray Droplets

Heping Zhu, *Erdal Ozkan*, Robert D. Fox

9:20am SYM-95 Spray Droplet Size and How It Is Affected by Pesticide Formulation, Concentration, Carriers, Nozzle Tips, Pressure, and Additives

Robert N. Klein, Jeffrey A. Golus

9:40am SYM-96 Spray Table Demonstration and PowerPoint on New Spray Nozzle Designs

Robert Wolf

10:00am Break

10:15am SYM-97 Industry Development to Minimize Spray Drift

Stephen Pearson, *Pat Maney*

10:30am SYM-98 Spray Optimization Through Application and Liquid Physical Property Variables

Kuide Qin, Holger Tank, Steve Wilson, Lei Liu, Mike Cloeter, De-Wei Yin, Brandon Downer

10:45am SYM-99 Application Technology for Improved Application Efficiency Resulting in Increased Efficacy and Reduced Drift.

Robert Wolf

11:00am SYM-100 Spray Quality Effects on Contact and Systemic Herbicides

William E. Bagley, Joe Gednalske, Greg Dahl, Kirk A. Howatt, Richard K. Zollinger, Mark L. Bernards, Robert N. Klein

11:15am SYM-101 Using High Speed Imaging to Illustrate the Influence of Spray Components and Nozzle Type on Spray Distribution and Coverage.

Gregory Dahl, Joe Gednalske, Eric Spandl

11:30am Questions and Answers

Wednesday-February 10, 2010 (Continued)

SRM Sym 13 - Climate Change and Potential Natural Vegetation

8:00am **Governors Square 10**

Chair: Peter Adler

Land managers, federal agencies, and international aid organizations often recognize management targets and degradation based on ecological potential, historical range of variation, or potential natural vegetation. This relationship has been codified in U.S. rangeland management via ecological site descriptions (ESDs). Climate change may dramatically alter potential natural vegetation in many rangelands. Unless ESDs can be developed to anticipate and accommodate climate change effects, they could rapidly become obsolete. On the other hand, ESDs could serve as valuable tools for understanding how climate change effects are mediated by soil-geomorphic properties and existing vegetation condition.

8:00am SYM-102 Climate change and potential natural vegetation

Peter Adler

8:20am SYM-103 Regional climate variability in the Western U.S.: What can be said about the observed variability vs. anticipated 'Climate Change' in the next century?

Klaus Wolter

8:40am SYM-104 Ecological forecasts from the past: applying ecological history to vegetation management in a time of environmental change

Stephen T. Jackson

9:00am SYM-105 Science Perspective to Climate Change: Preparing for the Future

Rick Miller

9:20am SYM-106 Grassland ecosystems and climate change: Insights from experiments

Alan Knapp

9:40am SYM-107 Climate change effects on rangeland resources: using the past to predict the future with population models

Harmony Dalgleish, Peter Adler

10:00am

Break

10:20am SYM-108 Climate-soil interactions: Global change, local properties, and ecological sites

Michael Duniway, Brandon Bestelmeyer

10:40am SYM-109 Degraded states, novel ecosystems, or reconfigured landscapes: How should we view ecosystem change in a changing world?

Brandon Bestelmeyer, Joel Brown

11:00am SYM-110 Discussion - *Peter Adler*

SRM Sym 14 - Applying State and Transition Models Across Diverse Ecoregions

8:00am **Governors Square 11**

Chair: WERA-40 Clayton Marlow

State and transition models (STMs) have been adopted by many federal land management agencies as a tool to facilitate assessment, monitoring and management of rangelands in the U.S. Although STMs offer improvements over the conventional range condition model for rangeland monitoring and assessment, they remain a work in progress, literally and figuratively. Many states are still in the process of developing their first drafts of STMs for ecological sites in their

Wednesday-February 10, 2010 (Continued)

jurisdiction, and range scientists and managers struggle to operationalize and understand terms such as “state,” “transition,” and “threshold.” To some degree these challenges in STM development reflect larger debates in the range profession about the ecological drivers and processes at work in different ecoregions across the West, and the distinct ways that different systems respond to similar drivers. These challenges may also reflect differing assumptions about the purpose and uses of STMs, the appropriate sources of data or evidence to support their development, and the ways that these data are analyzed, interpreted, synthesized, and assembled into STMs. In this symposium we seek to advance the cross-regional dialog on STM development and application by presenting a series of case studies of STM development from diverse ecoregions across the west. We bring together scientists and managers who have worked with a variety of different data sources and approaches to STM construction in contrasting ecoregions to help elucidate the similarities and differences in the dynamics of these systems, the ways these dynamics are reflected in STMs, and the influence of management perspectives in defining states and transitions

8:00am SYM-111 Oak-Woodland State and Transition Models

Melvin George

8:20am SYM-112 Fluvial Riparian Ecosystems: Development and Adoption of State-and-Transition Models

Tamzen Stringham, Jeff Repp, Barry Southerland

8:40am SYM-113 Grassland to woodland transitions in the southern Great Plains: How do we quantify these dynamics?

Samuel Fuhlendorf, David Engle, Chris Zou, Rodney Will

9:00am SYM-114 Applications of State-and-Transition Models in Sagebrush Steppe and Western Juniper Woodlands

Eva Strand, Stephen Bunting

9:20am SYM-115 State-and-Transition Models for the Northern Great Plains

Patricia Johnson, Kevin Sedivec

9:40am SYM-116 Applying STMs: Strengths, Limitations and Outcomes

Pat Shaver

10:00am

Break

10:20am SYM-117 When is a Transition a Threshold? Exploring the Human Dimensions of State-and-Transition Models

Maria Fernandez-Gimenez

10:40am SYM-118 An Educational Perspective on State and Transition Models in Range Science Curricula

Laurie Abbott

11:00am

Discussion

SRM Sym 17 - Biodiversity and Plant Material Development

8:00am

Gold

Chair: Jack E. Staub

Plant improvement has historically played an essential role in the enhancement of rangeland ecosystems. Novel native and genetically manipulated plants have been used successfully for rangeland repair in a diverse array of disturbed ecosystems. Concepts, methods, and issues underlying plant improvement with regards to rangelands are not common knowledge among society members. This lack of understanding has led to misconceptions regarding the use of improved plant materials

Wednesday-February 10, 2010 (Continued)

for repair of rangeland ecosystems. This symposium seeks to provide society members with information regarding plant materials development in the backdrop of the repair of rangeland ecosystems in changing environments.

- 8:00am SYM-119 A Need for Plant Materials in the Western U.S.
Mike Pellant
- 8:40am SYM-120 Climate Change Effects on Plant Diversity in Rangelands
Justin Derner, Jack Morgan, Wayne Polley
- 9:20am SYM-121 Historical Use and Development of Plant Materials for Western U.S. Rangelands
Jim Briggs, John Englert, Joel Douglas
- 9:40am SYM-122 Strategic Use of Forage Kochia for Revegetation of Disturbed Rangelands
Blair Waldron
- 10:00am Break
- 10:20am SYM-123 Genetic and Environmental Effects on Reseeding Rangelands
Joe Robins, Kevin Jensen
- 10:40am SYM-124 Genetic Considerations for North American Plant Materials for Difficult and Changing Environments
Tom Jones
- 11:00am SYM-125 Using Genetic Diversity Analysis to Define Initial Seed Releases of North American Rangeland Plant Species
Shaun Bushman, Steve Larson, Douglas A. Johnson
- 11:20am SYM-126 UP Colorado Plateau Native Plant Program
Jim Free, Pam Motley
- 11:40am SYM-127 Multiple Approaches Needed to Meet Complex Plant Materials Challenges for Western Rangelands
Douglas A. Johnson, Jack E. Staub

SRM Sym 27 - Management of Lekking Bird Habitat

8:00am Columbine

Chair: Chad Boyd

The current range of lekking birds, including greater sage-grouse, sharp-tailed grouse, greater prairie chickens and lesser prairie chickens, covers most of the rangelands in the western and central United States as well as portions southern Canada. All of these species are experiencing generalized population declines within their range, and management in the U.S. has proven difficult to the extent that all lekking species (or sub-species thereof) have been or are being considered for listing under provisions of the Endangered Species Act. The imperiled status of lekking birds has the potential to severely impact use and management of affected rangeland resources. While many publications have described in detail the decline of lekking bird populations and associated habitats, only limited information is available to suggest habitat management practices that benefit these species. This lack of information not only complicates matters for managers trying to increase habitat quality, but encourages a reactive approach to management of lekking birds that emphasizes the depth of the problem rather than the nature of the solution

Wednesday-February 10, 2010 (Continued)

- 8:00am SYM-128 A brief history of prairie grouse and their management at Valentine National Wildlife Refuge, Nebraska.
Melvin Nenneman
- 8:20am SYM-129 Mitigating fence collision risks for Lesser Prairie-Chickens
Donald H. Wolfe, Michael A. Patten, Steve K. Sherrod
- 8:40am SYM-130 The Enhancement and Restoration of Sage Grouse Habitat Johnson County, NE Wyoming
Phil Gonzales, Chad Boyd, Wendell Gilgert, Steve Petersen
- 9:00am SYM-131 Influences of Grazing and Cover on Prairie Grouse Reproductive Success in the Dakotas: A Tale of Two Grasslands
Kent Jensen, Mark Norton, Ryan Williamson
- 9:20am SYM-132 Managing Greater Sage-grouse Habitats Using the Cow, Plow, Axe, and Fire: Lessons from Leopold
Terry Messmer, David Dahlgren, S. Nicole Frey, Michael Guttery, Eric Thacker
- 9:40am SYM-133 Management for mosaics to promote greater and lesser prairie chickens.
Samuel Fuhlendorf, R. Dwayne Elmore, Robert Hamilton, Terry Bidwell, Amber Breland
- 10:00am Break
- 10:20am SYM-134 An overview of prairie-grouse population responses to Conservation Reserve Program grasslands
Randy Rodgers
- 10:40am SYM-135 Shrub-steppe management with time-controlled grazing and periodic range treatments: Effects on Greater Sage Grouse population demographics and habitat use.
Rick Danvir, Randy Larson, David Dahlgren, George Wilson
- 11:00am SYM-136 Panel Discussion
Chad S. Boyd

Section 4 - Pastures, Rangelands, Forests and Right-of-Ways (Session 1)

8:00am Governors Square 15

Chair: Jimmie Yeiser

- 8:00am O-202 Brownout response to aminocyclopyrachlor treatments in forestry site preparation treatments
Andrew Ezell, Jimmie Yeiser
- 8:20am O-203 Aminopyralid family of herbicides for forestry and invasive plant control
William Kline, Vanelle Peterson, Patrick Burch, *David Hillger*
- 8:40am O-204 Milestone VM Plus tank mixtures for site preparation on forestry sites
Andrew Ezell, Vernon Langston
- 9:00am O-205 The Interaction of Clear and Select Cutting, Early Fall Prescribed Burning and White-Tailed Deer Browsing on Bur Oak Regeneration in North Dakota
Marc Murdoff, Brittany Hasbargen, Kevin Sedivec, Dennis Whitted, James Bennington, Joseph Zeleznik

Wednesday-February 10, 2010 (Continued)

- 9:20am O-206 Influence of prescribed fire on Canada thistle (*Cirsium arvense*) control and native grass and forbs production.
Gustavo Sbatella, Robert Sbatella
- 9:40am O-207 Evaluation of herbicides and herbicide combinations for control of yellow starthistle (*Centaurea solstitialis*)
Christopher Mudge, Linda Nelson, Judy Shearer
- 10:00am Break
- 10:20am O-208 Control of *Ventenata dubia* in Southeastern Washington
Stephen Van Vleet
- 10:40am O-209 Six species of *Salsola* tumbleweeds (Russian thistle) in the Western USA and Prospects for their Control
Lincoln Smith, G. Fredric Hrusa, John F. Gaskin, William L. Bruckart, Dana K. Berner, Massimo Cristofaro
- 11:00am O-210 The effects of aminocyclopyrachlor on native and non-native prairie species
Ryan Edwards, Michael T. Edwards, K. George Beck
- 11:20am O-211 Rate and Timing of Glyphosate Application to Control Caucasian Old World Bluestem (*Bothriochloa bladhii*)
Keith Harmony, Phil Stahlman, Pat Geier, Karen Hickman
- 11:40am O-212 Fall applications of herbicides for multiflora rose control.
James Taylor, John Byrd, Scott Wright

Section 5 - Wildland and Aquatic Invasives (Session 1)

- 8:00am** **Governors Square 16** **Chair: Robert Richardson**
- 8:00am O-213 Effects of Water Depth on Growth Characteristics of Parrotfeather (*Myriophyllum aquaticum* Vell. Verc.)
Ryan Wersal, John Madsen
- 8:20am O-214 The Use of Aquatic Herbicides to Control Common Reed (*Phragmites australis* (Cav.) Trin. Ex Steud)
Joshua Cheshier, John Madsen
- 8:40am O-215 Integrated management of *Phragmites australis* (common reed) along the Platte River.
Ryan Rapp, Stevan Knezevic
- 9:00am O-216 Response of Western milfoil (*Myriophyllum hippuroides* Torrey & Taylor) to varying light levels in a re-circulating mesocosm.
Lars Anderson, Doreen Gee, Ben Bradford
- 9:20am O-217 Endothall Concentration Profiles Following Applications in Irrigation Canals for Sago Pondweed Control
Cody Gray, Michael Netherland, Jeremy Slade, Gerald Adrian, Brian Olmstead
- 9:40am O-218 Effect of Bispyribac-sodium, Imazamox and Penoxsulam on Growth and ALS Activity in *Hydrilla verticillata*.
Atul Puri, Mercedes Royuela, William Haller
- 10:00am Break

Wednesday-February 10, 2010 (Continued)

- 10:20am O-219 Evaluation of Simulated Herbicide Application Techniques in Two Large Reservoirs
Justin Nawrocki, Kurt Getsinger, Mike Netherland, Rob Richardson
- 10:40am O-220 Salt cedar and Russian olive control with aminopyralid and triclopyr mixtures
Byron Sleugh, Robert Wilson, Gustavo Sbatella, Mary Halstvedt
- 11:00am O-221 Transplanted loblolly pine and woody plant response to aminocyclopyrachlor
Rory Roten, Rob Richardson, Steve Hoyle
- 11:20am O-222 Canada thistle (*Cirsium arvense*) control and grass tolerance using aminopyralid and aminocyclopyrachlor.
Joseph Vassios, Scott Nissen, Cameron Douglass, Brad Lindenmayer, Melissa Bridges, Phil Westra, Kenneth Lair

Section 7 - Teaching and Extension (Session 1)

- 8:00am** **Century** **Chair: Wesley Everman**
- 8:00am O-223 Using the Internet to Provide County Extension Agents with Basic Weed Science Training
Eric Prostko, Ken Lewis
- 8:20am O-224 Use of Video Clips on the Internet for Weed Identification
Pamela Trewatha
- 8:40am O-225 Passion for the Land: digital stories about ag viability and resource stewardship
Holly George, Jesikah Maria Ross
- 9:00am O-226 An Off-Campus Academic Program in Natural Resource Conservation For Place-Bound Students.
Jeff Mullahey, Debbie Miller, Kimberly Bohn, Marian Marianescu
- 9:20am O-227 Breaking New Ground: A Western Regional Rangeland Career Development Event
Lovina Roselle, Karen Launchbaugh, Kelly Crane, Gretchen Hyde
- 9:40am O-228 Interning with NRCS
Ryan Mar
- 10:00am Break
- 10:20am O-229 Investigating crop injury: A case study of sulfometuron crop injury in southern Idaho: Part I
Don Morishita, Pamela Hutchinson
- 10:40am O-230 Investigating crop injury - A case study of sulfometuron crop injury in southern Idaho: Part II.
Pamela J.S. Hutchinson, Don Morishita

Wednesday-February 10, 2010 (Continued)

Section 9 - Weed Biology and Ecology (Session 1)

- 8:00am** **Governors Square** **Chair: Fabian Menalled**
- 8:00am O-231 Dispersal of plant propagules by vehicles
Lisa Rew, Mark Taper, Fred Pollnac, Tyler Brummer, Harold Balbach
- 8:20am O-232 Assessing invasiveness of non-indigenous plant populations: a post-establishment, empirically-based methodology.
Tanya C. Skurski, Lisa J. Rew, Bruce D. Maxwell
- 8:40am O-233 Calculating Forage Loss from Eastern Redcedar Encroachment
Carolyn Blocksome, Alex Miller, Charles Barden, Tim Todd
- 9:00am O-234 The Interaction of Processes That Govern Invasions
Bruce Maxwell, Lisa Rew
- 9:20am O-235 The role of current and historic land use in predicting invasive plant habitat suitability.
Melissa E. Bridges, Bruce D. Maxwell, Lisa J. Rew
- 9:40am O-236 Multiple-resistant biotypes of hairy fleabane (*Conyza bonariensis*) documented in the San Joaquin Valley of California.
Marcelo L. Moretti, Bradley D. Hanson, Kurt J. Hembree, Anil Shrestha
- 10:00am Break
- 10:20am O-237 Ecological Fitness of Propanil- and Clomazone-Resistant Barnyardgrass (*Echinochloa crus-galli*) Biotypes in a Replacement Series Study
Prashant Jha, Jason K. Norsworthy, Leopoldo E. Estorninos Jr.
- 10:40am O-238 Influence of Late-Season Herbicide Applications on Glyphosate-Resistant Palmer Amaranth (*Amaranthus palmeri*) Biotypes
Prashant Jha, Jason K. Norsworthy, Michael J. Wilson, Leopoldo E. Estorninos Jr.
- 11:00am O-239 Mountain meadow vegetation 30 years after *Wyethia helianthoides* suppression with 2, 4-D.
Kelly K. Crane, Jeffrey C. Mosley, Monte C. Miller
- 11:20am O-240 Evolution and spread of glyphosate resistance EPSPS alleles across an agricultural landscape
Anna Sherwood, Marie Jasieniuk
- 11:40am O-241 Response of four horseweed (*Conyza canadensis*) populations to post-emergence 2,4-D.
Greg R. Kruger, Vince M. Davis, Stephen C. Weller, William G. Johnson

Section 10 - Biocontrol of Weeds

- 8:00am** **Governors Square 12** **Chair: Doug Boyette**
- 8:20am O-242 "BLUP" goes the host-range estimate: integrating quantitative and molecular genetics in classical biological control of invasive weeds with plant pathogens
Dana Berner

Wednesday-February 10, 2010 (Continued)

- 8:40am O-243 Bioactive Compounds in Potential Brassicaceae Biofumigant Crops
Mosbah Kushad, Steven Bossu, John Masiunas
- 9:00am O-244 Livestock Grazing as a Biological Control of Weeds: Evolution of the Science
Michael Ralphs
- 9:20am O-245 Effectiveness of diet adaptation of cattle (*Bos taurus*) to leafy spurge (*Euphorbia esula*) on extensively grazed rangelands
Kimberly Will, Kenric Walburger
- 9:40am O-246 Impact of strategic sheep grazing on weed communities
Matthew Hanson, Patrick Hatfield, Hayes Goosey, Fabian Menalled
- 10:00am Break
- 10:20am O-247 Invasion of Medusahead : From ecology to biological control
René Sforza, Stephen J. Novak, Bob R. Blank
- 10:40am O-248 Section 10- **BIOCONTROL OF WEEDS** Business meeting
Doug Boyette

Section 22 - Grazing Management

8:00am **Governors Square 17**

- 8:00am O-249 Are Grazing Systems Worthy?
Lee Hughes
- 8:20am O-250 Timing of grazing effects on herbage production for grazing systems in the Nebraska Sandhills
Mitchell Stephenon, Walter Schacht, Jerry Volesky
- 8:40am O-251 Utilization of Leadplant by Cow-Calf Pairs Grazing Sandhills Mixed-Prairie
Kelly Brink, Walter Schacht, Jerry Volesky
- 9:00am O-252 Strategic Placement of Low-Moisture Block Supplement to Improve Cattle Distribution in Mountainous Terrain of the Southwest
Derek Bailey, Colter Moore, Terence Wheeler, Thomas Davis, Larry Howery, Barbara Witmore, Morgan Russell, Chris Kemmerly
- 9:20am O-253 The Performance Advantage of Wintering Cattle in California's Sacramento Valley
Larry Forero, James Oltjen, Steve Blank, Norman Taylor
- 9:40am O-254 Grazing patterns of Angus, Brangus and Brahman cows in the Chihuahuan Desert
Morgan Russell, Derek Bailey, Milt Thomas, Barbara Witmore
- 10:00am Break
- 10:20am O-255 Adaptive Management in a Grazing System in Desert Steppe, Inner Mongolia
Guodong Han, Mengli Zhao, Walter Willms, David Kemp, David Briske

Wednesday-February 10, 2010 (Continued)

- 10:40am O-256 Traditional Nomadism Management and Rangeland Environment -- A case in FuYun County of Altay Region
Xiangjun Chen
- 11:00am O-257 Demonstrating the Use of Prescribed Fire as a Grazing Management Tool in Southeast Colorado
Laura Quattrini, Ben Berlinger
- 11:20am O-259 Institution Transplantation Perspective in Pasture Fence----Taking Gansu Maqu in China as an Example
Huilan Wei, *Yuanxiong Tang*

SRM Undergraduate Student Papers

- 8:00am** **Chair: Loreen Allphin (Woolstenhulme)**
- 8:00am UG-1 Effectiveness of the drop disc method to estimate visual obstruction in grasslands
Joel Murano, Shannon Ims, Alexander Smart
- 8:20am UG-2 Spatial Distribution of Post-fire Water Repellency: Assessment of the Milford Flat fire
Daniel Zvirzdin, Matthew Madsen, Steven Petersen, Bruce Roundy
- 8:40am UG-3 Nitrogen Loss from Denitrification on Red River Clay Soils
Lindsey Andronak, Mario Tenuta
- 9:00am UG-4 Can riparian buffer zones reduce phosphorus loss from agricultural land in Manitoba?
Rachel Evans, Don Flaten
- 9:20am UG-5 Tachinid parasitism of a biological control agent for leafy spurge
Alicia Leroux, Neil Holliday
- 9:40am UG-6 Digital Photo Sampling of Plant Functional Group Cover and Biomass on Sagebrush Steppe Rangelands
Justin Calvert, Marques Munis, Cynthia Brown, Roy Roath
- 10:00am Break
- 10:20am UG-7 Water Quality and Grazing Management Recommendations for the Riparian Ecosystems Associated with the Middle Sheyenne River, North Dakota
Erica Odermann, Miranda Meehan, Shawn Dekeyser
- 10:40am UG-8 Restoring Natural Regenerating Bottom Land Hardwood Forest in the Middle Sheyenne River Ecoregion
Sarah Braaten, Joe Zeleznik, Shawn DeKeyser
- 10:20am UG-9 Bovine Viral Diarrhea and its Cost to the Canadian Beef Industry
Matthew Kumlin
- 11:20am UG-10 Pre and Post Parturition Management of Beef Cows.
Paul Hardes
- 12:00 to 1:00pm **Lunch**

Wednesday-February 10, 2010 (Continued)

WSSA Sym 1 - Advancements in Automation and machine Guided Technologies for Precision Weed Control

1:00pm

Silver

Chair: Steve Young

U.S. producers dedicated over 4 million acres of farmland to organic production systems in 2005. The increase in the number of acres of crops being grown organically has brought with it a growing need for more labor and non-chemical inputs for weed control. Currently, weed control is ranked as the number one production cost by organic and many conventional growers. Site-specific weed control in organic crop production would benefit greatly from robotic weed control systems. Machine vision and RTK GPS guidance systems are the latest technologies being researched for use in weed detection and identification. Other technologies include guidance, precision in-row weed control and mapping. The objectives of this symposium are to present the latest information on automation for site-specific weed control, provide a forum for scientists to interact with biosystem engineers and establish a new section entitled biosystems management and production or biosystems engineering platforms for field crop production.

1:00pm SYM-137 Weed management techniques used in organic vegetable, fruit and grain production in the western USA.

Alec McErlich

1:30pm SYM-138 International research on automation and perspectives on automation for weed control.

John K. Schueller

2:00pm SYM-139 Automation Technologies for Crop Production, and their Applications to Mechanical Weeding

Qin Zhang

2:30pm SYM-140 Automated weed control in specialty crops

David Slaughter

3:00pm SYM-141 Technology and Market Readiness of Robotics and Automation for Weed Control

John Reid

WSSA Sym 5 - Biology of weedy and Invasive Species in Agroecosystems Competitive Grant Program: Case Studies

1:00pm

Governors Squares 16

Chair: Michael Bowers

Since its inception in 1990, the Biology of Weedy and Invasive Species in Agroecosystems National Research Initiative (NRI) Program (in its present and previous incarnations) has supported more than \$50 million in research, education and extension activities focused on weedy and invasive species in croplands, pastures, rangelands, and forests. A hallmark of the program is its emphasis on using basic biology/ecology in the detection, control and management of weedy and invasive species. This session will feature some of the more recent projects in this lineage offered as exemplars and chosen to illustrate the genes to ecosystems approaches that have moved the science forward

1:00pm SYM-142 Cheatgrass creates positive plant-soil feedbacks in sagebrush-bluebunch wheatgrass ecosystems."

John Stark, B. Packer, D. Diaz, B. Chambers, T. Hooker, J. M. Norton

1:20pm SYM-143 Do novel genotype have greater evolutionary potential? An intercontinental comparison

Jane Molofsky, Alexandra Collins, Eric Imbert, Sebastien Lavergne

Wednesday-February 10, 2010 (Continued)

- 1:40pm SYM-144 Interactions among herbivory, soil resources, and plant competition control the recruitment and dominance of spotted knapweed, *Centaurea stoebe*, in North America.
David Knochel, Tim Seastedt
- 2:00pm SYM-145 Interactive effects of native rodents and cattle on the restoration of California rangelands
Justin Brashares, Laura Prugh, James Bartolome, Barbara Allen-Diaz, Lawrence Saslaw, Scott Butterfield, Robert Stafford
- 2:20pm SYM-146 The Indirect Impacts of the Invasive Brown Treesnake on Seed Dispersal and Tree Recruitment in the Native Forests of Guam
Joshua Tewksbury, Haldre Rogers, Janneke Hills Ris Lamber
- 2:40pm SYM-147 The impact of non-native plants on the biomass, richness and community structure of native insect folivores
Doug Tallamy
- 3:00pm Break
- 3:20pm SYM-148 Time Series Analysis of Weed Patch Dynamics in a Working Semi-Arid Rangeland: Linking Remote Sensing and Experimental Assessment
Carolyn Malmstrom, Robert Goodwin, Laura Planck, Elisabeth Stelzner, Valerie Eviner, Kevin Rice
- 3:40pm SYM-149 Comparison of native and invasive populations of medusahead (*Taeniatherum caput-medusae*): insights into introduction dynamics across western landscapes
Steve Novak
- 4:00pm SYM-150 Genetic structure of the invasive shrub Amur Honeysuckle (*Lonicera maackii* (Rupr.) Herder Caprifoliaceae) in southwestern Ohio: identifying potential invasion paths based on the genetic differences between populations
Erin McNutt, Monica Ross, Michael Monfredi, David Gorchoy, Oscar Rocha
- 4:20pm SYM-151 Developing a Decision Support Tool for Managing *Bromus tectorum*
Cynthia Brown, K. George Beck, Michael Coughenour, Maria Fernandez-Gimenez, W. Marshall Frasier, Windy Kelley, Brian Mealor, Rachel Mealor, Marques Munis, L. Roy Roath, Michael Verdone
- 4:40pm SYM-152 How native and exotic shrubs affect herb communities in southern upland Wisconsin forests
Kathryn Amatangelo, Don Waller

Section 1 - Agronomic Crops (Session 3)

- 1:00pm** **Columbine** **Chair: Richard Evans**
- 1:00pm O-260 Pyrasulfotole&bromoxynil effectiveness for weed control in grain sorghum.
Curtis Thompson, Brian Olson, Patrick Geier, Phillip Stahlman, Randall Currie, Alan Schlegel
- 1:20pm O-261 Direct and interactive effects of plant stressors on winter wheat yields and crop-weed competition.
Fabian Menalled, *Zachariah Miller*, Mary Burrows, Noelle Orloff
- 1:40pm O-262 Imidazolinone-tolerant winter wheat (*Triticum aestivum*) weed control and crop response to ALS-herbicides in Georgia.
George Cutts, Timothy Grey, William Vencill

Wednesday-February 10, 2010 (Continued)

- 2:00pm O-263 Herbicide-Resistant Barnyardgrass: A Need for New Herbicide Chemistry in Arkansas Rice
Jason Norsworthy, Bob Scott, Ken Smith
- 2:20pm O-264 Combinations of bensulfuron with penoxsulam and bispyribac-sodium for controlling Texasweed (*Cyperus polystachyus*) in drill-seeded rice
Rakesh Kumar Godara, Billy James Williams, Suzane Liard Angel
- 2:40pm O-265 Effect of early planting on weed suppression activity of indica and commercial U.S. rice cultivars
David R. Gealy, James W. Gibbons, Wengui Yan, Karen A.K. Moldenhauer
- 3:00pm Break
- 3:20pm O-266 Preplant ryegrass (*Lolium multiflorum*) management in Louisiana
Jonathan Sharp, Bill Williams, Suzanne Angle, Rakesh Godara, Gustavo Shiomi
- 3:40pm O-267 Persistence and efficacy of flumioxazin as affected by soil organic matter, clay content and soil pH.
Calvin Glaspie, Wesley Everman, Andrew Chomas
- 4:00pm O-268 Weed management and economics in cotton tillage systems in the Texas High Plains
Andrew Bloodworth, Peter Dotray, Wayne Keeling, Jeff Johnson, Brent Bean
- 4:20pm O-269 Weed Control Strategies for Organic Peanut Production and Transition: A Lesson in Basic Agronomy
Wiley C Johnson III
- 4:40pm O-270 Reducing tillage in organic field corn through multi-tactical weed management.
Steven Mirsky, William Curran, Eric Nord, John Teasdale, David Mortensen, Matt Ryan
- 5:00pm O-271 Section 1- **AGRONOMIC CROPS** Business meeting
Ricahrd Evans

Section 4 - Pastures, Rangelands, Forests and Right-of-Ways (Session 2)

1:00pm Governors Square 15

Chair: Jimmie Yeiser

- 1:00pm O-272 Reclaim TM Herbicide for management and control of woody species in rangeland and pasture in Canada
Donald Hare
- 1:20pm O-273 Buckbrush (*Symphoricarpos occidentalis*) control in the Pine Ridge area of Nebraska and its impact on grass production.
Gustavo Sbatella, Robert Wilson
- 1:40pm O-274 Effect of Dogfennel (*Eupatorium capillifolium*) Removal Timing on Bahiagrass (*Paspalum notatum*) Yield
Brent Sellers, Jason Ferrell, Maria Silveira, Joao Vendramini
- 2:00pm O-275 Forage nutritive value and yield response to increasing densities of common ragweed (*Ambrosia artemisiifolia* L.) and common cocklebur (*Xanthium strumarium* L.) in tall fescue hayfields.
Kristin Payne, Eric Riley, Travis Legleiter, Jim Wait, Kevin Bradley

Wednesday-February 10, 2010 (Continued)

- 2:20pm O-276 Management of grass and broadleaf weeds in Bermudagrass with DuPont™ Pastora™ herbicide.
Eric Castner, Robert Rupp, Case Medlin, Jeff Meredith, Craig Alford
- 2:40pm O-277 Influence of Selected Herbicides and Application Timings on Northern Dewberry (*Rubus flagellaris* Willd.) Control in Tall Fescue Hay Fields.
Bryan Sather, Travis Legleiter, Eric Riley, Jim Wait, Kevin Bradley
- 3:00pm Break
- 3:20pm O-278 Rangeland and Pasture Weed Control with Aminopyralid + 2,4-D.
Vernon Langston, Chad Cummings, Bill Kline, Pat Burch
- 3:40pm O-279 Aminopyralid + Metsulfuron Methyl (Opensight™ Herbicide) for Non-Cropland Weed Control.
Vernon Langston, Chad Cummings, Dave Hillger, Pat Burch, Bill Kline, Byron Sleugh, Mary Halstvedt, Vanelle Peterson
- 4:00pm O-280 Aminopyralid for Preemergence Weed Control on Rights-of-Way and Rangeland
Vanelle Peterson, Patrick Burch, William Kline, Lloyd Hipkins, Chad Cummings, Byron Sleugh, Marc Fisher, Monica Sorribas,
Mary Halstvedt, Reid Smeda
- 4:20pm O-281 Field and laboratory studies with aminocyclopyrachlor (DPX-MAT28)
Brad Lindenmayer, Phil Westra, Galen Brunk, Scott Nissen, Dale Shaner
- 4:40pm O-282 Weed Management Systems in Latin America Pastures
Alberto Reichert, Valentin Esqueda-Esquivel, Neivaldo Caceres, Alcino Ladiera-Neto, Gustavo Cantero Gaona, Robert Masters
- 5:00pm O-283 Cholla and Prickly Pear Control with Picloram + Fluroxypyr Herbicide in New Mexico Rangelands
D. Chad Cummings, Keith Duncan
- Section 7 - Teaching and Extension (Session 2)**
- 1:00pm Century** **Chair: Wesley Everman**
- 1:20pm O-284 Management of giant ragweed in glyphosate-resistant sugar beet with clopyralid
Jeff Stachler, Jason Fisher, John Luecke
- 1:40pm O-285 Benchmark Study: Seedbank Emergence Patterns in Best Management Practices Fields versus Grower Practices Fields
Stephen Weller, Bryon Young, Joseph Matthews, David Jordan, Micheal Owen, David Shaw, Robert Wilson, Philip Dixon
- 2:00pm O-286 Benchmark Study: Impact of glyphosate-resistant crops on weed population density
Micheal Owen, Bryan Young, David Shaw, Robert Wilson, David Jordan, Stephen Weller, Philip Dixon
- 2:20pm O-287 Benchmark Study: Variation in Weed Management Tactics Implemented in Glyphosate-Resistant Cropping Systems.
Bryan Young, Joseph Matthews, David Jordan, Micheal Owen, David Shaw, Stephen Weller, Robert Wilson, William Johnson, Philip Dixon
- 2:40pm O-288 Benchmark Study - Using Real Options to Evaluate Economic Value of a Resistance Weed Management Strategy.
Jason W. Weirich, David R. Shaw, John D. Anderson, Wade A. Givens, Johnathan A. Huff, Robert G. Wilson, William G. Johnson, Steven C.
Weller, Mike D. Owen, Phillip Dixon, David L. Jordan, Bryan G. Young
- 3:00pm Break

Wednesday-February 10, 2010 (Continued)

3:20pm O-289 Benchmark Study: Perspectives on glyphosate-resistant crops and the sustainability of chemical weed management

Micheal Owen, Bryan Young, David Shaw, Robert Wilson, David Jordan, Stephen Weller, Philip Dixon

3:20pm O-290 Section 7- TEACHING AND EXTENSION Business meeting

Wesley Everman

Section 9 - Weed Biology and Ecology (Session 2)

1:00pm **Governora Square 14**

Chair: Fabian Menalled

1:00pm O-291 Morphological and genetic evidence of the reversion of the ornamental variety of *Imperata cylindrica* 'Rubra' to invasive form

Sharon Talley, Leland Cseke

1:20pm O-292 454 sequencing data identifies genetic pathways associated with paradormancy release in Canada thistle (*Cirsium arvense*)

James Anderson, David Horvath, Wun Chao, Michael Foley, Jyothi Thimmapuram, Alvaro Hernandez, Shahjahan Ali, Mark Mikel

1:40pm O-293 DNA pyrosequencing of the waterhemp (*Amaranthus tuberculatus*) genome and transcriptome.

Patrick J. Tranel, Chance W. Riggins, Ryan M. Lee, Kate A. Thinglum, Yanhui Peng, C. Neal Stewart

2:00pm O-294 Rate of in situ Shattercane x Sorghum Hybridization.

Jared J. Schmidt, John L. Lindquist, Mark L. Bernards, Jeff F. Pedersen

2:20pm O-295 Genetic Characterization of Eight Palmer amaranth Populations Collected from Georgia and North Carolina

Aman Chandi, Susana Milla-Lewis, Carolina Zuleta, David Jordan, Jim Burton, Alan York, Stanley Culpepper, Jared Whitaker, Bill Vencil

2:40pm O-296 Comparison of five common waterhemp (*Amaranthus tuberculatus*) cohorts.

Chenxi Wu, Micheal D. K. Owen

3:00pm Break

3:20pm O-297 Increased Weed Diversity, Density and Aboveground Biomass in Long-Term Organic Crop Rotations

Sam Wortman, John Lindquist, Milton Haar, Charles Francis

3:40pm O-298 Nitrogen availability and distance from row modifies competitive interactions between downy brome (*Bromus tectorum*) and winter wheat.

L. Noelle Orloff, Zach J. Miller, Fabian D. Menalled, Jane M. Mangold

4:00pm O-299 Cheatgrass (*Bromus tectorum*) management in spring wheat cropping systems is complicated by the presence of wheat

stem sawfly (*Cephus cinctus*) and Fusarium crown rot

Ilai Keren, Fabian Menalled, David Weaver, Alan Dyer

4:20pm O-300 A simple relationship between short- and long-term estimates of weed seed predation

Adam Davis, Paula Westerman

4:40pm O-301 Predation of warm- and cool-season grass seed by the common cricket (*Acheta domestica*)

Robert Williams, Paul Bartholomew

5:00pm O-302 Evaluations of dormancy breaking treatments on seeds of thirty six weed species

Mohammad Khajeh-Hosseini, Kobra Orooji, Zeinab Avareseji

Poster Session C

Wednesday-February 10, 2010

8 AM to 5 PM

Posters manned 11:00 AM to Noon

Plaza Ballroom D&E

- P C-1 Soil microbial community alterations with disturbance in shortgrass steppe and northern mixed-grass prairie rangelands
Jordana LaFantasie, Caley Gasch Salava, Stephen Enloe
- P C-2 Glyphosate interactions with physiology, nutrition, and diseases of plants – a comprehensive publication
Robert Kremer, Tsuioshi Yamada, Paulo Camargo E Castro, Bruce Wood
- P C-3 Swithgrass biochar influence on soil properties and atrazine sorption.
Kaitlynn Krack, Stephanie Hansen, Daniel Clay, Sharon Clay
- P C-4 Adsorption of diquat in two Tennessee soils used for watercress production.
Rakesh Jain, Eric Palmer, Dirk Drost, Les Glasgow, Monty Dixon
- P C-5 Prescribed Burning Effects on the Recovery of Overgrazed Rangelands
Chase Currie, Felix Ayala-A., J. Alfonso Ortega-S., Bill Rauch, Fred Bryant
- P C-6 Impacts of patch-burn grazing on botanical composition of the tallgrass prairie
Cade B. Rensink, Walter H. Fick
- P C-7 Effects of Burning, Intensive Clipping, and Late Season Nitrogen Application in the Northern Tallgrass Prairie
Alexander Smart, Eric Mousel, Sharon Clay, David Clay
- P C-8 Fire Intensity and its effects on Four Major Grass Species
Kimberly Haile, Lance Vermeire
- P C-9 Grassland fire risk and cured fuel ratios: Filling an information gap for fire management planning.
Darcy Henderson
- P C-10 Prairie Restoration: Effects of Burning, Herbicide, and Nitrogen Manipulation to Reduce Invasive Cool-Season Grasses
Shauna Waughtel, Sharon Clay, Sandy Smart, David Clay, Leo Schleicher
- P C-11 Plains Prickly Pear Cactus Response to Fire and Fuel Loads
Aaron Roth, Lance Vermeire
- P C-12 Tebuthiuron use for firebreak installation and maintenance
D. Chad Cummings, Vernon B. Langston, Robert A. Masters
- P C-13 An Aboriginal Model for Risk Management of Sagebrush-Grass Communities
Kent McAdoo, Brad Schultz, Sherm Swanson
- P C-14 The effect of prescribed burning on the presence of Black Rails (*Laterallus jamaicensis*) in central Kansas.
Stephanie Kane, Greg Farley
- P C-15 Cattle site preference in northeastern Oregon.
Kerry Wilson, Pat Clark, Larry Larson, John Williams, Michael Johnson, Mounir Louhaichi

Poster Session C (Continued)

Wednesday-February 10, 2010 (Continued)

Posters manned 11:00 AM to Noon

- P C-16 Monitoring Free-roaming Horse Distribution Patterns and Habitat Use with GPS Technology
Steven Petersen, Craig Carr, Douglas Johnson, Patrick Clark, Gail Collins
- P C-17 Climate warming, snowstorms, yaks, and pikas: examining how multiple climate change and grazing factors alter ecosystem properties on the Tibetan Plateau
Kelly Hopping, Julia Klein, Jia Hu, Joseph Bump, Shichang Kang
- P C-18 Ecosystem Phenology in the Shortgrass Steppe
Lynn M. Moore, William K. Lauenroth
- P C-19 Inexpensive tools to quantify and map vegetative cover for management decisions and large-scale research
L.J. Wiles, R. Waltermire, W.C. Bausch
- P C-20 Relationships between visual obstruction and aboveground biomass in shortgrass steppe
Justin Derner, David Augustine
- P C-21 An Enhanced Quadrat Frequency Method for PHYGROW Modeling of Non-Forested Areas
Edward Rhodes, Doug Tolleson, William Shaw, John Kava, Tim Brown, Wayne Hamilton, Richard Conner
- P C-22 Use of NEXRAD Rainfall in Predicting Rangeland Forage Biomass on a Near Real-Time Basis
Jay Angerer
- P C-23 Relationship between Visual Obstruction and Herbage Production by Ecological sites in a Semi-Arid Climate of the Northern Plains
Derek Woehl, Kevin Sedivec, Chris Schauer, Amanda Gearhart
- P C-24 A Suite of Tools for Monitoring and Assessing Impacts of Road Networks and Off-Road Vehicle Activity on Rangelands
Michael Duniway, Jeffrey Herrick, Jason Karl, Justin VanZee
- P C-25 Adapting Geographic Information Systems, Dry Weight Rank/Comparative Yield, and the Rangeland Database to Provide Cost-Effective Rangeland Inventory Solutions on Tribal Grazing Land
Gordy Schumacher, *Jack Alexander*, Cheryl Shippentower, Stacy Schumacher, Juliane Kluck
- P C-26 Use of direct and indirect estimates of crown dimensions to predict one seed juniper woody biomass yield for alternative energy uses
Santiago Utsumi, Brent Racher, David Borland, Terrance Booth, Mattew Bobo, Samuel Cox, Shad Cox, Richard Dunlap, Al Sandoval, Kent Reid, Andres Cibils
- P C-27 Quantifying Annual Aboveground Net Primary Production in the Intermountain West
Julie Finzel, Mark Weltz, Mark Seyfried, Karen Launchbaugh, James Kiniry
- P C-28 Defoliation Effects on Root Growth of Wet Meadow Forage Species
Jerry Volesky, Walter Schacht, Ann Koehler, Erin Blankenship, Patrick Reece
- P C-29 Germination temperature characteristics of three *Dalea* ssp. with overlapping ranges in the Canadian prairies
Michael Schellenberg, Darcy Henderson

Poster Session C (Continued)

Wednesday-February 10, 2010 (Continued)

Posters manned 11:00 AM to Noon

- P C-30 A Process-based Approach to Developing State-and-Transition Models: A Case Study
Jamin Johanson, Christopher Call, Janis Boettinger, Thomas Monaco
- P C-31 Investigation of relationships between livestock utilization and Yosemite toad (*Bufo canorus*) occupancy in montane meadows of the Sierra Nevada
Danny Eastburn, Leslie Roche, Kenneth Tate
- P C-32 Comparison of the diurnal pattern and magnitude of velocities of goats (*Capra hircus*), sheep (*Ovis aries*), horses (*Equus caballus*) and cattle (*Bos taurus*)
Mounir Louhaichi, Michael Johnson, Kerry Wilson, Larry Larson, Pat Clark, *Douglas Johnson*
- P C-33 Temporal and spatial seed bank evaluation: case study "Ecological Preserve El Uno"
Nelida Barajas, Alicia Melgoza, Felipe Rodriguez
- P C-34 Production Impacts, Risk Perceptions, and Multi-Year Droughts: Are Utah Ranchers Ready for the "Next Big One?"
Layne Coppock
- P C-35 Financial impact and profit by investing in rangeland rehabilitation in Sonora, Mexico.
Salomon Moreno-Medina, Fernando Ibarra-Flores, Francisco Denogean-Ballesteros, Martha Martin-Rivera, Arturo Baldenegro-Campa
- P C-36 Measuring Patchiness using Dissimilogram Multivariate Analysis on Grazed and Ungrazed Grasslands in Southeastern North Dakota
Lindsey Meyers, Edward DeKeyser, Jack Norland
- P C-37 Mapping Rangeland States in Northwest Colorado Using Aerial Photography
Ryan Wattles, Emily Kachergis, Maria Fernandez-Gimenez
- P C-38 One Year Post Prairie Dog Rangeland Vegetation Recovery
Joshua Peterson, Patricia Johnson, Roger Gates, Jack Butler
- P C-39 Estimating Burn Extent and Fuel Load in the Tallgrass Prairie by Remote Sensing
Patrick Coyne, Clenton Owensby, Jay Ham, Kevin Price
- P C-40 Detection Thresholds for Rare, Spectrally Unique Targets within Semiarid Rangelands
Keith Weber, Fang Chen, Bhushan Gokhale
- P C-41 Using high spatial resolution satellite imagery to detect vegetation change in response to precipitation and grazing intensity in Chihuahuan Desert Rangelands
Ahmed Mohamed, Jerry Holechek, Derek Bailey, Carol Campbell, Andrés Cibils, Michael DeMers
- P C-42 Applying remote sensing (RS) and geographic information system (GIS) technology to estimate tree, shrub, and intercanopy vegetation density and cover of pinyon-juniper woodlands in the Great Basin.
April Hulet, Bruce A Roundy, Steven L Petersen, Stephen C Bunting
- P C-43 Cattle use patterns of riparian pastures in northeastern Oregon
Marie Wilson, Pat Clark, Kerry Wilson, Larry Larson, Michael Johnson, John Williams, Douglas Johnson
- P C-44 Comparative Studies of Two, Small, Freshwater Wetlands in Ellis County, Kansas
P. Allen Casey

Poster Session C (Continued)

Wednesday-February 10, 2010 (Continued)

Posters manned 11:00 AM to Noon

- P C-45 Proposed classification system for riparian Ecological Sites in northwestern Colorado
Kira Puntenney, Emily Kachergis, Maria Fernandez-Gimenez
- P C-46 Lahontan Cutthroat Trout: Are Nevada's Water Temperature Standards Supported by the Research?
Brad Schultz, Kent McAdoo
- P C-47 Lessons Learned for Success - Culmination of a 10 Year International Range Project
Beverly Dunlop, Tara Mulhern-Davidson
- P C-48 Southern Alberta Youth Range Daze
Tracy Kupchenko, Roberta Lindeman, Michael Gerrand, Lynn Fitzpatrick, Bob Wesley
- P C-49 Blue collar plant collection and identification
John Kava, Doug Tolleson
- P C-50 Optimum GAT crops: a university extension perspective
Dwight Lingenfelter, William Curran
- P C-51 Assessing and evaluating multifunctionality in agroecosystems: an education and extension exercise
Richard Smith, Tara Pisani-Gareau, David Mortensen, Mary Barbercheck
- P C-52 Rangeland Managers' Perceptions of State and Transition Model
Windy Kelley, Maria Fernandez-Gimenez, Cini Brown, Tara Teel, Paul Meiman
- P C-53 A method for quantifying changes in rangeland shrub cover and its potential for informing land management decisions
Kelley O'Neal
- P C-54 Saflufenacil metabolism in winter wheat.
John Frihauf, Phillip Stahlman, Kassim Al-Khatib
- P C-55 Aminomethylphosphonic acid effects on glyphosate-resistant and non-glyphosate-resistant soybean.
Wei Ding, Krishna N. Reddy, Robert M. Zablotowicz, Nacer Bellaloui, Arnold Bruns
- P C-56 Characterizing the glyphosate-resistance mechanism in Johnsongrass
Doug Sammons, Bill Duncan, Dafu Wang, Elizabeth Ostrander, Cecilia Rodriguez, Xia Ge, Andre' d'Avignon, Joseph Ackerman
- P C-57 Does Locoweed Benefit from its Fungal Endophyte under Water-Deficit Conditions?
Matthew Pinch, Nina Klypina, Johnny Maruthavanan, Ameena Nalim, Tracy M. Sterling
- P C-58 Nutritional composition of beef carcasses from animals finished on grass in the southern interior of BC.
T.J. Walkem, John Church, Wendy Gardner
- P C-59 Biological efficiency and components of the carbon budget of the arid rangelands of Uzbekistan
Muhtor Nasyrov, Mahmud Muminov
- P C-60 Effects of increasing temperature and nitrogen on seasonal greenhouse gas emission from a Desert Steppe soil
Mengli Zhao, Zhongwu Wang, Xiyang Hao, Dan Shan, Guodong Han, Walter Willms, Zhen Wang, Xiong Han

Poster Session C (Continued)

Wednesday-February 10, 2010 (Continued)

Posters manned 11:00 AM to Noon

- P C-61 Using Remote Sensing and GIS to Evaluate Riparian Habitat
Gregg Simonds, Eric Sant
- P C-62 Using GIS Technology and Image Analysis to Assess Rangeland Standards and Guidelines and Estimate Carrying Capacity
Gregg Simonds, Eric Sant
- P C-63 Adaptive Management of Ecosystem Processes for Resilience on Blue Valley Ranch
John Kossler, Perry Handyside
- P C-64 Revegetation potential of Great Basin native annuals and perennial grasses: does facilitation occur?
Dan N. Harmon, Charlie D. Clements
- P C-65 Convenience of using locally produced or imported grass seed for range rehabilitation in Northern Mexico.
Fernando Ibarra-Flores, Martha Martin-Rivera, Francisco Denogean-Ballesteros, Salomon Moreno-Medina, Alvaro Salazar-Rodriguez, Fernando Ibarra-Martin
- P C-66 Rangeland restoration profit using grass and shrub species in the mountains of Sonora, Mexico.
Martha Martin-Rivera, Fernando Ibarra-Flores, Salomon Moreno-Medina, Francisco Denogean-Ballesteros, Jose Alfredo Maldonado-Encinas, Fernando Ibarra-Martin
- P C-67 Preliminary study for revegetation of spent shale from the Clean Surface Oil Shale (C-SOS) process
Nathan Cline, Bruce Roundy, Robert Jackson
- P C-68 Effects of planting annual species with perennial grasses for revegetation
Erin Espeland
- P C-69 Effect of Tebuthiuron on Rough-leaved Dogwood
Glenn Brunkow, Walter Fick
- P C-70 Potential drought resistance in populations of Blue Grama [*Bouteloua gracilis* (Willd. ex Kunth) Lag. ex Steud.] in Chihuahua, Mexico
Carlos Raul Morales Nieto, Alicia Melgoza, Pedro Jurado
- P C-71 Shrub Microsites Influence Post-fire Perennial Grass Establishment
Chad Boyd, Kirk Davies
- P C-72 The Role of Native Soil Amendment in Restoration of Southern Mixed-Grass Prairie
Gail Wilson, Karen Hickman, Scott Robertson, Melinda Williamson, Stephanie Grischkowsky
- P C-73 Seed Coating Application of Wetting Agents on Native Grass Seeds for Improving Post-fire Restoration: Greenhouse Evaluation
Mathew D. Madsen, Steven L. Petersen, Bruce A. Roundy
- P C-74 Impact of mycorrhizae and seed mix diversity on re-establishment *Offestuca hallii* and *Festuca campestris* (rough fescue) grasslands
Darin E. Sherritt, M. Anne Naeth, Edward W. Bork
- P C-75 Moth abundance and diversity in a mixed sagebrush-steppe community in central Oregon.
Erica Freese

Poster Session C (Continued) Wednesday-February 10, 2010 (Continued)

Posters manned 11:00 AM to Noon

- P C-76 Thinning treatments of big sagebrush in western Wyoming: Shrub and grass responses
Justin Derner, Marion Burgin, George Vance, Gerald (Jerry) Schuman
- P C-77 Impacts of Elk Browsing on Post-Mountain Pine Beetle Forest Regeneration on Blue Valley Ranch
John Kossler
- P C-78 3-Dimensional Characterization of Sage-Grouse Habitat Structure Using Terrestrial LIDAR
Vincenzo Mendieta, Robert Washington-Allen, Terrance Booth, W. Eric Limbach
- P C-79 A Review of Nest Trampling by Livestock and the Implications for Ground Nesting Birds on Shrub-Grass Rangelands in the Western States.
Brad Schultz, Kent McAdoo
- P C-80 Implications of Rangeland Management Policy Changes in Tibet
Pasang Norbu, Thomas Thurow
- P C-81 Potential for *Kochia Prostrata* and Perennial Grasses for Rangeland Rehabilitation Efforts in Jordan
Derek Bailey, Raed Al Tabini, Blair Waldron, James Libbin, Ahmad Alqadi, Mohammad Al Oun, Khalid Al-Khalidi, Kevin Jensen
- P C-82 Agricultural Evaluation of Four Northern Iraqi Provinces
Robert Shaw, Dustin Kinder, Beau Davis, David Quarles, Brent Barnhill, Larry Packert, Eileene Welker
- P C-83 Effect of gibberellic acid on purple nutsedge development and susceptibility to glyphosate
Thais Clemente, João Rodrigues, Robinson Pitelli, Angélica Pitelli
- P C-84 Effects of Cattle Grazing on Poplar Regeneration Following Logging in Alberta
Jillian Kaufmann, Edward Bork, Mike Alexander
- P C-85 Using Relative Yield Ratios to Quantify Pasture Sward Dynamics
Erin McLeod, Edward Bork, Linda Hall, Jane King
- P C-86 Characterizing a Prescribed Fire Using Remote Sensing
Randy McKinley, Rob Frisk
- P C-87 Soil Organic Matter Characteristics in Topsoil Stockpiles
Cally Driessen, Amber Mason, Jay Norton
- P C-88 Developing Ecological Sites in Alaska
Michelle Schuman
- P C-89 Factors Controlling Long-Term Recovery of a Sagebrush Steppe Ecosystem in Northwest Colorado
Timothy B. Hoelzle, Mark W. Paschke
- P C-90 SNAMP: Putting Adaptive Management and Public Participation Together?
Adriana Sulak, Lynn Huntsinger
- P C-91 Plant diversity: Effects of grazing system and stocking rate in northern mixed-grass prairie
Justin Derner, *Karen Hickman*

Poster Session C (Continued) Wednesday-February 10, 2010 (Continued)

Posters manned 11:00 AM to Noon

- P C-92 Grazing intensity does not affect plant diversity in shortgrass steppe
Justin Derner, *Karen Hickman*
- P C-93 Wyoming Natural Diversity Database - Serving Up the State Flora in Rare Plants and Vegetation Data
Bonnie Heidel, *Joy Handley*
- P C-94 Hierarchical spatial processes in grassland-shrubland transitions in the southwestern US
Darroc Goolsby, Brandon Bestelmeyer, Steve Archer
- P C-95 Hygrophilous plant communities ("canutillares") of Espinal rangelands (Santa Fe, Argentina)
Chiossone Guillermo, Ferrari Mario
- P C-96 Single-nucleotide polymorphism (SNP) and phenotypic characterization of shattering in genotypes of cultivated, red and wild rice
Anderson Luis Nunes, Carla Andréa Delatorre, Ribas Antônio Vidal, *Aldo Merotto Jr.*
- P C-97 Combining methods to accelerate weed seedbank evaluations
Sébastien Rouane, *Marie-Josée Simard*, Gilles D. Leroux
- P C-98 Emergence Fluxes of *Brachiaria decumbens*, *Panicum maximum* and *Commelina benghalensis* in Two Sugarcane Regions of São Paulo State
Marcelo Nicolai, Pedro Christoffoleti, Saul Carvalho, Ramiro Lopez-Ovejero, Marcel Melo
- P C-99 Spring burning and rotational grazing effects on cool and warm season grasses in eastern South Dakota
Rhonda Hanson, Tabitha Christner, Sharon Clay, David Clay, Sandy Smart, Eric Mousel
- P C-100 Depth and time of Asiatic dayflower (*Commelina communis*) emergence in corn and soybean.
J. M. Gomez, M. D. K. Owen
- P C-101 Seed dormancy and the influence of temperature on seed germination in *Berteroa incana* (hoary alyssum).
Hamid Madani, Greg Stopps, *Mahesh K. Upadhyaya*
- P C-102 Why do earthworms (*Lumbricus terrestris*) collect and bury seeds?
Emilie Regnier, Kent Harrison, Christopher Holloman, Clive Edwards, Norman Arancon
- P C-103 Development of introgression lines of weedy red rice to investigate the genetics of seed dormancy and seed shattering
Prasanta Subudhi, Pradeep Singh, Arnold Paco, Teresa DeLeon, Hanamareddy Biradar, Marc Cohn
- P C-104 Direct and indirect effects of earthworms on tree seedlings
Melissa McCormick, Katalin Szlavecz, Dennis Whigham, Lijun Xia
- P C-105 Effect of Previous Fall Precipitation on Mixed-Grass Prairie
Lori Wiles, Gale Dunn, Milton Trlica
- P C-106 Germination characteristics of some Great Basin native annual forb species
Tara Forbis
- P C-107 Land Treatment Digital Library: A dynamic system to enter, store, retrieve, and analyze Federal land-treatment data
David Pilliod, Justin Welty

Poster Session C (Continued)

Wednesday-February 10, 2010 (Continued)

Posters manned 11:00 AM to Noon

P C-108 Comparison of Vegetation Community Sampling Methods

David Pilliod, *Robert Arkle*

P C-109 Stable isotope diet reconstruction using tail hairs of feral horses on the Sheldon National Wildlife Refuge

Megan Wilson, Todd F. Robinson, Steven Petersen

Thursday-February 11, 2010

WSSA Sym 3 - Dicamba resistant soybean: How will it fit?

8:00am

Governors Square 12

Chair: Dave Mortensen

Weedy species resistant to glyphosate have appeared at an increasing rate in response to increasing reliance on glyphosate for weed control in the major commodity crops. One solution to this problem is engineered dicamba resistant soybean and cotton. When employed commercially, glyphosate/dicamba stacked trait crops will allow an additional herbicide to be used on many glyphosate resistant species. Other herbicide resistant traits are also under development. Using a mix of highly focused presentations and facilitated discussion, the symposium will assess the emerging weed management needs, opportunities afforded by dicamba resistant soybean, and agronomic and environmental issues associated with widespread dicamba use in soybean. Presenters with expertise in weed management, herbicide fate, landscape analysis and environmental regulation will speak in the symposium from land grant universities, the herbicide and seed industry and environmental regulatory agencies.

8:00am SYM-153 Setting the context: Soybean weed management successes and failures with glyphosate

Chris Boerboom, Robert Hartzler

8:10am SYM-154 Dicamba tolerance - A new tool for weed management

Simone Seifert-Higgins, John Eberwine

8:30am SYM-155 Environmental characteristics of dicamba formulations

Steven Bowe

8:50am SYM-156 Unintended consequences of stacking herbicide tolerance traits in soybean

David Mortensen, Franklin Egan, Richard Smith, Matthew Ryan

9:10am SYM-157 Response of Pennsylvania Native Plant Species to Dicamba and/or Glyphosate

David Olszyk, Thomas Pflieger, Thomas Griffin, Henry Lee, Milton Plocher

9:30am SYM-158 Quantifying Vapor Drift from Dicamba Applications on Soybean

J. Franklin Egan, David Mortensen

9:50am SYM-159 Facilitated Discussion of the Issues

David Mortensen, Bob Hartzler, Chris Boerboom

WSSA Sym 7 - Weed Management in Organic Agriculture: Current Needs and Future Prospects

8:00am

Silver

Chair: Franck Dayan

Weeds have a greater negative impact on crop yields than any other agricultural pests and modern cultural practices rely heavily on the use of synthetic herbicides. However, public concerns about the potential health and environmental impacts of the use of synthetic pesticides have resulted in a recent surge in the popularity of organic approaches. Because of the paucity of natural alternatives to synthetic herbicides, weed control is the most pressing pest management issue in organic agriculture. Most organic methods rely on soil cultivation, hand hoeing, biocontrol, organic mulches, plastic (synthetic) ground cover, and the use of some non-selective burndown natural products. The objectives of this symposium are to increase the awareness of the various weed management methods currently available in organic agriculture and explore the potential development of new natural products suitable for weed management. This symposium will include presentations from government, academic, advisory and industry leaders in the area of weed management in organic agriculture with special attention to the opportunities for the development of new tools and new methods.

Thursday-February 11, 2010 (Continued)

- 8:00am SYM-160 Organic-compliant weed management for horticultural crops
S. Fennimore
- 8:20am SYM-161 Natural products in weed management, a review
Franck Dayan
- 8:40am SYM-162 Development of a Weed Tolerant Cowpea Cover Crop Cultivar
Milton McGiffen, Jr., Guangyao Wang, Jeff Ehlers
- 9:00am SYM-163 Microbial products for weed control in organic agriculture.
John Lydon
- 9:20am SYM-164 Discovery of novel natural product herbicides and potential for organic agriculture.
B. Clifford Gerwick, Paul Graupner, Don R. Hahn, Cedric Pearce
- 9:40am SYM-165 Photoprotectants to extend the life of natural herbicides
Boris Eyheraguibel, Alexandra Ter Halle, Gerard Ledoigt, Claire Richard
- 10:00am Break
- 10:20am SYM-166 Formulating Products for the Organic Market
Brian Baker
- 10:40am SYM-167 Getting materials approved for organic production.
Michael Braverman, Jerry Baron, Dan Kunkel, Van Starner
- 11:00am SYM-168 Development of natural product herbicides for organic and conventional agriculture - a commercial perspective
Marja Koivunen, Pam Marrone

SRM OOS 11 - Targeted Grazing - Applying the Research to the Land

8:00am **Governors Square 17**

Chair: Rachel Frost and John Walker

The organized oral discussion entitled, “Targeted Grazing: Applying the Research to the Land”, will focus on the practical application of targeted grazing as a vegetation management tool. The scientific background of targeted grazing has been presented and discussed, but the gap between theory and application needs to be bridged to empower land managers to make use of the emerging tool. The immense diversity of situations to which this tool can be applied necessitates the exchange of real-life experiences to promote learning among practitioners and to inform land managers of the successful programs and potential pitfalls to avoid. The intended audience is land managers, both public and private, and livestock managers and producers. Speakers will consist of several contract graziers with experience in providing land services in a diverse array of situations, from small-scale, highly managed parcels to watershed-scale management projects. Other speakers will expound on their experiences employing targeted grazing on lands they manage, both public and private. Public land administrators will reveal the challenges of employing targeted grazing on public lands and provide insight on what must be done to make targeted grazing a widely accepted management practice. Finally, we will conclude with a speaker panel and audience discussion. Through this event we hope to lay down the first planks of knowledge from experienced practitioners to bridge the gap between research and the application of targeted grazing as a tool to manage rangelands.

Thursday-February 11, 2010 (Continued)

- 8:00am SYM-169 Welcome and Introductory Comments
Rachel Frost
- 8:15am SYM-170 HEALING HOOVES, LLC - Using goats as a tool to help clients achieve landscape objectives
Craig Madsen
- 8:45am SYM-171 Prescriptive livestock services: vegetation management on public and private lands
Ray Holes
- 9:15am SYM-172 More is better: A montana rancher employs over 3,000 sheep to combat leafy spurge and spotted knapweed
John Lehfeldt
- 9:45am Break
- 10:00am SYM-173 Jay Springs Lamb: using targeted grazing to produce more grass, more trees, and more lamb
Jennifer Cunningham
- 10:30am SYM-174 Training turns cows into weed managers
Kathy Voth
- 11:00am SYM-175 Heifer targeted grazing: potential impacts on japanese brome in nebraska loess canyons
Mark Pandorf, John Beshaler, Roger Chesley, Jon Albro, *G. Robert Welling*, Derek Bailey
- 11:30am SYM-176 Targeted grazing of plants with toxic properties
T. Zane Davis

SRM OOS 18 - Sustainable Rangelands Through Low-input Grassfed Production

8:00am

Governors Square 10

Chair: Dan Nosal

Market demand is rapidly increasing for sustainably-raised animal products. Grass-based livestock production is inherently sustainable as this production system relies on biodiversity and ecological complexity to maintain production without the use of costly inputs. The goal of sustainable rangelands and ranching is best achieved through a system of grassfed livestock production. Low-input grassfed production keeps land in permanent vegetation, which is more ecologically and economically sound than row cropping used for supplementing livestock confinement operations. Benefits of grassfed production for the environment include: reduced or eliminated pesticide use, greatly reduced soil erosion, increased soil fertility while eliminating commercial fertilizer application, increased carbon sequestration which helps combat the greenhouse effect and global warming, increased plant diversity versus monoculture crops, and improved wildlife habitat for native species. If the producer incorporates intensively-managed rotational grazing (also called management-intensive grazing or planned grazing) they can lower production costs, reduce animal stress, and boost the animal's immune system.

8:00am SYM-215 Introduction

Dan Nosal

SYM-177 Sustainable Rangelands Through Low-Input Grassfed Production

Carrie Balkcom, Harvey Sprock, Dan Nosal, Kit Pharo, Dale Lasater, Duke Phillips, Dave James, Richard Parry, Meg Cattell, Alan Nation

Thursday-February 11, 2010 (Continued)

SYM-216 Virtues of Grassfed Products

Meg Cattell

SYM-217 Ranching in Sync with Nature

Dale Lasater

SYM-218 Benefits of Low-Input Ranching to Grassfed Production

Kit Pharo

Continued at 1:00 PM

SRM Sym 21 - Larkspur - 100 Years of Research, Perspectives and Future Directions

8:00am

Spruce

Chair: Daniel Cook

Larkspur (*Delphinium*) species are members of the Ranunculaceae family of plants that are commonly known as the buttercup family. Larkspurs are the most serious toxic plant problem in the high plains, foothill, and mountain rangelands of the western United States. The toxins in larkspurs are norditerpene alkaloids. Although the scope of the problem caused by toxic larkspur varies from year to year, the overall losses of cattle due to larkspur have remained remarkably consistent over time. Documented losses range from 2% to 5% and as high as 15% in places with large stands of toxic larkspur. Although the death of livestock is an obvious contribution to total dollar value losses, additional factors must be considered. The symposium will provide an overview of the genus *Delphinium* in the intermountain west, current management recommendations, and current research in regard to larkspur poisoning.

8:00am SYM-178 Working with and Managing Rangelands with Larkspur

Robbie Baird LeValley, Dave Bradford

8:30am SYM-179 The Effect of Less Toxic Alkaloids on the Overall Toxicity of Larkspur Plants

Kevin Welch

9:00am SYM-180 The Physiology and Toxicology of Tall Larkspur (*Delphinium barbeyi*) Alkaloids.

Benedict Green, Daniel Cook, James Pfister, Kevin Welch

9:30am SYM-181 A Taxonomic Perspective of Larkspur

Stanley Welsh

10:00am Break

10:30am SYM-182 The biogeographical distribution of duncecap larkspur (*Delphinium occidentale*) chemotypes and their potential toxicity

Daniel Cook, Dale R. Gardner, James A. Pfister, Kevin D. Welch, Benedict T. Green

11:00am SYM-183 Animal and range management to reduce losses to larkspurs (*Delphinium* spp.)

James A. Pfister, Dale Gardner, Ben Green, Daniel Cook, Kevin Welch, Michael Ralphs, Kip Panter, Bryan Stegelmeier

Thursday-February 11, 2010 (Continued)

SRM OOS 25- Carbon Sequestration

8:00am **Columbine**

Chair: Matt Reeves

- 8:00am SYM-184 Ecosystem services and carbon markets for rangelands and forests
Mark Nechodom
- 8:30am SYM-185 Status of Carbon Politics - Private
Nathan Clark
- 9:00am SYM-186 Carbon Sequestration Science
Richard Conant
- 9:30am SYM-187 Influence of Grazing on Rangeland Soil Carbon: State of the Science
Justin D. Derner
- 10:00am Break
- 10:30am SYM-188 Invasives and Exotics Significantly Alter Carbon Retention in Rangelands
Benjamin M. Rau
- 11:00am SYM-189 Fire effects on rangeland carbon sequestration
R. James Ansley

SRM OSS 26 - Reclaiming Formerly Irrigated Farmland

8:00am **Governors Square 11**

Chair: Julie Elliot

- 8:00am SYM-190 Revegetating Formerly Irrigated Farmlands - Aurora Water's Experience in the Arkansas River Valley of Southeastern Colorado
Gerald Knapp
- 8:30am SYM-191 Reclaiming abandoned farmlands in Nevada
Jay Davison

SRM Sym 28 - Medicinal Uses of Veratrum

8:00am **TBD**

Chair: Steve Monsen

Veratrum californicum has been recognized as a poisonous plant that can be teratogenic in pregnant female sheep. The teratogenic agent has been identified as the alkaloid cyclopamine. IPI-926, a derivative of cyclopamine, is in clinical trials for cancer. Wildland harvesting practices and techniques are being developed. Site restoration measures are under investigation to generate a sustainable resource. The environmental impact is a significant consideration in harvesting.

- 8:00am SYM-192 False Hellebore (*Veratrum Californicum*): Historical Perspectives and Management Implications for Livestock and Wildlife
Kip Panter, Kevin Welch, Dale Gardner, Stephen Lee

Thursday-February 11, 2010 (Continued)

- 8:30am SYM-193 Potential harvest sites of *Veratrum californicum* in relation to its taxonomy, geographical distribution, and presence of cyclopamine and cycloposine
Richard Spjut
- 9:00am SYM-194 IPI-926: Potential of Natural Products for Drug Development: Investigations into *Veratrum californicum* (cow cabbage) as a Source
David Mann
- 9:30am SYM-195 Wildland harvesting - site identification, lifting processes, and restoration measures
Stephen Monsen

SRM OOS 29 - Open Space Grasslands: Science & Management

8:00am

Chair: Roy Roath

This day-long symposium will focus on the application of science to management of open space grasslands. Speakers will provide insights on open space grasslands and the associated science to open space professionals and advisory councils, county and municipal officials, special interest groups and SRM members interested in the management of open space grassland resources. The symposium will provide knowledge and understanding of the complexities of open grassland management to all the participants. Morning Topics: Ecology - Ecological Processes - Role of Ecological Disturbance in Grasslands - Influence of Fire and Grazing on Grasslands - Riparian Management in Grassland Environments Afternoon Topics: Management Issues - Managing for Desired Outcomes - Human Influence on Desired Outcomes - Integrating Cultural Values into Management

- 8:00am SYM-196 Welcome
TBA
- 8:05am SYM-197 Ecological Processes of Grassland Ecosystems
TBA
- 8:50am SYM-198 Role of Disturbance in Grassland Environments
Bill Lauenroth
- 9:40am Break
- 10:10am SYM-199 Influence of Fire and Grazing on Grasslands
Karen Launchbaugh
- 11:00am SYM-200 Riparian Management in Grassland Ecosystems
Clayton Marlow

Section 4 - Pastures, Rangeland, Forests, and Right-of-Ways (Session 3)

8:00am

Governors Square 15

Chair: Jimmie Yeiser

- 8:00am O-303 Aminocyclopyrachlor Development and Registration Update
Jon Claus, Ronnie Turner, Jeff Meredith, Mark Holliday, C. Steve Williams

Thursday-February 11, 2010 (Continued)

- 8:20am O-304 Integrating aminocyclopyrachlor into weed management plans
Philip Westra, Brad Lindenmayer, Scott Nissen, Dale Shaner, Tim D'Amato, Bobby Goeman
- 8:40am O-305 Chaparral (Aminopyralid + Metsulfuron) Efficacy on Selected Range and Pasture Weeds and Brush
Byron Sleugh, Mary Halstvedt, Chad Cummings, Pat Burch, William Kline, Vernon Langston, Scott Hagood, Neil Rhodes,
Jay Ferrell, Steve Enloe, Robert Wilson, Kevin Bradley, Mark Renz
- 9:00am O-306 Treatment Life Following Control of Creosotebush and Tarbush with Spike 20P
Allan McGinty, Vernon Langston, Alyson McDonald
- 9:20am O-307 Public Rangelands of Alberta's Montane: Working Landscapes Supporting Cattle and Timber Industries
Jillian Kaufmann, Edward Bork, Mike Alexander
- 9:40am O-308 Evaluation of the differences on diet's profiles of different breeds of sheep and goats grazing under thinned caatinga conditions -Ceara, Brazil.
Antonia Nascimento, Maurice Shelton
- 10:00am Break
- 10:20am O-309 Screening MAT28 for cut stump control of yaupon, sweetgum and Chinese tallowtree.
Jimmie Yeiser
- 10:40am O-310 Utilization of DPX MAT 28 (aminocyclopyrachlor) along roadsides in Mississippi.
Ronald S. Wright, John D. Byrd Jr.
- 11:00am O-311 Aminocyclopyrachlor blend products for vegetation management on railroad and utility sites.
Ronnie G. Turner, Jerry R. Pitts, Donald D. Ganske, Edison Hidalgo, Jon C. Claus
- 11:20am O-312 Aminocyclopyrachlor blend products for brush and weed control on utility and roadside rights-of-way.
Susan K. Rick, Ronnie G. Turner, Jerry R. Pitts, Michael L. Link, Edison Hidalgo, Jon C. Claus
- 11:40am O-313 Foliar efficacy of MAT28 on yaupon growing beneath a utility line in Louisiana
Jimmie Yeiser
- 12:00am O-314 Section 4- PASTURES, RANGELANDS, FORESTS AND RIGHT-OF-WAYS Business meeting
Jimmie Yeiser

Section 5 - Wildland and Aquatic Invasives (Session 2)

8:00am Governors Square 16

Chair: Robert Richardson

- 8:00am O-315 Integrated Approaches to Cogongrass Management in Florida
Greg MacDonald, Jay Ferrell, Brent Sellers, Kenneth Langeland
- 8:20am O-316 Evaluation of Aminocyclopyrachlor for Aquatic and Riparian Plant Management
Trevor Israel, Rob Richardson, Lloyd Hipkins, Rory Roten, Steve Hoyle

Thursday-February 11, 2010 (Continued)

- 8:40am O-317 Tamarisk (saltcedar, Tamarix sp.) canopy retention and soil dissipation following aerial imazapyr applications.
Cameron Douglass, Scott Nissen
- 9:00am O-318 Herbicide control of broom snakeweed in the Colorado Plateau and Great Basin
James Keyes, Corey Ransom, Michael Ralphs
- 9:20am O-319 Emergence pattern of cut-leaved teasel (*Dipsacus laciniatus* L.)
George Kegode
- 9:40am O-320 Aerial Assessment of Leafy Spurge (*Euphorbia esula* L.) on Idaho's Deep Fire Burn
D. Terrance Booth, Samuel E. Cox, Deena Teel
- 10:00am Break
- 10:20am O-321 Estimated patch spread rates for six invasive weeds using hand held GPS and GIS mapping.
Lisa Kennaway, Craig Ramsey
- 10:40am O-322 Moose as a vector for non-indigenous plant species in Alaska
Steven Seefeldt, William Collins, Joseph Kuhl, Marcus Claus
- 11:00am O-323 Molecular evidence of hybridization in Florida's sheoak (*Casuarina* spp.) invasion
John Gaskin, Gregory Wheeler, Matthew Purcell, Gary Taylor
- 11:20am O-324 Using native, understory plants to limit the spread on non-native plant species in Eastern Deciduous forests.
Zachariah Miller
- 11:40am O-325 Status of Invasive Weeds in Pakistan
Khan Marwat
- 12:00am O-326 Section 5- WILDLAND AND AQUATIC INVASIVES Business meeting
Robert Richardson

Section 6 - Regulatory Aspects

- 8:00am** **Colorado** **Chair: Craig Ramsey**
- 8:00am O-327 WSSA Subject Matter Expert for the Office of Pesticide Programs at the USEPA: Goals, Activities, Vision.
Jill Schroeder, Kurt Getsinger, Daniel Kenny, Lee VanWychen
- 8:20am O-328 Development of a weed risk assessment model to prevent the entry of weeds and invasive plants into the United States
Anthony Koop, Larry Fowler, Leslie Newton, Barney Caton
- 8:40am O-329 An invitation to provide feedback on PPQ's new Weed Risk Assessment Guidelines
Barney Caton, Anthony Koop, Larry Fowler, Leslie Newton
- 9:00am O-330 New rules: Update on the Federal Noxious Weed regulatory program.
Alan Tasker

Thursday-February 11, 2010 (Continued)

- 9:20am O-331 An industry perspective of EPA's reassessment of inert ingredients in pesticide formulations.
Jerry Wells, Patrick McCain
- 9:40am O-332 Endangered Species Assessments Conducted Under the Federal Insecticide, Rodenticide and Fungicide Act - Status and Implications of the Fomesafen Assessment.
Daniel Campbell, Monty Dixon, Steven Wall, Jay Overmyer
- 10:00am Break
- 10:20am O-333 Post-release environmental monitoring of second-generation crops with novel traits in Canada
Hugh Beckie, Linda Hall, Marie-Josée Simard, Julia Leeson, Christian Willenborg
- 10:40am O-334 Weed management in natural areas, open spaces, and wildlands: expanding herbicide product choices for noncrop areas and rangeland
John Vickery
- 11:00am O-335 Effectiveness of Atrazine Watershed Stewardship and Management Plans
Ron Williams, Dan Campbell, Brian Christensen
- 11:20am O-336 Section 6- **REGULATORY ASPECTS** Business meeting
Craig Ramsey

Section 9 - Weed Biology and Ecology (Session 3)

- 8:00am** **Governors Square 14** **Chair: Fabian Menalled**
- 8:00am O-337 A Commentary on Plant Competition
Clarence Swanton, Eric Page
- 8:20am O-338 Dehydration-stress breaks endodormancy in underground adventitious buds and affects vegetative reproduction of leafy spurge (*Euphorbia esula*).
Munevver Dogramaci, David P. Horvath, Michael J. Christoffers, James V. Anderson
- 8:40am O-339 Can crop density be used to simulate the effects of early season weed competition in maize?
Eric Page, Matthijs Tollenaar, Elizabeth Lee, Lewis Luken, Clarence Swanton
- 9:00am O-340 Implications of Light Quality for Weed Control
Scott Cressman, Clarence Swanton, Elizabeth Lee, Matthijs Tollenaar
- 9:20am O-341 Confirmation of R/FR Ratio Signal Effect on Corn Shoot and Root Structure.
Maha Afifi, Jaideep Mathur, Matthijs Tollenaar, Elizabeth Lee, Lewis Lukens, Clarence Swanton
- 9:40am O-342 Temperature variation effect on purple nutsedge (*Cyperus rotundus*) tuber sprouting.
Rebekah D. Wallace, Timothy L. Grey, Theodore M. Webster, William K. Vencill
- 10:00am Break

Thursday-February 11, 2010 (Continued)

- 10:20am O-343 Seed production, soil seed bank, and emergence of barnyardgrass (*Echinochloa crus-galli*) as influenced by cropping systems.
Kenneth Smith, Jason Norsworthy, Nilda Burgos
- 10:40am O-344 Does weed control pay in legume-based pastures?
Erin McLeod, Edward Bork, Linda Hall, Jane King
- 11:00am O-345 To survive or to slay: Resource-foraging role of metabolites implicated in allelopathy
Nishanth Tharayil, Daniella Triebwasser
- 11:20am O-346 Biomass allocation of pale and black swallowwort (*Vincetoxicum rossicum* and *V. nigrum*) in contrasting competitive environments and water availabilities.
Melanie Ho, Kristine Averill, Charles Mohler, *Antonio DiTommaso*
- 11:40am O-347 Section 9- WEED BIOLOGY AND ECOLOGY Business meeting
Fabian Menalled
- 12:00 to 1:00pm Lunch

SRM OOS 11 - Targeted Grazing: Applying the Research to the Land

1:00pm **Governors Square 17**

Chair: Rachel Frost and John Walker

The organized oral discussion entitled, “Targeted Grazing: Applying the Research to the Land”, will focus on the practical application of targeted grazing as a vegetation management tool. The scientific background of targeted grazing has been presented and discussed, but the gap between theory and application needs to be bridged to empower land managers to make use of the emerging tool. The immense diversity of situations to which this tool can be applied necessitates the exchange of real-life experiences to promote learning among practitioners and to inform land managers of the successful programs and potential pitfalls to avoid. The intended audience is land managers, both public and private, and livestock managers and producers. Speakers will consist of several contract graziers with experience in providing land services in a diverse array of situations, from small-scale, highly managed parcels to watershed-scale management projects. Other speakers will expound on their experiences employing targeted grazing on lands they manage, both public and private. Public land administrators will reveal the challenges of employing targeted grazing on public lands and provide insight on what must be done to make targeted grazing a widely accepted management practice. Finally, we will conclude with a speaker panel and audience discussion. Through this event we hope to lay down the first planks of knowledge from experienced practitioners to bridge the gap between research and the application of targeted grazing as a tool to manage rangelands.

- 1:15pm SYM-201 Opportunities for grazing as an ecological tool on national forests
Dave Bradford
- 1:45pm SYM-202 NRCS programs that encourage targeted grazing
Jana Malot
- 2:15pm SYM-203 Targeted grazing on public lands for hazardous fuels and weed reduction
John Sullivan
- 2:45pm Break

Thursday-February 11, 2010 (Continued)

- 3:15pm SYM-205 Targeted Grazing: Applying the Research to the Land
John Walker, Rachel Frost
- 3:45pm SYM-204 Panel Discussion
John Walker

SRM OOS 18 - Sustainable rangelands Through Low-Input Grassfed Production (Continued)

- 1:00pm** **Governors Square 10** **Chair: Dan Nosal**
- SYM-219 Multi-Species Grassfed Production
Richard Parry
- SYM-220 Desert Adapted Beef Cattle: Harvesting the Past for the Future
Ed Fredrickson
- SYM-221 Benefits of Grazing Systems to Grassfed Production
Harvey Sprock
- SYM-222 Overview, Certification, Q&A, and Wrap-up
Carrie Balkcom

SRM OOS 25 - Carbon Sequestration

- 1:00pm** **Columbine** **Chair: Matt Reeves**
- 1:00pm SYM-206 Carbon cycling in grasslands: effects of climate change
Feike A. Dijkstra, Jack A. Morgan, Elise Pendall
- 1:30pm SYM-207 Measurement/Modeling
Richard Conant
- 2:00pm SYM-208 Sequestration Potential
Tony Svejcar
- 2:30pm SYM-209 Economics/Practicality
Dave Miller
- 3:00pm SYM-210 Panel Discussion
Matt Reeves

Thursday-February 11, 2010 (Continued)

SRM OOS 29 - Open Space Grasslands: Science & Management (continuation)

1:00pm

Chair: Roy Roath

This day-long symposium will focus on the application of science to management of open space grasslands. Speakers will provide insights on open space grasslands and the associated science to open space professionals and advisory councils, county and municipal officials, special interest groups and SRM members interested in the management of open space grassland resources. The symposium will provide knowledge and understanding of the complexities of open grassland management to all the participants. Morning Topics: Ecology - Ecological Processes - Role of Ecological Disturbance in Grasslands - Influence of Fire and Grazing on Grasslands - Riparian Management in Grassland Environments Afternoon Topics: Management Issues - Managing for Desired Outcomes - Human Influence on Desired Outcomes - Integrating Cultural Values into Management

1:10pm SYM-211 Managing for Desired Outcomes on Grasslands

TBA

2:00pm SYM-212 How Human Influence Affects Desired Outcomes

Rick Knight

2:50pm

Break

3:10pm SYM-213 Integrating Cultural Values into Open Space Management

Mark Brunson

AUTHOR INDEX

KEY TO PAPER SESSION

- O-----Oral presentation in a Technical Session
 P-----Poster presentations A-Monday, B-Tuesday, C-Wednesday
 SYM- Oral presentation in Organized Oral Discussion or Symposium
 ESD-- Oral presentation in Ecological Site Description Workshop
 UG----Undergraduate paper

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Al Tabini, Raed (Badia Research and Development Ctr)	P C-81
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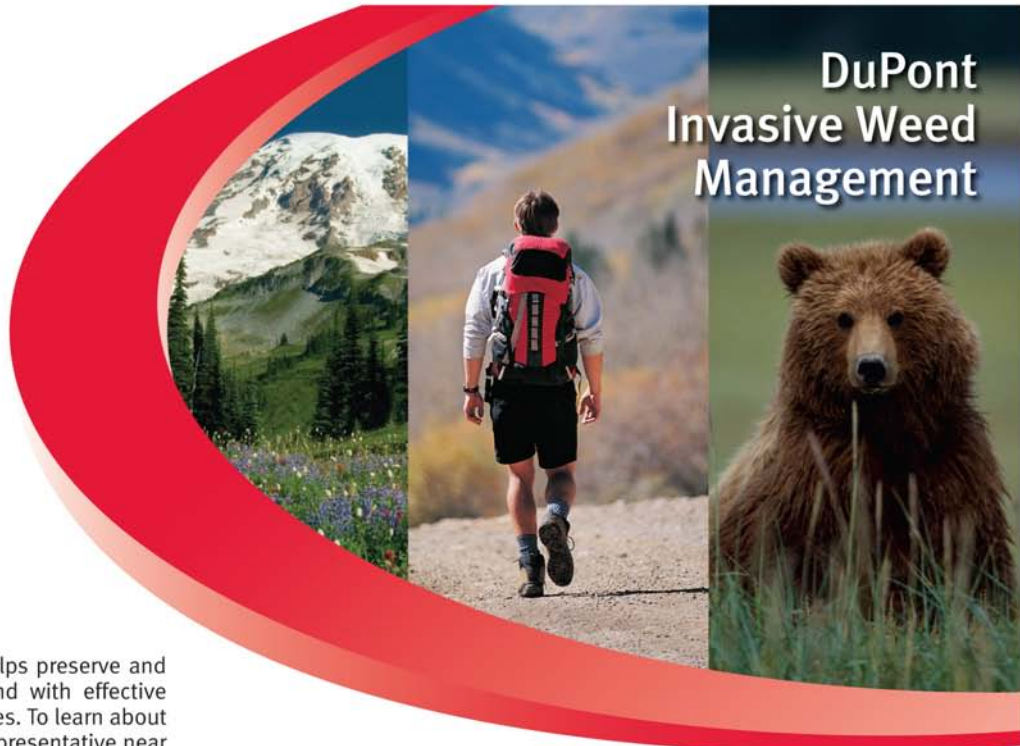
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