55th Meeting
Weed Science Society of America

Location of Special Committees and Activities
February 2015

Photo Contest Judging* ..... Triple Crown A (Hilton)
Registration (Including Guests) .... Bluegrass Prefunction (LCC)
Board Meeting (Sat/Sun) .....Bluegrass Room (Hilton)
Board Meeting (Thurs) .....Bluegrass Room (Hilton)

Local Arrangements Committee
2015-Lexington, Kentucky

Chair..... Mike Barrett
Committee.....JD Green, Bill Witt, Charles Slack
.....Erin Haramoto, Jim Martin, Sara Lawson
..... Joe Omielan, Tara Burke, Chad Brabham

***Digital files must be delivered to**
Photo Contest Chair, Michael DeFelice,
via email by January 30, 2015.

Email: michael.defelice@pioneer.com

WELCOME

The 55th annual meeting of the Weed Science Society of America will be held at the Hilton Lexington Downtown and Lexington Convention Center beginning Monday February 9 through Thursday February 12, 2015. The hotel and conference center are across the street from each other, and are located in downtown Lexington, where there are many places to shop and several nice restaurants nearby. Our impression after holding our summer Board meeting at the Hilton is that it is a great venue for our conference.

WSSA Program Chair Dallas Peterson has been putting together the agenda for the meeting. There is a pre-conference tour called "Horsing Around in Kentucky". It will be Sunday afternoon and consists of a tour of the Adena Springs Horse Farm and the Kentucky Horse Park. This guided tour will provide an in-depth view of how championship race horses live and a perfect way to see why Kentucky is the "horse capital of the world."

The meeting itself will open with a very interesting general session and awards presentation Monday afternoon, followed by a society reception. There are two outstanding symposia scheduled for the 2015 meeting. The first is a summary of the Herbicide Resistance Summit II entitled "Are We Going to Do the Same Thing and Expect a Different Outcome?" and the second one is a look at the future of molecular research in Weed Science, called "Integration of 'Omics' Approaches in Weed Science Research". Finally, the graduate students have organized a workshop entitled "Preparing Students for Work after Graduate School," which should be of interest to all the students attending the conference. The workshop will cover many of the areas of employment within the Weed Science community, including academics, private industry, and government agencies. The graduate students have also organized a lunch discussion that includes all three Editors of the WSSA journals. The Editors will discuss what it takes to publish in our journals and also important considerations for peer-reviewing other manuscripts. The entire program will be posted on the WSSA web site (www.wssa.net) in advance of the meeting.

For the first time, WSSA will have a graduate student poster contest. Thus far we have 50 students that have entered the contest. Our students are our future and the future looks bright.

WSSA is a thriving organization with three solid journals and fantastic representation in Washington DC. Our membership is down from past years because of the consolidation of industry and a few other reasons, but we are more engaged in so many areas and have accomplished a remarkable number of things in the past few years. We are solid financially due to exceptional management from Joyce Lancaster, our Treasurers, financial advisors, and a fabulous Board of Directors. As other Presidents have noted, it is truly and honor to not only be a part of this society, but to serve it as your President. I look forward to seeing you in Lexington.

Joe DiTomaso
President, Weed Science Society of America

THE 2015 WSSA PROGRAM

Welcome to the 2015 WSSA annual program at the Hilton Lexington Downtown and Lexington Convention Center. The venue is outstanding and we have an excellent program planned for the meeting. A pre-conference tour will be offered on Sunday afternoon to the Adena Springs Horse Farm and The Kentucky Horse Park for those that want to learn more about the local horse industry in Kentucky.

The General Session and Awards Ceremony will begin at 4 pm in the Bluegrass Room of the Convention Center. Our first keynote speaker will be Mr. Steve Johnson, who will visit with us about the thoroughbred industry and its impact on the agricultural economy of the Lexington area. Mr. Johnson owns the Silver Springs Stud Farm and has served the Kentucky horse industry in many capacities, including a term as Director of the Kentucky Thoroughbred Association. Our second keynote speaker will be Dr. Rosalind James, USDA-ARS National Program Leader for Invasive Pests of Crops. Dr. James will speak about the The Future of Weed Science Research in USDA-ARS. The Awards Ceremony will include presentation of the WSSA Awards, Fellow, and Honorary Member recognitions.

Following the Awards Ceremony, WSSA will host an Awards Reception beginning at 6:00 pm. All registered attendees are welcome and encouraged to attend to congratulate the award winners and renew old acquaintances. Please be sure spouses and friends that accompany you have registered so that they may participate in this fun event.

The program this year consists of 305 presentations, of which 135 will be posters. There will be two poster sessions with authors present: Tuesday and Wednesday mornings from 8:00 to 10:00 am. Authors of even numbered posters should be present at the Tuesday poster session and authors of odd numbered posters should be present at the Wednesday session. Coffee will be available during the poster sessions to help facilitate and stimulate discussion. Oral presentations will begin at 10:00 am on Tuesday and Wednesday and continue through the afternoon sessions. Oral presentations will begin at 8:00 am on Thursday morning and be completed by noon.

Two outstanding symposia will be conducted during this year's meeting. The first symposium is "Integration of

Omics' Approaches in Weed Science Research". The symposium was organized by Nishanth Tharayil and will start on Tuesday morning and conclude Tuesday afternoon. The symposium will examine different omics research platforms and how they can be utilized in basic weed science research. The second symposium is an overview of the Herbicide Resistant Summit II entitled "Are We Going to do the Same Thing and Expect a Different Result". The symposium was organized by David Shaw and will be on Wednesday afternoon. The symposium will examine economic and sociologic factors affecting weed management decisions and potential incentives or regulatory actions that might influence weed management decisions to help mitigate herbicide resistance issues.

The Graduate Student Luncheon and business meeting will be on Tuesday from noon to 1:30 pm, with WSSA publication editors in attendance to discuss publishing in the WSSA journals. The WSSA Graduate Student Association is also hosting a Graduate Student Workshop on Wednesday morning from 10:00 to 11:30 am focusing on "Preparing Students for Work After Graduate School". The workshop was organized by Katelyn Venner and will include representatives from academia, industry, and government agencies with varying degrees of experience to discuss interviewing, job responsibilities, and transitioning from graduate school into different careers in weed science. The workshop will have an informal format with opportunity for questions, discussion, and networking.

One new event incorporated into the meeting this year is a Graduate Student Poster contest. Contest posters will be divided into different groups based on subject areas and evaluated on appearance, organization, content, presentation, and student interaction. Poster contest winners and awards will be presented at the WSSA business meeting on Wednesday afternoon.

The WSSA Business Meeting will be held Wednesday afternoon from 5-6 pm where President Joe DiTomaso and other WSSA officers and committee chairs will provide an overview of the state of the society and activities.

Special thanks to our Local Arrangements Chair Michael Barrett, with assistance from Bill Witt, for helping arrange the preconference tour and the keynote speaker. Please take time to also thank the section chairs as you see them

during the meeting: Jonathon Huff, Calvin Odero, Patrick McCullough, Joe Omielan, John Madsen, Chris Dionigi, Todd Baughman, Susan Sun, Carlene Chase, Roger Becker, Roland Beffa, Harry Strek, Anil Shrestha, Steve Gylling, and Reginald Fletcher. Also, let Joyce Lancaster and Tony Ballard know how much you appreciate the work they do, not only on the annual meeting, but on all of the Society's business.

I hope you find this year's annual meeting especially useful and rewarding. I have attempted to schedule something of interest for everyone every day.

Dallas Peterson
2015 Program Chair

2015 Program Committee

General Program Chair ..... Dallas Peterson
Vice Chair ..... Kevin Bradley
Agronomic Crops..... Jonathan Huff
Horticultural Crops ..... Calvin Odero
Turf and Ornamentals ..... Patrick McCullough
Pastures, Rangelands, Forests, & Right-of-Ways.... Joe Omielan
Wildland and Aquatic Invasives..... John Madsen
Regulatory Aspects ..... Chris Dionigi
Teaching and Extension ..... Todd Baughman
Formulation, Adjuvant, & Application Technology .... Susan Sun
Weed Biology and Ecology..... Carlene Chase
Biocontrol of Weeds..... Roger Becker
Physiology..... Roland Beffa
Soil and Environmental Aspects ..... Harry Strek
Integrated Weed Management..... Anil Shrestha
Sustaining Member Exhibits Session..... Steve Gylling
Poster Sessions..... Reginald Fletcher
Student Poster Contest ..... Darrin Dodds, Kate Venner

General Information

Hotel: This year the WSSA is utilizing a combination of the Hilton Lexington Downtown for guest rooms and committee meetings and the Lexington Convention Center for the primary meeting events.

Hilton Lexington Downtown

Overlooking Lexington's Triangle Park with its cascading fountains, the Hilton Lexington/Downtown hotel is connected via skywalk to The Lexington Center, with easy access to Rupp Arena, Lexington Convention Center, shops at Lexington Center and the Shoppes at Victorian Square. Combining urban sophistication and warm Bluegrass hospitality, the hotel is an oasis in the city.

Inspired by the rich history of the Bluegrass, the stylish guest rooms overlook Triangle Park or Downtown Lexington.

Lexington Convention Center

Conveniently located in the center of the downtown and within a day's drive of 75% of the country's population, the Lexington Convention Center is a beautiful and versatile multi-purpose event facility.

The facility offers comfort and function as a dynamic venue for public expos, meetings, banquets, trade shows and conventions. In addition to the 66,000 square feet of dedicated exhibit space, 40,000 square feet of elegant meeting spaces, mall and food court, the Lexington Convention Center is attached to both the Hyatt Regency and Hilton Hotel.

The Lexington Convention Center is in the heart of Lexington's historic and vibrant downtown. Retail boutiques, unique restaurants, night clubs, and many other entertainment opportunities are all within easy walking distance in a city famous for its scenic beauty, world-famous Thoroughbred farms, small-town charm and genuine hospitality. Lexington offers the business and recreational traveler a delightful combination of sophistication, culture, history, and fun.

Reservations

One of the reasons we have been able to retain relatively low meeting registration costs is that we receive free meeting space from the hotel if we achieve our contracted guest room minimum. However, we are charged attrition fees & meeting space rental fees if we do not meet this threshold. Thus, your reservation at the Lexington Hilton Downtown, rather than another location, ensures the success of the meeting for the Society and enables us to keep registration rate increases to a minimum in the future.

As part of our contract, we've negotiated in complimentary guestroom internet for all attendees staying at the hotel, complimentary self-parking, and a 50% discount on valet parking. The group rate for a standard guest bedroom is $156 per night plus tax.

The Lexington Hilton is making available 25 "student rooms" each night at the reduced rate of $99.00 single occupancy/double occupancy. This is first-come, first-served so you need to reserve these early. Student reservations will be cross-checked with the registrant list to ensure that only those who qualify for the rooms obtain them. Valid student ID's will need to be presented upon check-in.

Regular Members:
To make reservations online, visit: http://www.hilton.com/en/hi/groups/personalized/L/LEXDTHF-WSSA15-20150205/index.jhtml?WT.mc_id+POG

The Group Code is **WSSA15**

Student Members:
To make reservations online visit: http://www.hilton.com/en/hi/groups/personalized/L/LEXDTHF-WSSAST-20150207/index.jhtml?WT.mc_id=POG

The Group Code is **WSSAST**

If you'd prefer to reserve your room via phone, please call: 1-859-281-3739—be sure to mention "WSSA" in order to get the discounted rate.

Transportation

Minutes from the Blue Grass Airport with easy access from US-25 BR S/US-421 BR S/US-60 BR E, The Hilton Lexington Downtown hotel offers a central location in the heart of the city that is easy to get to! You can take a taxi from the airport to the hotel. The hotel also has a complimentary airport shuttle. Hilton guests can call 859-281-9000 when you land or use the Hilton Phone in Baggage Claim. Since there is only one shuttle there may be something of a wait if the shuttle has recently departed the airport for the hotel. You can sign up for the departure back to the airport at the hotel bell stand.

Parking
Onsite parking is available to WSSA meeting registrations complimentary for self parking and there is a 50% discount for valet parking. Garage clearance is 6' 6 " H. Oversized vehicle parking is available in a separate lot. (Price depends on size of vehicle - call for details.)

From the Blue Grass Airport:
Distance from Hotel: 6 mi. Drive Time: 15 min

- Turn L onto Man O' War
- Take a Right onto Versailles Rd
- Then a Left onto N. Broadway
- Next take a Right onto Vine
- The Hilton Lexington Downtown Hotel is on the immediate Left

From Knoxville or Huntington WVa
Distance from Hotel: Drive Time: 2.5 hours

- From I-64 West/I-75 North take exit 115 toward BG PARKWAY / AIRPORT / LEXINGTON
- At the bottom of the exit ramp, take a LEFT toward LEXINGTON on Newtown Pike

- Stay on Newtown Pike for approximately 3.3 miles
- Turn LEFT onto West Main Street or US-25 BR
- Hotel is approximately 1/2 mile on the left just past Triangle Park

Program Booklet and Abstracts

All those registering for the annual meeting will receive a program booklet. All registrants will receive programs at the meeting registration desk. To find the time and location of specific papers, look up the author in the author index in the back of the program.

Note Regarding Locations: For the first time, the annual meeting events will be at both the Hilton Downtown Lexington and the Lexington Convention Center. The location for each event is either designated as (Hilton) or (LCC)…for Lexington Convention Center. For the most part, committee meetings will be held at the Hilton on Monday and main sessions will be held at the Lexington Convention Center.

COMMITTEE MEETINGS

SATURDAY, February 7

7:00 a.m. – 5:00 p.m.
Board of Directors..... Bluegrass Room (Hilton)

SUNDAY, February 8

7:00 a.m. – 1:00 p.m.
Board of Directors..... Bluegrass Room (Hilton)

MONDAY, February 9

6:30 a.m. – 8:00 a.m.
WSSA Board and Committee Chairs Breakfast
.....Lily of the Valley Room (Hilton)

8:00 a.m. – 9:00 a.m.
IPSM Editorial Board (P4).... Bluegrass Salon A (Hilton)

8:00 a.m. – 10:00 a.m.
Science Policy Committee (E2)
..... Bluegrass Salon B (Hilton)

8:00 a.m. – 10:00 a.m.
Herbicide Resistant Plants Committee (E12)
.....Triple Crown B (Hilton)

9:00 a.m. – 10:00 a.m.
Weed Technology Editorial Board (P3)
..... Bluegrass Salon A (Hilton)

9:00 a.m. – 10:00 a.m.
Sustaining Membership (F5)..... Arabian (Hilton)

10:00 a.m. – 11:00 a.m.
Weed Science Editorial Board (P2)
..... Bluegrass Salon A (Hilton)

10:00 a.m. – 11:00 a.m.
Terminology Committee (P22) ... Triple Crown A (Hilton)

10:00 a.m. – 12:00 noon
Research & Competitive Grants (E6)
.....Triple Crown C (Hilton)

10:00 a.m. – 12:00 noon
Environmental Aspects of Weed Management (E8)
.....Crimson Clover (Hilton)

10:00 a.m. – 12:00 noon
Herbicides for Minor Uses.....Blackberry Lily (Hilton)

10:00 a.m. – 12:00 noon
Herbicide Resistance Education (E12b)
..... Bluegrass Salon B (Hilton)

11:00 am – 12:00 noon
Publications Board (P1) ..... Bluegrass Salon A (Hilton)

1:00 pm – 3:00 pm
Public Awareness Committee (E13)
.....Blackberry Lily (Hilton)

1:00 pm – 3:00 pm
Website Committee (E14)..... Arabian (Hilton)

1:00 pm – 3:45 pm
Photo Contest Committee (W3j)
..... Triple Crown A (Hilton)

WEDNESDAY, February 11

6:30 a.m. – 8:00 a.m.
President's Breakfast with Regional Presidents
.....Lily of the Valley Room (Hilton)

7:00 a.m. – 9:00 a.m.
Finance Committee (F2) .....Thoroughbred 8 (LCC)

THURSDAY, February 12

12:00 Noon – 3:00 p.m.
Board of Directors..... Bluegrass (Hilton)

WSSA Committee meetings are open to all WSSA members. However, some non-WSSA committee meetings (e.g., Herbicide Resistance Action Committee) are open only to invited participants. If in doubt, check at the beginning of the meeting with the Committee Chair.

Contact Joyce Lancaster of Allen Press, Inc. at WSSA meeting@allenpress.com to arrange space for committee meetings or room assignments not scheduled in this program.

SUMMARY OF 2015 PROGRAM

SATURDAY MORNING, February 7

7:00 a.m. – 5:00 p.m.
Board of Directors..... Bluegrass (Hilton)

SUNDAY MORNING, February 8

7:00 a.m. – 1:00 p.m.
Board of Directors..... Bluegrass (Hilton)

MONDAY MORNING, February 9

7:00 a.m. – 8:00 a.m.
WSSA Board & Committee Chairs Breakfast
..... Lily of the Valley (Hilton)

9:00 a.m. – 12:00 noon
Registration ..... Bluegrass Prefunction (LCC)

MONDAY AFTERNOON, February 9

1:00 noon – 3:45 p.m.
Photo Contest Judging ..... Triple Crown A (Hilton)

1:00 p.m. – 4:00 p.m.
Registration ..... Bluegrass Prefunction (LCC)

4:00 p.m. – 6:00 p.m.
General Session and Awards
Presentations .....Bluegrass Ballroom 1 (LCC)

6:00 p.m. – 8:00 p.m.
WSSA Welcome and Awardees Reception
..... Bluegrass Prefunction (LCC)

TUESDAY MORNING, February 10

7:00 a.m. – 12:30 p.m.
Registration ..... Bluegrass Prefunction (LCC)

7:45 a.m. – 8:00 a.m.
Poster Session Business Meeting.....
.....Bluegrass Ballroom 2 (LCC)

8:00 a.m. – 10:00 a.m.
Poster Session .....Bluegrass Ballroom 2 (LCC)
(Authors of even numbered posters will be present)

10:00 a.m. – 5:00 p.m.
Exhibits .....Bluegrass Ballroom 2 (LCC)

10:00 a.m. – 5:00 p.m.
Posters on display without authors
.....Bluegrass Ballroom 2 (LCC)

10:15 a.m. – 12:00 noon
Symposium: Integration of 'Omics' Approaches in Weed Science Research.....Bluegrass Ballroom 1 (LCC)

10:00 a.m. – 12:00 noon
1. Agronomic Crops .....Thoroughbred 1 (LCC)

10:00 a.m.. – 12:00 noon
4. Pasture, Rangeland, Forests, and Rights of Way
.....Thoroughbred 2 (LCC)

10:00 a.m. – 11:15 am
8. Formulation, Adjuvant, and Application Technology
.....Thoroughbred 3 (LCC)

11:15 a.m. – 12:15 noon
6. Regulatory Aspects.....Thoroughbred 3 (LCC)

12:00 noon – 1:30 p.m.
Graduate Student Luncheon and Business Meeting
.....Thoroughbred 4 (LCC)

TUESDAY AFTERNOON, February 10

1:30 p.m. – 4:30 p.m.
Symposium: Integration of 'Omics' Approaches in Weed Science Research.....Bluegrass Ballroom 1 (LCC)

1:30 p.m. – 5:00 p.m.
1. Agronomic Crops .....Thoroughbred 1 (LCC)

1:30 p.m. – 4:00 p.m.
5. Wildland and Aquatic Invasive Plants
.....Thoroughbred 3 (LCC)

1:30 p.m. – 5:00 p.m.
13. Integrated Weed Management
.....Thoroughbred 2 (LCC)

4:15 p.m. – 5:00 p.m.
10. Biocontrol of Weeds .....Thoroughbred 3 (LCC)

WEDNESDAY MORNING, February 11

6:30 a.m. – 8:00 a.m.
Regional Presidents Breakfast
..... Lilly of the Valley (Hilton)

8:00 a.m. – 1:00 p.m.
Registration .....Bluegrass Prefunction (LCC)

8:00 a.m. – 10:00 a..m.
Poster Session .....Bluegrass Ballroom 2 (LCC)
(Authors of odd-numbered posters will be present)

8:00 a.m. – 12:00 noon
Sustaining Members Exhibits .....
.....Bluegrass Ballroom 2 (LCC)

10:00 a.m. – 12:00 noon
1. Agronomic Crops .....Thoroughbred 1 (LCC)

10:00 a.m. – 12:00 noon
9. Weed Biology and Ecology ...Thoroughbred 3 (LCC)

10:00 a.m. – 12:00 noon
11. Physiology ..... Thoroughbred 5-7 (LCC)

10:00 a.m. – 12:00 noon
Graduate Student Workshop.....Thoroughbred 4 (LCC)

WEDNESDAY AFTERNOON, February 11

1:00 p.m. – 5:00 p.m.
Symposium: Herbicide Resistance Summit II – Are We Going to Do the Same Thing and Expect a Different Result? .....Bluegrass Ballroom 1 (LCC)

1:00 p.m. – 4:45 p.m.
2. Horticultural Crops.....Thoroughbred 2 (LCC)

1:00 p.m. – 3:15 p.m.
3.Turf and Ornamental Crops....Thoroughbred 3 (LCC)

1:00 p.m. – 4:30 p.m.
9. Weed Biology and Ecology Thoroughbred 5-7 (LCC)

3:30 p.m. – 5:00 p.m
12. Soil and Environmental Aspects
.....Thoroughbred 3 (LCC)

5:00 p.m. – 6:00 p.m.
WSSA Business Meeting.....Thoroughbred 4 (LCC)

THURSDAY MORNING, February 12

8:00 a.m. – 11:00 a.m.
Registration .....Bluegrass Prefunction (LCC)

8:00 a.m. – 11:00 a.m.
Posters on Display without Authors
.....Bluegrass Ballroom 2 (LCC)

8:00 a.m. – 11:00 a.m.
Sustaining Members Exhibits
.....Bluegrass Ballroom 2 (LCC)

8:00 a.m. – 11:30 a.m.
1. Agronomic Crops.....Thoroughbred 1 (LCC)

8:00 a.m. – 11:30 a.m.
11. Physiology..... Thoroughbred 5-7 (LCC)

8:30 a.m. – 11:30 a.m.
7. Teaching and Extension ..... Thoroughbred 2-3 (LCC)

12:00 noon – 1:00 p.m.
Dismantle Posters and Exhibits

THURSDAY AFTERNOON, February 12

12:00 Noon – 3:00 p.m.
WSSA Board of Directors .....Bluegrass A&B (Hilton)

COMPLETE PROGRAM

MONDAY PM, February 9
GENERAL SESSION

Location: Bluegrass Ballroom 1, (LCC)
Chair: Dallas Peterson

4:00 p.m.
Introduction and Announcements, Dallas Peterson, President-Elect, WSSA

4:10 p.m.
Welcome: Dr. William Witt, Professor Emeritus, University of Kentucky

4:20 p.m.
The Kentucky Bluegrass Region – Source of the Horse: Mr. Steve Johnson, Silver Springs Stud Farms, Paris, KY.

4:40 p.m.
The Future of Weed Science Research in USDA-ARS: Dr. Rosalind James, USDA-ARS National Program Leader, Invasive Pests of Crops, Washington, DC

5:00 p.m.
Presentation of Awards, Dwight Lingenfelter, Chair, Awards Committee, WSSA

5:40 p.m.
Presentation of Fellow and Honorary Member Awards, Krishna Reddy, Chair, Fellows and Honorary Member Subcommittee, WSSA

6:00 p.m. - 8:00 p.m.
WSSA Awardee Reception and Member Social
Location: ..... Bluegrass Prefunction (LCC)

TUESDAY AM to THURSDAY
February 9 to 12

WSSA SUSTAINING MEMBERS
EXHIBITS SESSION

Location: Bluegrass Ballroom 2 (LCC)

Chair: Steve Gylling, Gylling Data Management

7:45 a.m. Tuesday
Sustaining Members Exhibits Session meeting to elect a Chair-Elect.

Setup 12:00 noon - 3:00 p.m. Monday

8:00 a.m. - 5:00 p.m. Tuesday, Wednesday

8:00 a.m. - 12:00 noon Thursday

Please remove exhibits by 1:00 p.m. on Thursday

Sustaining Member Exhibitor and Representative

Gylling Data Management.....Steve Gylling
LABServices.....James Steffel

TUESDAY AM, February 10

Location: Bluegrass Ballroom 2 (LCC)
Chair: Reginald Fletcher

Posters may be set up on Monday from 12:00 noon until 3:00 pm prior to the General Session. Authors should remove Posters before 1:00 pm on Thursday afternoon.

7:45 a.m. – 8:00 a.m.
Business Meeting to elect Chair-Elect

8:00 a.m. – 10:00 a.m.
Authors of even-numbered posters will be present.

10:00 a.m. – 5:00 p.m.
Posters open for viewing without authors

TUESDAY MORNING FEBRUARY 10
Section 1. Agronomic Crops

***PRESENTER † STUDENT POSTER CONTEST**

†Performance of Sweet Sorghum Under Different Planting Densities, Water Regimes, and N Levels. V. Singh*[1], N. R. Burgos[1], L. Earnest[2], S. Singh[1], L. Martin[2], S. Abhugo[1], L. Estorninos[1]; [1]University of Arkansas, Fayetteville, AR, [2]University of Arkansas, Rohwer, AR (1)

†Soybean Row Width, Seeding Rate, and Herbicide Strategy Effect on Cumulative Intercepted Photosynthetically Active Radiation and Weed Control. T. R. Butts*[1], J. K. Norsworthy[2], G. R. Kruger[3], L. Sandell[4], B. G. Young[5], L. E. Steckel[6], M. M. Loux[7], K. Bradley[8], V. M. Davis[1]; [1]University of Wisconsin, Madison, WI, [2]University of Arkansas, Fayetteville, AR, [3]University of Nebraska-Lincoln, North Platte, NE, [4]Valent Corporation,

Lincoln, NE, [5]Southern Illinois University, Carbondale, IL, [6]University of Tennessee, Jackson, TN, [7]Ohio State University, Columbus, OH, [8]University of Missouri, Columbia, MO (2)

†Influence of Planting Date on Peanut Response to Flumioxazin and Flumioxazin plus Pyroxasulfone. M. D. Inman*, D. L. Jordan, D. Johnson; NCSU, Raleigh, NC (3)

Differential Response of Teosinte and Flint, Sweet, and Dent Corn Varieties to Weed Competition. S. A. Hansen*[1], S. A. Clay[2], D. Horvath[3], S. Flint-Garcia[4]; [1]South Dakota State University, Brookings, SD, [2]SDSU, Brookings, SD, [3]USDA-ARS, Fargo, ND, [4]USDA ARS, Columbia, MO (4)

†Corn, Soybean, and Wheat Yields in an Organic Rotational No-till System during the 3-year Transition. C. L. Keene*[1], W. S. Curran[1], J. M. Wallace[2], S. Mirsky[3], M. J. VanGessel[4], M. Ryan[5], M. Barbercheck[1]; [1]Penn State University, University Park, PA, [2]Pennsylvania State University, State College, PA, [3]USDA, Beltsville, MD, [4]University of Delaware, Georgetown, DE, [5]Cornell University, Ithaca, NY (5)

Echinochloa Colona Seedling Emergence on Soybean Fallow Under No-tillage System. H. A. Acciaresi*[1], G. Picapietra[2]; [1]Instituto Nacional Tecnologia Agropecuaria, Pergamino, Argentina, [2]UNNOBA-INTA, Pergamino, Argentina (6)

Effect of Rye Versus Winter Annual Weeds on Summer Annual Weed Growth and Soybean Yield. M. L. Bernards*, B. S. Heaton; Western Illinois University, Macomb, IL (7)

†Impact of Glyphosate-resistant Volunteer Corn Density, Control Timing, and Late Season Emergence on Soybean Yield. P. S. Chahal*[1], M. L. Bernards[2], G. R. Kruger[3], H. Blanco-Canqui[1], A. J. Jhala[4]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Western Illinois University, Macomb, IL, [3]University of Nebraska-Lincoln, North Platte, NE, [4]University of Florida, Lake Alfred, FL (8)

Clearfield® Rice Genotypes Tolerance to Aerial Application of Imidazolinone as Affected by Plant Density. E. R. Camargo*, A. T. Martini, L. A. Avila, L.

F. Martini, A. Pivetta, F. Schreiber; Federal University of Pelotas (UFPel), Pelotas, Brazil (9)

†Influence of Preharvest Herbicides on Black Bean Desiccation, Yield, and Canning Quality. A. M. Goffnett*[1], C. Sprague[1], K. A. Cichy[2]; [1]Michigan State University, East Lansing, MI, [2]USDA-ARS, East Lansing, MI (10)

†Evaluation of PRE Herbicide and Seed Treatment on Thrips Infestation and Cotton Growth, Development, and Yield. J. Copeland*[1], D. M. Dodds[1], A. Catchot[1], D. Reynolds[1], J. Gore[2], D. Wilson[3], D. Denton[1], C. A. Samples[4]; [1]Mississippi State University, Mississippi State, MS, [2]Mississippi State University, Stoneville, MS, [3]Monsanto, St. Louis, MO, [4]Mississippi State University, Starkville, MS (11)

†Comparison of Residual Herbicide Systems for Palmer Amaranth Management in West Texas. R. M. Merchant*[1], P. A. Dotray[2], J. Keeling[3], M. R. Manuchehri[4]; [1]University of Georgia, Tifton, GA, [2]Texas Tech University, Texas A&M AgriLife Research and Extension Service, Lubbock, TX, [3]Texas A&M AgriLife Extension Service, Lubbock, TX, [4]Washington State University, Pullman, WA (12)

Efficacy of Fluridone-Based Herbicide Programs in Cotton and Peanut. M. W. Marshall*; Clemson University, Blackville, SC (13)

Herbicide Programs in Oklahoma Soybean. T. A. Baughman*[1], R. Peterson[2]; [1]Oklahoma State University, Lone Grove, OK, [2]Oklahoma State University, Ardmore, OK (14)

†Evaluation of Glyphosate-Resistant Palmer amaranth control in HPPD-tolerant Soybean Systems. B. W. Schrage*[1], W. J. Everman[1], M. W. Marshall[2]; [1]NCSU, Raleigh, NC, [2]Clemson University, Blackville, SC (15)

†Modeling the Evolution of Shattercane Resistance to ALS-Inhibiting Herbicides in an ALS-Tolerant Sorghum Cropping System. R. Werle*, B. Tenhumberg, J. Lindquist; University of Nebraska-Lincoln, Lincoln, NE (16)

Weed Control in Soybean with Imazethapyr Applied Alone or in Tank-Mix with Saflufenacil plus Dimethenamid-P. N. Soltani*, K. D. Walsh, C. Shropshire, P. H. Sikkema; University of Guelph, Ridgetown, ON (17)

†Tank-Mixing Growth Regulator Herbicides with Glufosinate for Control of Glyphosate-Resistant Giant Ragweed in Corn. Z. A. Ganie*[1], L. Sandell[2], A. J. Jhala[3]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Valent Corporation, Lincoln, NE, [3]University of Florida, Lake Alfred, FL (18)

Responses of Glyphosate-Resistant and Conventional Canola (*Brassica napus* L.) to Glyphosate and AMPA Treatment. E. Alves Correa*[1], S. O. Duke[2], F. E. Dayan[3], A. Rimando[2]; [1]UNESP - Campus de Registro, Registro, Brazil, [2]USDA, ARS, Oxford, MS, [3]USDA-ARS, University, MS (19)

Peanut Response to Glyphosate + Dicamba Drift at Different Growth Stages. P. A. Dotray*[1], W. Grichar[2], T. A. Baughman[3], M. R. Manuchehri[4], R. M. Merchant[5], T. Morris[2]; [1]Texas Tech University, Texas A&M AgriLife Research and Extension Service, Lubbock, TX, [2]Texas A&M AgriLife Research, Lubbock, TX, [3]Oklahoma State University, Lone Grove, OK, [4]Texas Tech University, Lubbock, TX, [5]University of Georgia, Tifton, GA (20)

Oilseed Cuphea Tolerance to Bicyclopyrone and Bromoxynil. F. Forcella*; USDA, Morris, MN (21)

†Impact of Growth Regulator Rate and Application Timing on Sorghum Growth and Yield. T. E. Besancon*, W. J. Vincent, W. J. Everman; NCSU, Raleigh, NC (22)

†Sequential Applications for Rescue Control of Glyphosate Resistant Palmer Amaranth. D. Denton*[1], D. M. Dodds[1], D. Reynolds[1], A. Mills[2], J. Copeland[1], C. A. Samples[3]; [1]Mississippi State University, Mississippi State, MS, [2]Monsanto, Collierville, TN, [3]Mississippi State University, Starkville, MS (23)

Putative Genes Involved in the Non-target-site-based Herbicide Resistance in Echinochloa Crus-galli. G. Dalazen[1], A. J. Fischer[2], A. Merotto Junior*[1]; [1]Federal University of Rio Grande do Sul - UFRGS, Porto Alegre, RS, Brazil, [2]University of California, Davis, Davis, CA (24)

Evaluation of Inzen Grain Sorghum in Louisiana. D. Stephenson*, R. Landry, B. Woolam; LSU AgCenter, Alexandria, LA (25)

Biologically Effective Rate of Sulfentrazone Applied Pre-emergence in Soybean. N. Soltani*[1], K. D. Walsh[1], R. E. Nurse[2], D. C. Hooker[1], P. H. Sikkema[1]; [1]University of Guelph, Ridgetown, ON, [2]Agriculture and Agri-Food Canada, Harrow, ON (26)

Extent and Impact of Synthetic Auxin Resistant Weeds. I. M. Heap*; WeedSmart, Corvallis, OR (27)

Control of Fringed Redmaids (*Calandriaia ciliata*) in Winter Wheat. B. Woolam*[1], D. Stephenson[1], R. Landry[1], A. Meszaros[2], G. Coburn[2]; [1]LSU AgCenter, Alexandria, LA, [2]Pest Management Enterprises, LLC, Cheneyville, LA (28)

Addressing the Challenge of Glyphosate-resistant *Conyza* species Across the Americas. M. A. Peterson*[1], D. M. Simpson[2], R. Frene[3], F. Lucio[4]; [1]Dow AgroSciences, West Lafayette, IN, [2]Dow AgroSciences, Indianapolis, IN, [3]Dow AgroSciences, Buenos Aires, Argentina, [4]Dow AgroSciences, Sao Paulo, Brazil (29)

†Glufosinate- and glyphosate- resistant Italian ryegrass *(Lolium multiflorum)* in California Orchards and Vineyards. E. Karn*, M. Jasieniuk; University of California-Davis, Davis, CA (30)

Employing Leaf Multispectral Reflectance Data and Random Forest Method to Differentiate between Soybean and Three Broadleaf Weed Species. R. S. Fletcher*, K. N. Reddy, S. J. Thomson; USDA, Stoneville, MS (31)

Section 2. Horticultural Crops

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†Processing Tomato (*Solanum lycopersicum*) Variety Tolerance to Thifensulfuron-methyl. M. Mohseni-Moghadam, K. J. Linder*, R. J. Edwards, D. Doohan; Ohio State University, Wooster, OH (32)

Response of Tomato (*Solanum lycopersicum*) and Soybean (*Glycine max* L.) to Sub-lethal Doses of 2,4-D or Dicamba, with/without Glyphosate. A. S. Leiva Soto*, M. Mohseni-Moghadam, L. Fleuridor, R. J. Edwards, D. Doohan; Ohio State University, Wooster, OH (33)

Weed Control, and Tolerance of Processing Tomato (*Solanum lycopersicum*) to Fomesafen. M. Mohseni-Moghadam*, D. Doohan; Ohio State University, Wooster, OH (34)

†Impact of Grafting on Tomato Weed Management. S. Chaudhari*, K. Jennings, D. W. Monks, F. Louws; NCSU, Raleigh, NC (35)

Impacts of Late-season Tall Morningglory Infestations on Chile Pepper Production. B. J. Schutte*; New Mexico State University, Las Cruces, NM (36)

Natural Weed Control Products for Organically Grown Vegetables. J. O'Sullivan*[1], R. C. Van Acker[2], R. D. Grohs[1]; [1]University of Guelph, Simcoe, ON, [2]University of Guelph, Guelph, ON (37)

†Effect of Green Manure and Cover Crops for Weed and Disease Management in Tulip. Y. Duan*[1], G. A. Chastagner[2], A. Debauw[2], T. W. Miller[3]; [1]Washington State University, Pullman, WA, [2]Washington State University, Puyallup, WA, [3]Washington State University, Mount Vernon, WA (38)

Soil Solarization, Microwaves, and Mustard Seed Meal Treatments for Weed Control in Annual Strawberry Production. J. Samtani[1], J. Derr*[1], C. Johnson[2], M. Conway[1], L. Darnell[2], A. Rana[1], R. Flanagan[3]; [1]Virginia Tech, Virginia Beach, VA, [2]Virginia Tech, Blackstone, VA, [3]Virginia Cooperative Extension, Virginia Beach, VA (39)

Influence of Planting Date and Row Width on Quinoa and Grain Amaranth Yield in Ontario, Canada. R. E. Nurse*, E. R. Page; Agriculture and Agri-Food Canada, Harrow, ON (40)

A 3D View of Weeds in Horticultural Crops. B. Panneton[1], A. Bizeau[2], M. Simard*[1]; [1]Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC, [2]Université de Sherbrooke, Sherbrooke, QC (41)

Section 3. Turf and Ornamental Crops

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Common Crabgrass Pre-control in Mixing of Kentucky Bluegrass and Ryegrass. C. Li*, G. Xue; East China Weed Technology Institute of Nanjing, Nanjing, Peoples Republic (42)

Influence of Nitrogen Fertilization and Irrigation on White Clover Invasion in Kentucky Bluegrass Turf. D. W. Morishita*[1], K. G. Frandsen[1], T. Salaiz[2]; [1]University of Idaho, Kimberly, ID, [2]McCain Foods, Aberdeen, ID (43)

Common Polypogon Post-control in Seashore Paspalum. G. Xue*, C. Li; East China Weed Technology Institute of Nanjing, Nanjing, Peoples Republic (44)

Effect of Pendimethalin Application on Seashore Paspalum after Coring Operations. Q. Ma*; Weed Technology Institute of East China, Nanjing, Peoples Republic (45)

†Turfgrass Species Response to Three HPPD-inhibiting Herbicides. J. R. Brewer*[1], J. Willis[2], S. Askew[1]; [1]Virginia Tech, Blacksburg, VA, [2]Monsanto, Florissant, MO (46)

†Pesticide Persistence and Behavior in Turfgrass Clippings. M. Jeffries*, T. Gannon, K. Ahmed; NCSU, Raleigh, NC (47)

†Does Annual Bluegrass Influence Golf Ball Deceleration and Trajectory on Putting Greens? S. S. Rana*, S. Askew, J. R. Brewer; Virginia Tech, Blacksburg, VA (48)

Topramezone Timing and Rate for Bermudagrass Suppression in Bentgrass Putting Surfaces. J. D. McCurdy*; Mississippi State University, Starkville, MS (49)

Section 4. Pasture, Rangeland, Forest, and Rights of Way

***PRESENTER**

Utilizing Indaziflam for Roadside Weed Control in Georgia. P. McCullough*; University of Georgia, Griffin, GA (50)

Section 5. Wildland and Aquatic Invasive Plants

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Kudzu Control Options: Initial Evaluation. J. Omielan*[1], D. Gumm[2], M. Barrett[1]; [1]University of Kentucky, Lexington, KY, [2]Kentucky Transportation Cabinet, Jackson, KY (51)

The Impacts of Imazapic on *Alliaria petiolata* and Non-Target Forest Floor Plants in Central Kentucky. P. Podapati*; University of Kentucky, Lexington, KY (52)

Performance of Invasive Swallowwort Juveniles (*Vincetoxicum* spp.) Across a Habitat Gradient after 7 Years. L. R. Milbrath[1], A. DiTommaso*[2], J. Biazzo[1], S. H. Morris[2]; [1]USDA-ARS, Ithaca, NY, [2]Cornell University, Ithaca, NY (53)

Section 6. Regulatory Aspects

No Submissions in This Section

Section 7. Education and Extension

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Enlist 360 Education Series: Education, Training and Outreach on the Enlist Weed Control System. D. E. Hillger*[1], A. Asbury[2], R. Keller[3], J. Laffey[4], R. Lassiter[5], J. Siebert[6], J. Wiltrout[7]; [1]Dow AgroSciences, Noblesville, IN, [2]Dow AgroSciences, Dahinda, IL, [3]Dow AgroSciences, Rochester, MN, [4]Dow AgroSciences, Maryville, MO, [5]Dow AgroSciences, Raleigh, NC, [6]Dow AgroSciences, Greenville, MS, [7]Dow AgroSciences, Indianapolis, IN (54)

Herbicide Injury Symptoms on Horticultural Crops – An In-service Training for NC Cooperative Extension and Department of Agriculture Staff. J. C. Neal*[1], K. Jennings[1], B. Lassiter[2], W. Mitchem[3]; [1]NCSU, Raleigh, NC, [2]NC Dept of Agriculture and Consumer Services, Raleigh, NC, [3]NCSU, Mills River, NC (55)

iBook for Weed Identification. B. A. Ackley*; Ohio State University, Columbus, OH (56)

Geodatabase \"WeedMap\" for Recording Data on Weed Distribution. K. Hamouzova*, J. Soukup, M. Kolarova, P. Hamouz; Czech University of Life Sciences Prague, Prague, Czech Republic (57)

An Online Resource for Herbicide Target Gene Sequences. D. A. Giacomini*[1], I. M. Heap[2], D. Sammons[3]; [1]Colorado State University, Ft. Collins, CO, [2]WeedSmart, Corvallis, OR, [3]Monsanto, St. Louis, MO (58)

†Distribution and Herbicide Resistance Characteristics of *Amaranthus* spp. in Ohio. S. N. Konkle*, M. M. Loux; Ohio State University, Columbus, OH (59)

Stopping the Production of Viable Weed Seeds - It May Occur Sooner Than You Think. M. J. VanGessel*[1], E. C. Hill[2], K. A. Renner[2], E. R. Gallandt[3], C. Mohler[4]; [1]University of Delaware, Georgetown, DE, [2]Michigan State University, East Lansing, MI, [3]University of Maine, Orono, ME, [4]Cornell University, Ithaca, NY (60)

Section 8. Formulation, Adjuvant and Application Technology

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Description of New 2,4-D and Dicamba Acid Formulations. J. T. Daniel*[1], S. K. Parrish[2], P. Westra[3]; [1]Agricultural Consultant, Keenesburg, CO, [2]AgraSyst Inc, Spokane, WA, [3]Colorado State University, Ft. Collins, CO (61)

†Spray Droplet Size Evaluation of BASF Engenia™ Herbicide and Existing Dicamba Formulation, Alone and in Tank Mix Combinations. A. Clark*[1],

L. Magidow[1], L. Bozeman[2]; [1]WinField / Land O Lakes, River Falls, WI, [2]BASF, Research Triangle Park, NC (62)

†Influence of Carrier Water pH, Foliar Fertilizer, and Plant Height on Horseweed Control with Mesotrione. P. Devkota*, W. Johnson; Purdue University, West Lafayette, IN (63)

†Effects of Water Quality and Conditioning Agents on Glyphosate Performance. M. R. Manuchehri*[1], P. A. Dotray[2], J. Keeling[3], T. Morris[4]; [1]Texas Tech University, Lubbock, TX, [2]Texas Tech University, Texas A&M AgriLife Research and Extension Service, Lubbock, TX, [3]Texas A&M AgriLife Extension Service, Lubbock, TX, [4]Texas A&M AgriLife Research, Lubbock, TX (64)

†Impact of Depostion Aids on Herbicide Penetration into Crop Canopies. C. A. Samples*[1], D. M. Dodds[2], A. Catchot[2], G. R. Kruger[3], J. Copeland[2], D. Denton[2]; [1]Mississippi State University, Starkville, MS, [2]Mississippi State University, Mississippi State, MS, [3]University of Nebraska-Lincoln, North Platte, NE (65)

Chemical Control of Wild Buckwheat (*Polygonum convolvulus* L) and Field Bindweed(*Convolvulus arvensis* L) on Wheat in Mexico. E. Lopez*; Crop Protection R&D, Guadalajara, Mexico (66)

Diclosunam to Control Sedges and Other Weeds on Sugarcane in Guatemala. E. Castaneda*[1], E. Lopez[2]; [1]Crop Protection R&D, Guatemala, Guatemala, [2]Crop Protection R&D, Guadalajara, Mexico (67)

Section 9. Weed Biology and Ecology

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Seed Desiccation Tolerance and Viability of *Chenopodium album* as Affected by Cutting Method and Timing. F. Kordbacheh[1], C. Mohler[2], A. DiTommaso*[2], H. R. Mashhadi[3], H. Alizadeh[3]; [1]University of Tehran, Tehran, Iran, [2]Cornell University, Ithaca, NY, [3]University of Tehran, Karaj, Iran (68)

Post-mortem Seed Development: Does Termination Timing or Method Make a Difference? E. C. Hill*[1], K. A. Renner[1], M. J. VanGessel[2], B. Scott[3]; [1]Michigan State

University, East Lansing, MI, [2]University of Delaware, Georgetown, DE, [3]University of Delaware, Newark, DE (69)

Influence of Palmer Amaranth Density and Emergence Date on Seed Production in Wide Row and Drill-Seeded Soybean. N. E. Korres*, J. K. Norsworthy; University of Arkansas, Fayetteville, AR (70)

Effects of Pesticide Seed Treatments on Weed Seed Banks in Corn and Soybean. M. Morris*, L. W. Atwood, R. G. Smith; University of New Hampshire, Durham, NH (71)

Glyphosate Exposure Alters Flowering and Seed Production in Sumatran Fleabane (*Conyza sumatrensis*). G. L. Gomes*[1], C. A. Carbonari[2], E. D. Velini[2], B. Marchesi[2], G. C. Macedo[2], A. K. Matos[2]; [1]Faculdade de Ciências Agronômicas / UNESP, Botucatu, Brazil, [2]Faculdade de Ciências Agronômicas / UNESP, Botucatu, Brazil (72)

Altering Tuber Production of Purple Nutsedge (*Cyperus rotundus*) with Herbicides. T. M. Webster*[1], T. L. Grey[2]; [1]USDA-ARS, Tifton, GA, [2]University of Georgia, Tifton, GA (73)

The Influence of Climate on the Distribution of Mayweed Chamomile and Italian Ryegrass in the Pacific Northwest. N. Lawrence[1], L. Bernacchi[2], J. Wulfhorst[2], I. C. Burke*[1]; [1]Washington State University, Pullman, WA, [2]University of Idaho, Moscow, ID (74)

Winter Annual Weed Communities As A Result Of Fall Or Spring Weed Control. M. J. VanGessel*[1], Z. Zhang[2], T. W. Ilvento[2], B. Scott[2], Q. R. Johnson[1]; [1]University of Delaware, Georgetown, DE, [2]University of Delaware, Newark, DE (75)

Growing Season Phenology of Four Broadleaf Species in South Dakota. S. A. Clay*, M. Erazo-Barradas, G. Reicks; SDSU, Brookings, SD (76)

Giant Ragweed(*Ambrosia trifida* L.) Fecundity and Reproductive Allometry in Maize (*Zea mays* L.) and Soybean (*Glycine max* (L.) Merr.). E. R. Page*, R. E. Nurse; Agriculture and Agri-Food Canada, Harrow, ON (77)

Effect of Temperature and Light Intensity on the Efficacy of Some Postemergence Herbicides on Hairy Fleabane (*Conyza bonariensis*). M. Dennis, J. Bushoven, A. Shrestha*; California State University, Fresno, CA (78)

†Ecological Fitnesses of Multiple Herbicide-resistance Traits in the Absence of Herbicide Selection Determined from a Multi-generation Greenhouse Study of Waterhemp (*Amaranthus tuberculatus)* . C. Wu*, P. Tranel, A. Davis; University of Illinois, Urbana, IL (79)

Selection Pressure Effects on Introgressed Herbicide and Disease Resistance Allele Proportion, Gene Flow and Yield Components in Jointed Goatgrass (*Aegilops cylindrica*). B. A. Martins*[1], C. A. Mallory-Smith[2]; [1]EMBRAPA, Sete Lagoas, Brazil, [2]Oregon State University, Corvallis, OR (80)

†The Effect of Cover Crops on Horseweed Growth and Development. A. M. Christenson*, A. Dille, D. Peterson, K. Roozeboom; Kansas State University, Manhattan, KS (81)

Perspectives on Corn Yield Losses Due to Weeds in North America. A. Dille*[1], P. H. Sikkema[2], V. M. Davis[3], I. C. Burke[4], W. J. Everman[5]; [1]Kansas State University, Manhattan, KS, [2]University of Guelph, Ridgetown, ON, [3]University of Wisconsin, Madison, WI, [4]Washington State University, Pullman, WA, [5]NCSU, Raleigh, NC (82)

†Targeted Metabolomics - A Robust Analytical Approach For Augmenting Mechanistic Insights Into Herbicide Resistance In Weeds. A. S. Maroli*[1], V. K. Nandula[2], N. Tharayil[1]; [1]Clemson University, Clemson, SC, [2]USDA, Stoneville, MS (83)

†Using RNA-Seq to Identify Candidate Resistance Genes in *Echinochloa* in Mississippi. A. A. Wright*[1], K. Showmaker[2], V. K. Nandula[3], D. Peterson[2], J. Bond[1], D. Shaw[2]; [1]Mississippi State University, Stoneville, MS, [2]Mississippi State University, Mississippi State, MS, [3]USDA, Stoneville, MS (84)

†Screening for Resistance to 20X Glyphosate in Biotypes of *Conyza canadensis* from Soybean Fields

and Non-agricultural Habitats in Ohio and Iowa. Z. T. Beres*[1], E. E. Ernst[1], A. A. Snow[1], J. T. Parrish[1], M. D. Owen[2], B. A. Ackley[1], M. M. Loux[1]; [1]Ohio State University, Columbus, OH, [2]Iowa State University, Ames, IA (85)

†Identifying Gender-Specific DNA Markers in Waterhemp *(Amaranthus tuberculatus)*. A. Sadeque*, P. Brown, P. Tranel; University of Illinois, Urbana, IL (86)

†Characterization of Multiple-Resistant Palmer amaranth in Michigan . J. R. Kohrt*[1], C. Sprague[2]; [1]Michigan State University, Okemos, MI, [2]Michigan State University, East Lansing, MI (87)

†Elucidating the Germination Mechanism of Parasitic *Orobanchaceae* Through Transcriptomics. H. Larose*[1], D. Plakhine[2], M. Yahyaa[2], H. Eizenberg[2], D. Joel[2], Y. Tadmor[2], J. Westwood[1]; [1]Virginia Tech, Blacksburg, VA, [2]Newe Yaar Research Center, ARO, Israel, Ramat Yishay, Israel (88)

†The Currency of a Thief: Metabolomic Analysis of Heterotrophic Nitrogen in Parasitic *Phelipanche aegyptiaca* . K. Clermont*, E. Collakova, J. Westwood; Virginia Tech, Blacksburg, VA (89)

Optimizing Cultured *Phelipanche* Regeneration for Research on Parasitic Weeds. R. L. Warnock*, H. Gruszewski, J. Westwood; Virginia Tech, Blacksburg, VA (90)

†Gene Flow from Glyphosate-Resistant Common Waterhemp under Field Condition. D. Sarangi*[1], A. J. Jhala[2]; [1]University of Nebraska, Lincoln, NE, [2]University of Florida, Lake Alfred, FL (91)

Weed Emergence and Population Dynamics in Alternative Irrigation Systems in California Rice. W. B. Brim-DeForest, B. A. Linquist, A. J. Fischer*; University of California, Davis, Davis, CA (92)

†Plant Size and ALS-Inhibiting Herbicide Dose Influence the Control of ALS-Resistant Shattercane Populations. R. Werle*[1], R. L. Martins[2], L. Sandell[3], J. Lindquist[1]; [1]University of Nebraska-Lincoln, Lincoln,

NE, [2]São Paulo State University, Botucatu, Brazil, [3]Valent Corporation, Lincoln, NE (93)

Section 10. Biocontrol of Weeds

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†Postemergence Control of Broadleaf Weeds With the Bioherbicide Thaxtomin A (MBI-005). J. C. Wolfe*, J. C. Neal, C. D. Harlow; NCSU, Raleigh, NC (94)

†Meta-analysis of Seed Predation by Vertebrates and Invertebrates in Seed Removal Assays. C. K. Blubaugh*, I. Kaplan; Purdue University, West Lafayette, IN (95)

Section 11. Physiology

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†Inhibition of Broomrape Development Under Low Light Intensity. A. Cochavi*[1], J. E. Ephrath[1], S. Rachmilevich[1], C. Miao[1], H. Eizenberg[2]; [1]French Associates Institute for Agriculture and Biotechnology of Drylands, Sede Boqer, Israel, [2]Newe Yaar Research Center, ARO, Israel, Ramat Yishay, Israel (96)

Genotypic Variation in Phenological Parameters of Yellow Nutsedge Populations in Response to Photoperiod. P. Tehranchian*, J. K. Norsworthy; University of Arkansas, Fayetteville, AR (97)

Did ALS Inhibitor Resistance in *Amaranthus spinosus* come from *A. palmeri*? W. Molin*[1], A. A. Wright[2], V. K. Nandula[3], J. Bond[2]; [1]USDA-ARS, Stoneville, MS, [2]Mississippi State University, Stoneville, MS, [3]USDA, Stoneville, MS (98)

Multiple Alleles for ALS Inhibitor Resistance in *Amaranthus palmeri* in Mississippi. W. Molin*[1], A. A. Wright[2], V. K. Nandula[3]; [1]USDA-ARS, Stoneville, MS, [2]Mississippi State University, Stoneville, MS, [3]USDA, Stoneville, MS (99)

†Non Target Site Resistance to ACCase Inhibitors in Grass Weeds - A New Perspective. M. Matzrafi*, B. Rubin, Z. Peleg; Hebrew University of Jerusalem, Rehovot, Israel (100)

ACCase Inhibitor Resistance in *Leptochloa fusca* spp. fascicularis (bearded sprangletop) in California Rice. W. B. Brim-DeForest, R. Alarcon-Reverte, A. J. Fischer*; University of California, Davis, Davis, CA (101)

Evidence for Fomesafen-Induced Stimulatory Effects on Germination of *Amaranthus tuberculatus* at Sub-Lethal Doses. R. Wuerffel*, B. G. Young; Southern Illinois University, Carbondale, IL (102)

†Sensitivity of Different Corn Cultivars to Foramsulfuron. A. Paporisch, B. Rubin*; Hebrew University of Jerusalem, Rehovot, Israel (103)

Confirmation of Glyphosate-Resistant Kochia in Idaho and Oregon. P. Jha*[1], D. W. Morishita[2], J. Felix[3], V. Kumar[1], M. Flenniken[4]; [1]Montana State University, Huntley, MT, [2]University of Idaho, Kimberly, ID, [3]Oregon State University, Ontario, OR, [4]Montana State University, Bozeman, MT (104)

Glyphosate Resistance in Common Ragweed from Mississippi. V. K. Nandula*[1], M. Crampton[2], V. Kalavacharla[2], J. Bond[3], T. Eubank[4]; [1]USDA, Stoneville, MS, [2]Delaware State University, Dover, DE, [3]Mississippi State University, Stoneville, MS, [4]Mycogen Seeds, Greenville, MS (105)

Mechanism of Resistance to Glyphosate in Palmer amaranth (*Amaranthus palmeri*) Populations from New Mexico. M. Mohseni-Moghadam*[1], J. Ashigh[2], J. Schroeder[2]; [1]Ohio State University, Wooster, OH, [2]New Mexico State University, Las Cruces, NM (106)

Multifactorial Herbicide Resistance in *Echinochloa phyllopogon* of California Rice Fields. A. J. Fischer*, R. Alarcon-Reverte; University of California, Davis, Davis, CA (107)

Target-site Resistance to Propanil in *Cyperus difformis* L.: Implications for Management in Rice Fields of California. R. M. Pedroso, R. Alarcon-Reverte, A. J. Fischer*; University of California, Davis, Davis, CA (108)

Rice Seedling Gene Expression in Response to Cold Stress and Herbicides. L. A. Avila*[1], C. E. Schaedler[2], L. F. Martini[1], J. A. Noldin[3], P. D. Zimmer[4], M. Zimmer[4], D. Agostinetto[4], C. T. Borges[4]; [1]Federal University of Pelotas (UFPel), Pelotas, Brazil, [2]Universidade Federal do Pampa, Itaqui, Brazil, [3]Epagri, Itajaí, Brazil, [4]Universidade Federal de Pelotas, Pelotas, Brazil (109)

†Does *EPSPS* Gene Amplification Confer Fitness Cost in Glyphosate-Resistant Kochia? V. Kumar*[1], P. Jha[1], M. Flenniken[2], S. Misra[3]; [1]Montana State University, Huntley, MT, [2]Montana State University, Bozeman, MT, [3]University of Georgia, Athens, GA (110)

Effect of Planting Time and Bispyribac-sodium on Gene Expression of Rice Seedlings. L. F. Martini[1], J. A. Noldin*[2], L. A. Avila[1], C. E. Schaedler[3], C. T. Borges[4], P. D. Zimmer[4], D. Agostinetto[4]; [1]Federal University of Pelotas (UFPel), Pelotas, Brazil, [2]Epagri, Itajaí, Brazil, [3]Universidade Federal do Pampa, Itaqui, Brazil, [4]Universidade Federal de Pelotas, Pelotas, Brazil (111)

Physiological Effects of Glufosinate Ammonium on Conventional, Glufosinate-resistant and Widestrike® Cotton. C. A. Carbonari*[1], D. O. Latorre[1], A. L. Cavenaghi[2], E. D. Velini[1], G. L. Gomes[3]; [1]Faculdade de Ciências Agronômicas / UNESP, Botucatu, Brazil, [2]UNIVAG, Cuiabá, Brazil, [3]Faculdade de Ciências Agronômicas / UNESP, Botucatu, Brazil (112)

Development of PCR Based Tests to Identify Weedy *Amaranthus* Species. A. A. Wright[1], W. Molin*[2], V. K. Nandula[3]; [1]Mississippi State University, Stoneville, MS, [2]USDA-ARS, Stoneville, MS, [3]USDA, Stoneville, MS (113)

Statewide Postemergence Screening for PPO Inhibitor Resistance in Pigweeds in Mississippi. V. K. Nandula*[1], A. A. Wright[2], W. Molin[3]; [1]USDA, Stoneville, MS, [2]Mississippi State University, Stoneville, MS, [3]USDA-ARS, Stoneville, MS (114)

†Conventional Soybean Grafted to Glyphosate-resistant Rootstock Express Herbicide Tolerance at the Whole-plant Level. Y. Chen*[1], J. Blakeslee[1], D. Doohan[2]; [1]The Ohio State University, Wooster, OH, [2]Ohio State University, Wooster, OH (115)

†Methiozolin and Tyrosine Aminotransferases (TATs). C. Brabham, J. Gollihue*, S. Debolt, M. Barrett; University of Kentucky, Lexington, KY (116)

†Effect of Drought on Host Parasite Relationship in *Phelipanche aegyptiaca*: Physiological Study. A. Cochavi*[1], J. E. Ephrath[2], S. Rachmilevich[2], H. Eizenberg[3]; [1]French Associates Institute for Agriculture and Biotechnology of Drylands, Sede Boqer, Israel, [2]French Associates Institute for Agriculture and Biotechnology of Drylands, Sede Boqer, Israel, [3]Newe Yaar Research Center, ARO, Israel, Ramat Yishay, Israel (117)

Section 12. Soil and Environmental Aspects

***PRESENTER † STUDENT POSTER CONTEST**

†Rates of Arsenic Speciation Transformation Following Monosodium Methyl Arsenate Application to Soils. L. Ou*, D. Mahoney, T. Gannon, D. L. Hesterberg, M. L. Polizzottoo; NCSU, Raleigh, NC (118)

†Nitrous Oxide Output Based on Weed Management Systems. A. M. Knight*[1], W. J. Everman[1], S. C. Reberg-Horton[2], S. Hu[2], D. L. Jordan[1], N. Creamer[2]; [1]NCSU, Raleigh, NC, [2]North Carolina State University, Raleigh, NC (119)

The Environmental Impact Quotient (EIQ) Should Not Be Used to Compare Herbicides. A. R. Kniss*, C. M. Coburn; University of Wyoming, Laramie, WY (120)

Section 13. Integrated Weed Management

***PRESENTER † STUDENT POSTER CONTEST**

Competitive and Weed Suppressive Effects of Cover Crops in Mixture and Monoculture. A. A. Holmes, S. E. Wortman*; University of Illinois at Urbana - Champaign, Urbana, IL (121)

Effect of Cover Crops on the Relative Cover and Weed Biomass. H. A. Acciaresi*[1], G. Picapietra[2]; [1]Instituto Nacional Tecnologia Agropecuaria, Pergamino, Argentina, [2]UNNOBA-INTA, Pergamino, Argentina (122)

Differential Response to Glufosinate and Oxifluorfen in Glyphosate-Resistant Grass Weed Species. P. T. Fernández-Moreno[1], R. Alcántara de la Cruz[1], M. M. Trezzi[2], J. Menéndez Calle[3], R. A. De Prado*[1]; [1]Universidad de Córdoba, Córdoba, Spain, [2]Universidade Tecnologica Federal Do Parana, Pato Branco, Brazil, [3]Universidad de Huelva, Huelva, Spain (123)

Glyphosate Resistance Variability in *Chloris* spp Collected in Cuba. R. Alcántara de la Cruz*[1], P. T. Fernández-Moreno[1], M. M. Trezzi[2], J. Menéndez Calle[3], R. A. De Prado[1]; [1]Universidad de Córdoba, Córdoba, Spain, [2]Universidade Tecnologica Federal Do Parana, Pato Branco, Brazil, [3]Universidad de Huelva, Huelva, Spain (124)

Response to Glyphosate in *Borreria latifolia* Populations from Brazil. F. Diesel[1], M. Gallon[1], R. Alcántara de la Cruz[2], P. T. Fernández-Moreno[2], M. M. Trezzi*[1], R. A. De Prado[2]; [1]Universidade Tecnologica Federal Do Parana, Pato Branco, Brazil, [2]Universidad de Córdoba, Córdoba, Spain (125)

Quick Tests: Glyphosate-Resistant Kochia and Pinoxaden-Resistant Grass Weeds. J. Pratchler*[1], S. W. Shirriff[2], H. J. Beckie[2]; [1]University of Saskatchewan, Saskatoon, SK, [2]Agriculture and Agri-Food Canada, Saskatoon, SK (126)

Palmer Amaranth in California: Planning Ahead for Glyphosate Resistance Management. S. I. Rios[1], S. D. Wright[2], A. Ferry-Abee[2], G. Banuelos[2], E. Padilla[2], S. Parry[2], A. Shrestha*[3]; [1]University of California Cooperative Extension-Riverside County, Fresno, CA, [2]University of California Cooperative Extension-Tulare/ Kings Counties, Tulare, CA, [3]California State University, Fresno, CA (127)

Cross Resistance to ACCase Herbicides in *Eleusine indica* Biotypes Collected in Brazil. P. T. Fernández-Moreno[1], R. Alcántara de la Cruz[1], M. M. Trezzi[2], J. Menéndez Calle[3], R. A. De Prado*[1]; [1]Universidad de Córdoba, Córdoba, Spain, [2]Universidade Tecnologica Federal Do Parana, Pato Branco, Brazil, [3]Universidad de Huelva, Huelva, Spain (128)

Performance of Weed Management Systems Without Atrazine in North American Processing Sweet Corn. Z. F. Arslan*[1], R. Becker[2], V. A. Fritz[3], R. E. Peachey[4], T. L. Rabaey[5], M. M. Williams II[6]; [1]University of Illinois, Urbana, IL, [2]University of Minnesota, St. Paul, MN, [3]University of Minnesota, Waseca, MN, [4]Oregon State University, Corvallis, OR, [5]University of Minnesota, LeSueur, MN, [6]USDA-ARS, Urbana, IL (129)

†Atrazine and Pendimethalin Weed Control is Reduced in Soils Amended with Biochar. N. Soni*[1], R. G. Leon[1], J. E. Erickson[2], J. A. Ferrell[2], M. L. Silveira[3]; [1]University of Florida, Jay, FL, [2]University of Florida, Gainesville, FL, [3]University of Florida, Ona, FL (130)

†Influence of Tillage Methods on Management of *Amaranthus* Species in Soybean. J. Farmer*[1], V. M. Davis[2], W. Johnson[3], M. M. Loux[4], J. K. Norsworthy[5], L. E. Steckel[6], K. Bradley[1]; [1]University of Missouri, Columbia, MO, [2]University of Wisconsin, Madison, WI, [3]Purdue University, West Lafayette, IN, [4]Ohio State University, Columbus, OH, [5]University of Arkansas, Fayetteville, AR, [6]University of Tennessee, Jackson, TN (131)

Role of *Bacillus* and *Pseudomonas* spp on the Management of *Phalaris minor*. S. Singh*, M. Phour, S. S. Sindhu; CCS Haryana Agricultural University, Hisar, India (132)

†Carryover of Common Corn and Soybean Herbicides to Various Cover Crop Species in Missouri. C. Cornelius*, J. Farmer, M. D. Bish, A. Long, M. Biggs, K. Bradley; University of Missouri, Columbia, MO (133)

Application Timing Effect on Sicklepod and Morningglory Control and Seed Production of Surviving Plants after Applications with Glyphosate, 2,4-D, and Dicamba Combinations. R. G. Leon*[1], J. A. Ferrell[2]; [1]University of Florida, Jay, FL, [2]University of Florida, Gainesville, FL (134)

Drip Herbigation of Imazapic Based on Degree Days Model for Egyptian Broomrape (*Phelipanche aegyptiaca*) Control in Processing Tomato in Israel. E. Avivi*[1], G. Achdari[2], Y. Kleifeld[3], H. Eizenberg[4]; [1]Ein Harod farm R&D, Kibutz Ein Harod, Israel, [2]Department of Weed Research and Phytopathology, Ramat Yishay,

Israel, [3]Netafim Ltd R&D, Tel Aviv, Israel, [4]Newe Yaar Research Center, ARO, Israel, Ramat Yishay, Israel (135)

TUESDAY MORNING FEBRUARY 10
Integration of 'Omics' Approaches in Weed Science Research

LOCATION: Bluegrass Ballroom 1
TIME: 10:15 AM - 12:00 PM
CHAIR: Nishanth Tharayil
Clemson University
Clemson, SC

***SPEAKER**

10:15 Introduction

10:30 Constraints and Opportunities for Genomics in Weed Science. P. Tranel*; University of Illinois, Urbana, IL (136)

11:00 Translating Population Genomics Models to Inform Weedy Species Management. A. L. Lawton-Rauh*; Clemson University, Clemson, SC (137)

11:30 Genes Regulating Parasitism in Cuscuta. N. Sinha*; University of California, Davis, Davis, CA (138)

TUESDAY MORNING FEBRUARY 10
Section 1. Agronomic Crops

LOCATION: Thoroughbred 1
TIME: 10:00 AM - 12:00 PM
CHAIR: Jonathan Huff
Dow AgroSciences
Herrin, IL

***SPEAKER**

10:00 Residual Control of Waterhemp with Dicamba. S. T. Logan*[1], S. M. Allen[2], T. D. White[3], J. L. Matthews[4], J.M. Young[5], B. G. Young[5]; [1]Monsanto Company, Pinckneyville, IL, [2]Monsanto Company, Bonnie, IL,[3] Monsanto Company, St. Louis, MO,[4] Southern Illinois University, Carbondale, IL, [5]Purdue University, West Lafayette, IN (139)

10:15 Utility of Valent Herbicide Portfolio in a Dicamba or 2,4-D Traited Soybean System. D. Refsell*[1], J. Pawlak[2]; [1]Valent USA, Lathrop, MO, [2]Valent USA, Lansing, MI (140)

10:30 Remotely Sensed Spectral Characterization of Soybean Response to Simulated Dicamba Drift. K. N. Reddy*[1], Y. Huang[2]; [1]USDA, Stoneville, MS, [2]USDA-ARS, Stoneville, MS (141)

10:45 Management of Glyphosate-Resistant Palmer Amaranth in Cotton with Dicamba. M. D. Inman*, D. L. Jordan, A. C. York, W. J. Everman, K. Jennings, D. W. Monks; NCSU, Raleigh, NC (142)

11:00 Application Stewardship of Engenia™ Herbicide in Dicamba Tolerant Crops. D. Westberg*, C. Feng, C. Brommer, W. E. Thomas; BASF Corporation, Research Triangle Park, NC (143)

11:15 Weed Management Stewardship of Engenia™ Herbicide in Dicamba Tolerant Crops. C. Brommer*[1], J. Frihauf[2], S. Bowe[1]; [1]BASF Corporation, Research Triangle Park, NC, [2]BASF Corporation, Raleigh, NC (144)

11:30 Enlist™ Technology in Texas High Plains Cotton. M. R. Manuchehri*[1], P. A. Dotray[2], J. Keeling[3], T. Morris[4], M. L. Lovelace[5]; [1]Texas Tech University, Lubbock, TX, [2]Texas Tech University, Texas A&M AgriLife Research and Extension Service, Lubbock, TX, [3]Texas A&M AgriLife Extension Service, Lubbock, TX, [4]Texas A&M AgriLife Research, Lubbock, TX, [5]Dow AgroSciences, Lubbock, TX (145)

11:45 Control of Glyphosate-resistant Giant Ragweed in Soybean Tolerant to 2,4-D, Glufosinate and Glyphosate. A. J. Jhala*[1], K. Rosenbaum[2]; [1]University of Florida, Lake Alfred, FL, [2]Dow AgroSciences, Lincoln, NE (146)

TUESDAY MORNING FEBRUARY 10
Section 4. Pasture, Rangeland, Forest, and Rights of Way

LOCATION: Thoroughbred 2
TIME: 10:00 AM - 12:00 PM
CHAIR: Joe Omielan
University of Kentucky
Lexington, KY

***SPEAKER**

10:00 Are Multi-cultivar Forage Stands More Effective at Suppressing Weedy Species than Single Cultivar Stands? F. W. Pollnac*, R. G. Smith, N. Warren; University of New Hampshire, Durham, NH (147)

10:15 Translocation and Metabolism of 2,4-D in Sensitive and Tolerant Red Clover (*Trifolium pratense*) Lines. T. L. Burke*, M. Barrett; University of Kentucky, Lexington, KY (148)

10:30 Aminocyclopyrachlor Plus Metsulfuron Reduces Tall Fescue Seed Heads and Improves Forage Quality. T. D. Israel*, G. Rhodes, Jr., T. C. Mueller, G. E. Bates, J. C. Waller; University of Tennessee, Knoxville, TN (149)

10:45 Evaluation of Derigo (foramsulfuron + iodosulfuron + thiencarbazone) for Weed Control in Grassy Roadsides in Georgia. P. McCullough*; University of Georgia, Griffin, GA (150)

11:00 Japanese knotweed (*Fallopia* spp.) Congener Stand Reduction Following Mid-season Herbicide Treatments - Year One. A. Z. Skibo*[1], M. J. VanGessel[2], M. Yost[3]; [1]SePRO Corporation, Fort Collins, CO, [2]University of Delaware, Georgetown, DE, [3]DNREC, Dover, DE (151)

11:15 Brownout Following Application of Mixtures with Saflufenacil in Forestry Site Preparation Activities. A. W. Ezell*[1], A. B. Self[2]; [1]Mississippi State University, Starkville, MS, [2]Mississippi State University, Grenada, MS (152)

11:30 Herbicides for Hardwood Management- A Compilation of Research Studies. A. W. Ezell*; Mississippi State University, Starkville, MS (153)

11:45 Section Business Meeting

TUESDAY MORNING FEBRUARY 10
Section 8. Formulation, Adjuvant and Application Technology

LOCATION: Thoroughbred 3
TIME: 10:00 AM - 11:15 AM
CHAIR: Susan Sun
AkzoNobel Surface Chemistry
Brewster, NY

***SPEAKER**

10:00 Application Best Management Practices for Balancing Drift Mitigation and Weed Control with the Enlist Weed Control System. D. E. Hillger*[1], A. Asbury[2], P. Havens[3], R. Keller[4], J. Laffey[5], R. Lassiter[6], J. Schleier[3], J. Siebert[7]; [1]Dow AgroSciences, Noblesville, IN, [2]Dow AgroSciences, Dahinda, IL, [3]Dow AgroSciences, Indianapolis, IN, [4]Dow AgroSciences, Rochester, MN, [5]Dow AgroSciences, Maryville, MO, [6]Dow AgroSciences, Raleigh, NC, [7]Dow AgroSciences, Greenville, MS (154)

10:15 Exploring the Potential for Selectivity in Bermudagrass Using Microwave Radiations for Weed Control. A. Rana*, J. Derr; Virginia Tech, Virginia Beach, VA (155)

10:30 Influence of Carrier Water pH and Foliar Fertilizers on Weed Control with Postemergence Herbicides. P. Devkota*, W. Johnson; Purdue University, West Lafayette, IN (156)

10:45 Evaluation of Physical Drift and Vapor Drift of Several Dicamba and 2,4-D Formulations and the Impact of Volatility Reduction Adjuvants. S. K. Parrish*[1], J. T. Daniel[2], P. Westra[3]; [1]AgraSyst Inc, Spokane, WA, [2]Agricultural Consultant, Keenesburg, CO, [3]Colorado State University, Ft. Collins, CO (157)

11:00 Section Business Meeting

TUESDAY MORNING FEBRUARY 10
Section 6. Regulatory Aspects

LOCATION: Thoroughbred 3
TIME: 11:15 AM - 12:15 PM
CHAIR: Chris Dionigi
National Invasive Species Council
Washington, DC

***SPEAKER**

11:15 Interdepartment Coordination of Invasive Plant Policy and Regulation. C. P. Dionigi*; National Invasive Species Council, Washington, DC (158)

11:30 APHIS Update on Not Allowed import Pending Pest Risk Analysis category: Rounds 2 and 3. A. V. Tasker*; USDA, APHIS, Plant Protection & Quarantine, Riverdale, MD (159)

11:45 The PPQ Weed Risk Assessment Model: Current Status and Use. A. L. Koop*[1], L. Kohl[1], L. Newton[1], B. Caton[1], L. Miller[1], B. Randall-Schadel[1], I. Baez[1], S. Emerine[2]; [1]USDA-APHIS, Raleigh, NC, [2]NCSU, Raleigh, NC (160)

12:00 Section Business Meeting

TUESDAY AFTERNOON FEBRUARY 10
Graduate Student Luncheon

LOCATION: Thoroughbred 4
TIME: 12:00 PM - 1:30 PM

TUESDAY AFTERNOON FEBRUARY 10
Integration of 'Omics' Approaches in Weed Science Research

LOCATION: Bluegrass Ballroom 1
TIME: 1:30 PM - 4:30 PM
CHAIR: Nishanth Tharayil
Clemson University
Clemson, SC

***SPEAKER**

1:30 Transcriptomic Approaches to Investigate Dormancy in Underground Adventitious Buds of Perennial Weeds. M. E. Foley*, M. Dogramaci, D. Horvath, W. S. Chao, J. V. Anderson; USDA-ARS, Fargo, ND (161)

2:00 Transcriptomic Approaches to Study Herbicide Resistance in Weeds. T. A. Gaines*; Colorado State University, Ft. Collins, CO (162)

2:30 Using Omics Approaches to Study Non-target Glyphosate Resistance in Horseweed (*Conyza canadensis*). Y. Peng*[1], Y. Sang[1], R. Ye[1], Q. Jia[1], S. Allen[1], D. Sammons[2], N. Stewart[1]; [1]University of Tennessee, Knoxville, TN, [2]Monsanto, St. Louis, MO (163)

3:00 Break

3:15 Omics Approaches to Natural Products Research. S. O. Duke*; USDA, ARS, Oxford, MS (164)

3:45 Herbicide Resistance and Tolerance in Weeds: Insights from Metabolomics and Enzyme Analysis. N. Tharayil*, A. S. Maroli; Clemson University, Clemson, SC (165)

4:15 Panel Discussion

TUESDAY AFTERNOON FEBRUARY 10
Section 1. Agronomic Crops

LOCATION: Thoroughbred 1
TIME: 1:30 PM - 5:00 PM
CHAIR: Jonathan Huff
Dow AgroSciences
Herrin, IL
MODERATOR: Chase Samples
Mississippi State Univ
Mississippi State, MS

***SPEAKER**

1:30 An Update on HPPD-resistance in AMAPA and AMATA Populations. C. L. Dunne*[1], R. Jain[1], V. K. Shivrain[2], G. D. Vail[2]; [1]Syngenta Crop Protection, Vero Beach, FL, [2]Syngenta Crop Protection, Greensboro, NC (166)

1:45 Evaluation of Weed Control Programs Utilizing HPPD-Tolerant Soybeans. J. C. Holloway*[1], D. E. Bruns[2], T. H. Beckett[3], B. R. Miller[4], D. J. Porter[5]; [1]Syngenta Crop Protection, Jackson, TN, [2]Syngenta Crop Protection, LLC, Marysville, OH, [3]Syngenta Crop Protection, Greensboro, NC, [4]Syngenta Crop Protection, LLC, Minneapolis, MN, [5]Syngenta Crop Protection, LLC, Greensboro, NC (167)

2:00 Palmer Amaranth Soil Seedbank Management: Integrating Harvest Weed Seed Control Strategies and other Fall Practices with Herbicides. J. K. Norsworthy*[1], M. Walsh[2], S. Powles[2]; [1]University of Arkansas, Fayetteville, AR, [2]University of Western Australia, Perth, Australia (168)

2:15 Interaction of Soil-Residual Herbicide Combinations and Rates on the Control of Waterhemp and Soybean Growth and Development. N. T. Harre*[1], J. L. Matthews[2], J. M. Young[1], M. L. Bernards[3], A. G. Hager[4], B. G. Young[2]; [1]Purdue University, West Lafayette, IN, [2]Southern Illinois University, Carbondale, IL, [3]Western Illinois University, Macomb, IL, [4]University of Illinois, Urbana, IL (169)

2:30 Seedling Soybean Bioassay for Evaluation of Tolerance to Metribuzin. T. L. Grey*; University of Georgia, Tifton, GA (170)

2:45 Using Dose-response Curves on Continuous Data to Assess Resistance in Weed Biotypes. J. C. Streibig*[1], A. R. Kniss[2]; [1]University of Copenhagen, Taastrup, Denmark, [2]University of Wyoming, Laramie, WY (171)

3:00 Break

3:15 Control of Glyphosate Resistant Horseweed and Giant Ragweed in the Same Field of Soybean. P. H. Sikkema*, N. Soltani; University of Guelph, Ridgetown, ON (172)

3:30 Influence of Cover Crops on Management of *Amaranthus* spp. in Soybeans. M. M. Loux*[1], A. Dobbels[1], K. Bradley[2], V. M. Davis[3], W. Johnson[4], J. K. Norsworthy[5], L. E. Steckel[6], B. G. Young[7]; [1]Ohio State University, Columbus, OH, [2]University of Missouri, Columbia, MO, [3]University of Wisconsin, Madison, WI,

[4]Purdue University, West Lafayette, IN, [5]University of Arkansas, Fayetteville, AR, [6]University of Tennessee, Jackson, TN, [7]Southern Illinois University, Carbondale, IL (173)

3:45 Cover Crop Establishment Issues Following Corn and Soybean Herbicides in the Upper Midwest. D. H. Smith*[1], T. R. Legleiter[2], E. J. Bosak[1], W. Johnson[2], V. M. Davis[1]; [1]University of Wisconsin, Madison, WI, [2]Purdue University, West Lafayette, IN (174)

4:00 A New Glyphosate Resistant Weed Species Confirmed for Northern NSW (AUSTRALIA) and the World – Common Sowthistle (*Sonchus Oleraceus*). T. S. Cook*, W. P. Davidson, B. L. Miller; NSW Weed Society, Tamworth, Australia (175)

4:15 Herbicide Resistant *Lolium* spp. in Italy and Mediterranean Area. A. Collavo*, R. Beffa, H. Strek; BayerCropScience AG Frankfurt, Frankfurt, Germany (176)

4:30 Pyroxasulfone Rate and Timing Effects on Italian Ryegrass Control in Wheat. A. M. Knight*[1], Z. Taylor[2], L. Grier[2], W. J. Everman[1]; [1]NCSU, Raleigh, NC, [2]North Carolina State University, Raleigh, NC (177)

4:45 Section Business Meeting

TUESDAY AFTERNOON FEBRUARY 10
Section 5. Wildland and Aquatic Invasive Plants

LOCATION: Thoroughbred 3
TIME: 1:30 PM - 4:00 PM
CHAIR: John Madsen
USDA ARS
Davis, CA

***SPEAKER**

1:30 Control of Brazilian Peppertree and Australian-pine using Aminocyclpyrachlor. B. A. Sellers*[1], J. A. Ferrell[2], G. E. MacDonald[2]; [1]University of Florida, Ona, FL, [2]University of Florida, Gainesville, FL (178)

1:45 Operational Use of Herbicide Ballistic Technology (HBT) on a Helicopter Platform Reducing Nascent Miconia (*Miconia calvescens* DC) populations in the East Maui Watershed. J. Leary*[1], J. Gooding[2], B. Mahnken[3], R. Rodriguez[4], D. Jenkins[4]; [1]University of Hawaii, Kula, HI, [2]Haleakala National Park, Makawao, HI, [3]Maui Invasive Species Committee, Piiholo, HI, [4]University of Hawaii at Manoa, Honolulu, HI (179)

2:00 Nuisance Aquatic Vegetation Control: Implications for Fish and Wildlife. R. S. Haynie*[1], S. B. Wilde[2], S. R. Dodd[3]; [1]SePRO Corporation, Carmel, IN, [2]University of Georgia, Athens, GA, [3]Nutter and Associates, Inc., Athens, GA (180)

2:15 The Potential Impacts of Evolution on Eurasian Watermilfoil Management. R. A. Thum*[1], L. A. Schulte[2], S. Parks[2], J. N. McNair[2]; [1]Montana State University, Bozeman, MT, [2]Grand Valley State University, Muskegon, MI (181)

2:30 Laboratory Studies and Recent Field Monitoring and Assessment of Sonar® (a.i., fluridone) Efficacy for Control and Eradication of New Infestations of Monoecious Hydrilla. M. A. Heilman*[1], M. D. Netherland[2], R. J. Richardson[3], J. J. Nawrocki[3]; [1]SePRO Corporation, Carmel, IN, [2]US Army Engineer Research and Development Center, Gainesville, FL, [3]NCSU, Raleigh, NC (182)

2:45 Effectiveness of Long-term Monoecious Hydrilla Management Programs in North Carolina. R. J. Richardson*, J. J. Nawrocki; NCSU, Raleigh, NC (183)

3:00 Break

3:15 Spectrum and Efficacy of Stingray[R] for Aquatic and Riparian Use Patterns. A. Z. Skibo*[1], B. Willis[2]; [1]SePRO Corporation, Fort Collins, CO, [2]SePRO Research & Technology Campus, Whitakers, NC (184)

3:30 Developing Long-term Control Techniques for Flowering Rush: Mesocosm Trials and Field Implementation. J. D. Madsen*[1], K. D. Getsinger[2], G. Turnage[3]; [1]USDA ARS, Davis, CA, [2]US Army Engineer Research and Development Center, Vicksburg, MS, [3]Mississippi State University, Mississippi State, MS (185)

3:45 Section Business Meeting

TUESDAY AFTERNOON FEBRUARY 10
Section 13. Integrated Weed Management

LOCATION: Thoroughbred 2
TIME: 1:30 PM - 5:00 PM
CHAIR: Anil Shrestha
California State University
Fresno, CA

***SPEAKER**

1:30 Herbicide Mixture and Sequential Application for Managing Resistant *Phalaris minor*. S. Singh*; CCS Haryana Agricultural University, Hisar, India (186)

1:45 Integrated Management of Glyphosate-Resistant Giant Ragweed with Tillage and Herbicides in Corn. Z. A. Ganie*[1], L. Sandell[2], J. Lindquist[1], G. R. Kruger[3], M. Jugulam[4], D. B. Marx[5], A. J. Jhala[6]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Valent Corporation, Lincoln, NE, [3]University of Nebraska-Lincoln, North Platte, NE, [4]Kansas State University, Manhattan, KS, [5]University of Nebraska-Lincoln, USA, Lincoln, NE, [6]University of Florida, Lake Alfred, FL (187)

2:00 Management of Difficult-to-control Weeds in Wheat (*Triticum aestivum* L.) in Northern India. M. S. Bhullar*, T. Kaur, S. Kaur; Punjab Agricultural University, Ludhiana, India (188)

2:15 Intra-specific Variation for Postemergence Herbicide Tolerance in Peanut. R. G. Leon*[1], B. L. Tillman[2]; [1]University of Florida, Jay, FL, [2]University of Florida, Marianna, FL (189)

2:30 The Weed Seed Bank is More Diverse and Dynamic in a Sod-based than a Conventional Peanut-Cotton Rotation. R. G. Leon*[1], D. L. Wright[2], J. J. Marois[2]; [1]University of Florida, Jay, FL, [2]University of Florida, Quincy, FL (190)

2:45 Early Season Weed Control- Getting to the Root of the Problem. J. Gal, M. Afifi, E. Lee, L. Lukens, C. J. Swanton*; University of Guelph, Guelph, ON (191)

3:00 Break

3:15 A Decision Support System for Egyptian Broomrape (*Phelipanche aegyptiaca*) Control in Processing Tomato in Israel. H. Eizenberg*[1], G. Achdari[2], Y. Kleifeld[3], E. Avivi[4]; [1]Newe Yaar Research Center, ARO, Israel, Ramat Yishay, Israel, [2]Department of Weed Research and Phytopathology, Ramat Yishay, Israel, [3]Netafim Ltd R&D, Tel Aviv, Israel, [4]Ein Harod farm R&D, Kibutz Ein Harod, Israel (192)

3:30 Growth, Reproduction, and Weed Risk Assessment Scoring of Energycane (*Saccharum* spp.× *Saccharum spontaneum*) Clones Vary When Grown in Tropical vs. Subtropical Conditions. R. G. Leon*[1], R. A. Gilbert[2], J. C. Comstock[3]; [1]University of Florida, Jay, FL, [2]University of Florida, Gainesville, FL, [3]USDA-ARS, Canal Point, FL (193)

3:45 Intelligent Cultivators- New Tool for Improved IWM in Vegetable Crops. R. N. Lati*[1], S. A. Fennimore[2]; [1]UC Davis, Salinas, CA, [2]University of California Davis, Salinas, CA (194)

4:00 Weed Management in Strip-tilled Sweet Corn and Cabbage. E. Haramoto*[1], D. Brainard[2]; [1]University of Kentucky, Lexington, KY, [2]Michigan State University, East Lansing, MI (195)

4:15 Blasting the Competition Away: Abrasive Weed Management in Organic Vegetable Cropping Systems. S. E. Wortman*; University of Illinois at Urbana - Champaign, Urbana, IL (196)

4:30 Influence of Cover Crop Termination Timing and High-residue Cultivation on Weed Communities in a Reduced-till Organic Grain System. J. M. Wallace*[1], M. Ryan[2], C. L. Keene[3], S. Mirsky[4], M. J. VanGessel[5], W. S. Curran[3]; [1]Pennsylvania State University, State College, PA, [2]Cornell University, Ithaca, NY, [3]Penn State University, University Park, PA, [4]USDA, Beltsville, MD, [5]University of Delaware, Georgetown, DE (197)

4:45 Section Business Meeting

TUESDAY AFTERNOON FEBRUARY 10
Section 10. Biocontrol of Weeds

LOCATION: Thoroughbred 3
TIME: 4:15 PM - 5:00 PM
CHAIR: Roger Becker
Univ. of Minnesota
St. Paul, MN

***SPEAKER**

4:15 Major Invasive Plant Species on Guam and Biological Control. G. Wiecko[1], G. Reddy*[2]; [1]University of Guam, Mangilao, GU, [2]Montana State University, Conrad, MT (198)

4:30 Putting Weed Seed Predators to the Test: Weed Germination Reductions Attributable to Vertebrate and Invertebrate Granivores in Fallow Systems. C. K. Blubaugh*, I. Kaplan; Purdue University, West Lafayette, IN (199)

4:45 Section Business Meeting

WEDNESDAY MORNING FEBRUARY 11
Section 1. Agronomic Crops

LOCATION: Thoroughbred 1
TIME: 10:00 AM - 12:00 PM
CHAIR: Jonathan Huff
Dow AgroSciences
Herrin, IL
MODERATOR: Drake Copeland
Mississippi State Univ
Mississippi State, MS

***SPEAKER**

10:00 Provisia™ Rice System; Weed Management Strategies for Rice. C. Youmans*[1], J. Guice[2], S. Bowe[3], G. Armel[3], L. Mankin[3], D. Carlson[3], J. Harden[3]; [1]BASF Corporation, Dyersburg, TN, [2]BASF Corporation, Winnsboro, LA, [3]BASF Corporation, Research Triangle Park, NC (200)

10:15 Introduction to a New Arylpicolinate Herbicide from Dow AgroSciences with Utility in Rice and Other Crops. M. R. Weimer*, C. N. Yerkes, P. R. Schmitzer, R.

K. Mann; Dow AgroSciences, Indianapolis, IN (201)

10:30 Discovery of a New Arylpicolinate Herbicide from Dow AgroSciences with Utility in Rice. C. N. Yerkes*, G. J. Deboer, C. T. Lowe, K. Myung, P. R. Schmitzer; Dow AgroSciences, Indianapolis, IN (202)

10:45 Field and Laboratory Characterization of the Soil Persistance and Activity of a New Arylpicolinate Herbicide. M. Miller*, J. K. Norsworthy; University of Arkansas, Fayetteville, AR (203)

11:00 Utility of a New Arylpicolinate Herbicide from Dow AgroSciences in U.S. Mid-South Rice. D. H. Perry*[1], A. T. Ellis[2], V. B. Langston[3], R. Lassiter[4], G. D. Thompson[5], R. P. Viator[6], L. C. Walton[7], M. R. Weimer[8]; [1]Dow AgroSciences, Greenville, MS, [2]Dow AgroSciences, Arlington, TN, [3]Dow AgroSciences, Woodlands, TX, [4]Dow AgroSciences, Raleigh, NC, [5]Dow AgroSciences, Omaha, AR, [6]Dow AgroSciences, Houma, LA, [7]Dow AgroSciences, Fulton, MS, [8]Dow AgroSciences, Indianapolis, IN (204)

11:15 Optimizing the Activity of a New Arylpicolinate Herbicide for Use in Rice. M. Miller*, J. K. Norsworthy; University of Arkansas, Fayetteville, AR (205)

11:30 Analysis of Putative Herbicide Tolerant Accessions of *Echinochloa oryzoides* (Ard.) Fritsch. in Rice. E. K. Altop[1], H. Mennan[2], J. C. Streibig*[3], U. Budaka[1], C. Ritz[4]; [1]Ondokuz Mayýs University, Agriculture Faculty, Samsun, Turkey, [2]Ondokuz Mayýs University, Agriculture Faculty, Samsun, Turkey, [3]University of Copenhagen, Taastrup, Denmark, [4]University of Copenhagen, Frederiksberg, Denmark (206)

11:45 ALS Resistance in Loose Silky Bentgrass (*Apera spica-venti*) - Growing Issue for European Small Grain Production. J. Soukup*, K. Hamouzova, M. Jursik, P. Kosnarova; Czech University of Life Sciences Prague, Prague, Czech Republic (207)

WEDNESDAY MORNING FEBRUARY 11
Section 9. Weed Biology and Ecology

LOCATION: Thoroughbred 3
TIME: 10:00 AM - 12:00 PM
CHAIR: Carlene Chase
University of Florida
Gainesville, FL

***SPEAKER**

10:00 Promoting Adoption of Cover Crops for Weed Suppression by Broadening Their Utility. C. A. Chase*, G. B. Braz, M. E. Swisher; University of Florida, Gainesville, FL (208)

10:15 Environmental Correlates with Weed Seed Bank Community Composition in Organic Vegetable Farms across Northern New England. R. G. Smith*[1], E. R. Gallandt[2], S. C. Bosworth[3], T. M. Davis[1], B. Brown[2], E. Venturini[2], N. Warren[1], A. Hazelrigg[3]; [1]University of New Hampshire, Durham, NH, [2]University of Maine, Orono, ME, [3]University of Vermont, Burlington, VT (209)

10:30 Weed Seed Survival in Corn and Alfalfa Silage: An Evaluation Using Experimental Mini-silos. M. Simard*[1], C. Lambert-Beaudet[2]; [1]Agriculture and Agri-Food Canada, Saint-Jean-sur-Richelieu, QC, [2]Université Laval, Quebec, QC (210)

10:45 USDA Biofuel Review Process. J. Jones*; USDA-APHIS, Riverdale, MD (211)

11:00 *Ambrosia Confertiflora* - An Invasive Weed in Israel. Y. Yair*, M. Sibony, B. Rubin; Hebrew University of Jerusalem, Rehovot, Israel (212)

11:15 Recent Invasions of *Parthenium hysterophorus* in Natural and Agroecosystems in Nepal. J. D. Ranjit[1], S. Pokhrel[2], A. Shrestha*[3]; [1]Nepal Agricultural Research Council, Kathmandu, Nepal, [2]Winrock International - Nepal, Lalitpur, Nepal, [3]California State University, Fresno, CA (213)

11:30 Phenotypic Differentiation, Plasticity, and a Surprising Habitat Shift in One of the World's Worst Weeds. J. N. Barney*[1], D. Atwater[1], U. Sezen[2], A. Paterson[2]; [1]Virginia Tech, Blacksburg, VA, [2]University of Georgia, Athens, GA (214)

11:45 Natural Selection on Morphological Traits of Roadside Weed Populations in Southwestern United States. B. Alfaro*; University of New Mexico, Albuquerque, NM (215)

WEDNESDAY MORNING FEBRUARY 11
Section 11. Physiology

LOCATION: Thoroughbred 5-7
TIME: 10:00 AM - 12:00 PM
CHAIR: Roland Beffa
Bayer CropScience
Frankfurt, Germany

***SPEAKER**

10:00 A Primer on Understanding Glyphosate Translocation and Resistance. D. Sammons*[1], A. Herr[1], R. Eilers[1], D. Wang[1], E. Ostrander[2]; [1]Monsanto, St. Louis, MO, [2]Washington University, St. Louis, MO (216)

10:15 Not All Who Wander Are Lost: A BAC-based Pursuit for the Full Sequence of the EPSPS Glyphosate Resistance Element in *Amaranthus palmeri*. W. Molin*[1], A. A. Wright[2], C. Saski[3]; [1]USDA-ARS, Stoneville, MS, [2]Mississippi State University, Stoneville, MS, [3]Clemson University, Clemson, SC (217)

10:30 Extending the EPSPS Amplicon: Steps Towards Defining the Duplication Mechanism. D. A. Giacomini*[1], N. Tao[2], T. Ulmasov[2], P. Latreille[2], R. Kerstetter[2], S. M. Ward[1], P. Westra[1], D. Sammons[3]; [1]Colorado State University, Ft. Collins, CO, [2]Monsanto, Chesterfield, MO, [3]Monsanto, St. Louis, MO (218)

10:45 Configuration of EPSPS Gene Copies on Glyphosate-resistant Common Waterhemp (*Amaranthus rudis*) Chromosomes. A. Dillon, T. Danilova, D. Peterson, B. Gill, M. Jugulam*; Kansas State University, Manhattan, KS (219)

11:00 Stability of EPSPS Gene Copies in Glyphosate-resistant Palmer amaranth (*Amaranthus palmeri*). A. Godar*, D. Koo, D. Peterson, B. Gill, M. Jugulam; Kansas State University, Manhattan, KS (220)

11:15 Mapping of EPSPS Gene Copies on Pachytene Chromosomes of Glyphosate-resistant Waterhemp (*Amaranthus rudis)*. A. Godar*, D. Koo, D. Peterson, B. Gill, M. Jugulam; Kansas State University, Manhattan, KS (221)

11:30 BioDirect(tm) and Managing Herbicide Resistant Amaranths. D. Sammons*, S. Navarro, K. Croon, J. Schmuke, D. Wang, N. Rana, G. Griffith, R. Godara; Monsanto, St. Louis, MO (222)

11:45 Section Business Meeting

WEDNESDAY MORNING FEBRUARY 11
Graduate Student Professional Development Workshop

LOCATION: Thoroughbred 4
TIME: 10:00 AM - 11:30 AM
CHAIR: Katelyn Venner
Virginia Tech
Blacksburg, VA

WEDNESDAY AFTERNOON FEBRUARY 11
Herbicide Resistance Summit II - Are We Going to Do the Same Thing and Expect a Different Outcome?

LOCATION: Bluegrass Ballroom 1
TIME: 1:00 PM - 5:00 PM
CHAIR: David Shaw
Mississippi State University
Mississippi State, MS

***SPEAKER**

1:00 Introduction

1:10 Understanding the Social within a Holistic Weed Management Strategy. R. A. Jussaume*; Michigan State University, East Lansing, MI (223)

1:20 The Economics of Resistance Management. G. Frisvold*[1], T. Hurley[2]; [1]University of Arizona, Tucson, AZ, [2]University of Minnesota, St. Paul, MN (224)

1:30 Toward a Community-Based Approach for Weed Management. D. E. Ervin*[1], G. Frisvold[2]; [1]Portland State University, Portland, OR, [2]University of Arizona, Tucson, AZ (225)

1:40 Carrots and Sticks: Incentives and Regulations for Herbicide Resistance Management and Changing Behavior. M. Barrett*[1], D. Shaw[2], J. Soteres[3]; [1]University of Kentucky, Lexington, KY, [2]Mississippi State University, Mississippi State, MS, [3]Monsanto (retired), St. Louis, MO (226)

1:50 Approaches to Holistic Weed Managment in Order to Manage Herbicide-resistant Weeds. M. D. Owen*; Iowa State University, Ames, IA (227)

2:00 Rethinking Education and Outreach for Successful Herbicide Resistance Management. A. Asmus[1], J. Schroeder*[2]; [1]Asmus Farm Supply, Inc, Rake, IA, [2]New Mexico State University, Las Cruces, NM (228)

2:10 A Call to Action for Herbicide Resistance Management. H. Coble*; NC State University, Cary, NC (229)

2:20 Discussion

2:30 Can You Manage Herbicide Resistance Better than a Freshman? A Role-Playing Game to Demonstrate Community-Based Resistance Management. G. Frisvold*[1], A. Asmus[2]; [1]University of Arizona, Tucson, AZ, [2]Asmus Farm Supply, Inc, Rake, IA (230)

3:00 Break

3:30 Can You Manage Herbicide Resistance Better than a Freshman (continued). G. Frisvold*; University of Arizona, Tucson, AZ (231)

4:30 Discussion

WEDNESDAY AFTERNOON FEBRUARY 11
Section 2. Horticultural Crops

LOCATION: Thoroughbred 2
TIME: 1:00 PM - 4:45 PM
CHAIR: Dennis Odero
University of Florida
Belle Glade, FL

***SPEAKER**

1:00 Weed Control and Radish Response to s-metolachlor in Organic Soil. D. C. Odero*, J. V. Fernandez, N. Havranek; University of Florida, Belle Glade, FL (232)

1:15 Preliminary Trials for Weed Management in Quinoa. T. W. Miller*, C. R. Libbey; Washington State University, Mount Vernon, WA (233)

1:30 Influence of Ground-cover Competition on Growth, Yield, and Berry Quality in Cabernet Franc Grape. N. T. Basinger*, K. Jennings, D. W. Monks, S. E. Spayd, S. Chaudhari; NCSU, Raleigh, NC (234)

1:45 Critical Period of Weed Removal for Quinoa and Grain Amaranth in Ontario Canada. R. E. Nurse*, E. R. Page; Agriculture and Agri-Food Canada, Harrow, ON (235)

2:00 IR-4 Update and New Strategic Plan: Vision 2020. D. L. Kunkel*[1], M. Arsenovic[1], J. J. Baron[1], M. K. Braverman[1], R. Batts[2]; [1]Rutgers University, Princeton, NJ, [2]North Carolina State University, Raleigh, NC (236)

2:15 Weed Control in Culinary Herbs. C. J. Phillippo*, B. H. Zandstra; Michigan State University, East Lansing, MI (237)

2:30 New Perspectives on Preemergence Onion Weed Control. B. H. Zandstra*, C. J. Phillippo; Michigan State University, East Lansing, MI (238)

2:45 Evaluation of the Carryover Potential of Sulfentrazone in California Vegetable Crops. S. A. Fennimore*, J. S. Rachuy; University of California Davis, Salinas, CA (239)

3:00 Break

3:15 Implications of Off-Target Herbicides in Potato Seed Production. J. Colquhoun*, D. Heider, R. Rittmeyer; University of Wisconsin, Madison, WI (240)

3:30 Season-Long Weed Management Programs in Garden Beets. D. Heider*, J. Colquhoun, R. Rittmeyer; University of Wisconsin, Madison, WI (241)

3:45 Impact of Air Temperature and Herbicide Concentration on Root Uptake of Gramoxone in Pepper. N. Boyd*; University of Florida, Wimauma, FL (242)

4:00 Absorption, Translocation, and Metabolism of Halosulfuron in Grafted Solanaceous Crops. S. Chaudhari*, K. Jennings, D. W. Monks, F. Louws; NCSU, Raleigh, NC (243)

4:15 Common Ragweed Competition in Potato Grown in Seepage Irrigation at Different Water Table Depths. P. J. Dittmar*, L. Zotarelli; University of Florida, Gainesville, FL (244)

4:30 Section Business Meeting

WEDNESDAY AFTERNOON FEBRUARY 11
Section 3. Turf and Ornamental Crops

LOCATION: Thoroughbred 3
TIME: 1:00 PM - 3:15 PM
CHAIR: Patrick McCullough
University of Georgia
Griffin, GA

***SPEAKER**

1:00 The Effect of Indaziflam on Bermudagrass Health and Growth. L. Ou*, M. Jeffries, T. Gannon; NCSU, Raleigh, NC (245)

1:15 Single and Sequential Applications of Indaziflam for Broadleaf and Long-term Annual Grass Control in Warm-season Turfgrass. B. J. Brecke*, R. G. Leon; University of Florida, Jay, FL (246)

1:30 Dallisgrass Management in Turfgrass. J. Derr*, A. Nichols; Virginia Tech, Virginia Beach, VA (247)

1:45 Investigating Creeping Bentgrass Response to Methiozolin, Ethephon and Aeration. K. A. Venner*, S. Askew; Virginia Tech, Blacksburg, VA (248)

2:00 Annual Blue-eyed Grass (*Sisyrinchium rosulatum*) Control in Bermudagrass. M. L. Flessner*[1], S. McElroy[2]; [1]Virginia Tech, Blacksburg, VA, [2]Auburn University, Auburn, AL (249)

2:15 Dislodgeable 2,4-D On Overseeded and Non-overseeded Bermudagrass Athletic Fields. M. Jeffries*, T. Gannon, K. Ahmed; NCSU, Raleigh, NC (250)

2:30 Evaluation of Selective Herbicides for Deertongue Control in Fine Fescue. S. S. Rana*, S. Askew, J. R. Brewer; Virginia Tech, Blacksburg, VA (251)

2:45 Impact of Application Parameters on the Efficacy of the Bioherbicide FeHEDTA. J. C. Wolfe*, J. C. Neal, C. D. Harlow; NCSU, Raleigh, NC (252)

3:00 Section Business Meeting

WEDNESDAY AFTERNOON FEBRUARY 11
Section 9. Weed Biology and Ecology

LOCATION: Thoroughbred 5-7
TIME: 1:00 PM - 4:30 PM
CHAIR: Carlene Chase
University of Florida
Gainesville, FL

***SPEAKER**

1:00 Occurrence of Arable Weeds along Roadsides in Eastern Arkansas. N. E. Korres*[1], J. K. Norsworthy[1], M. V. Bagavathiannan[2]; [1]University of Arkansas, Fayetteville, AR, [2]Texas A&M University, College Station, TX (253)

1:15 Validation of a Model to Simulate Herbicide Resistance Evolution in Barnyardgrass in Rice-soybean Production System. M. V. Bagavathiannan*[1], J. K. Norsworthy[2], K. L. Smith[3], P. Neve[4]; [1]Texas A&M University, College Station, TX, [2]University of

Arkansas, Fayetteville, AR, [3]Cheminova, Groveton, TX, [4]Rothamsted Research, Harpenden, England (254)

1:30 Role of Anti-Oxidant Machinery in Conferring Glyphosate Resistance to *Amaranthus palmeri*. A. S. Maroli*[1], V. K. Nandula[2], N. Tharayil[1]; [1]Clemson University, Clemson, SC, [2]USDA, Stoneville, MS (255)

1:45 Differences in Final Biomass Among Glyphosate-resistant and Glyphosate-susceptible Maternal Families of *Conyza canadensis* in Ohio: A Pilot Field Experiment. Z. T. Beres*, A. A. Snow, J. T. Parrish; Ohio State University, Columbus, OH (256)

2:00 Effect of Water Stress on Growth and Seed Production of Glyphosate-Resistant and –Susceptible Common Waterhemp. D. Sarangi*[1], S. Z. Knezevic[2], J. Lindquist[3], S. Irmak[1], A. J. Jhala[4]; [1]University of Nebraska, Lincoln, NE, [2]University of Nebraska, Concord, NE, [3]University of Nebraska-Lincoln, Lincoln, NE, [4]University of Florida, Lake Alfred, FL (257)

2:15 Quantifying Weed Seedbank Density Effects on Pendimethalin Control Outcomes. B. J. Schutte*, A. Cunningham; New Mexico State University, Las Cruces, NM (258)

2:30 Cropping Systems and the Prevalence of Giant Ragweed (*Ambrosia trifida* L): from the 1950's to Present. E. R. Page*, R. E. Nurse; Agriculture and Agri-Food Canada, Harrow, ON (259)

2:45 Crop Species and Seeding Rate Effects on Light Quality and Weed Populations. K. N. Harker*, J. T. O'Donovan; Agriculture & Agri-Food Canada, Lacombe, AB (260)

3:00 Break

3:15 Kin Recognition and the Potential to Influence Competitive Interactions in Crops. G. P. Murphy*, R. C. Van Acker, I. Rajcan, C. J. Swanton; University of Guelph, Guelph, ON (261)

3:30 Transcriptional Analyses of Sweet Corn Competition. E. Choe, M. M. Williams II*; USDA-ARS, Urbana, IL (262)

3:45 Growth Characteristics of a Weed-suppressive Indica x Non-suppressive Tropical Japonica Rice Mapping Population. D. R. Gealy*, Y. Jia, S. Pinson; USDA-ARS, Stuttgart, AR (263)

4:00 Connections are Everything: Influence of Host Species on mRNA Exchange Between Dodder and its Hosts. G. Kim, J. Westwood*; Virginia Tech, Blacksburg, VA (264)

4:15 Section Business Meeting

WEDNESDAY AFTERNOON FEBRUARY 11
Section 12. Soil and Environmental Aspects

LOCATION: Thoroughbred 3
TIME: 3:30 PM - 5:00 PM
CHAIR: Harry Strek
Bayer CropScience
Frankfort, Germany

***SPEAKER**

3:30 Does Previous Atrazine History Enhance Atrazine Degradation in US Soils? T. C. Mueller*[1], W. S. Curran[2], R. Scott[3], C. Sprague[4], D. Stephenson[5], D. Miller[6], E. Prostko[7], W. Grichar[8], J. Martin[9], L. Krutz[10], K. Bradley[11], L. E. Steckel[12], M. L. Bernards[13], M. D. Owen[14], P. A. Dotray[15], R. Currie[16], S. A. Clay[17], S. Z. Knezevic[18], V. M. Davis[19], R. Klein[20]; [1]University of Tennessee, Knoxville, TN, [2]Penn State University, University Park, PA, [3]University of Arkansas, Lonoke, AR, [4]Michigan State University, East Lansing, MI, [5]LSU AgCenter, Alexandria, LA, [6]Louisiana State University, St. Joe, LA, [7]University of Georgia, Tifton, GA, [8]Texas A&M AgriLife Research, Lubbock, TX, [9]University of Kentucky, Princeton, KY, [10]Mississippi State University, Stoneville, MS, [11]University of Missouri, Columbia, MO, [12]University of Tennessee, Jackson, TN, [13]Western Illinois University, Macomb, IL, [14]Iowa State University, Ames, IA, [15]Texas Tech University, Texas A&M AgriLife Research and Extension Service, Lubbock, TX, [16]Kansas State University, Manhattan, KS, [17]SDSU, Brookings, SD, [18]University of Nebraska, Concord, NE, [19]University of Wisconsin, Madison, WI, [20]University of Nebraska, North Platte, NE (265)

3:45 The Effect of pH on Amicarbazone Persistence in Aerobic Soils. K. Ahmed*, T. Gannon, M. Jeffries; NCSU, Raleigh, NC (266)

4:00 The Effect of Soil Moisture Content at Treatment on Lateral Herbicide Movement. T. Gannon*, M. Jeffries, D. Mahoney; NCSU, Raleigh, NC (267)

4:15 Effect of Herbicide Management Strategy on N_2O Emissions from Non-crop, Corn, and Soybean Systems. R. R. Bailey*, T. R. Butts, V. M. Davis; University of Wisconsin, Madison, WI (268)

4:30 A Novel Test System to Quantify Differences in Tank Cleaner Effectiveness. T. C. Mueller*[1], F. Sexton[2]; [1]University of Tennessee, Knoxville, TN, [2]Exacto, Inc, Sharon, WI (269)

4:45 Section Business Meeting

WEDNESDAY AFTERNOON FEBRUARY 11
WSSA Business Meeting

LOCATION: Thoroughbred 4
TIME: 5:00 PM - 6:00 PM
CHAIR: Joseph DiTomaso
UC Davis
Davis, CA

THURSDAY MORNING FEBRUARY 12
Section 1. Agronomic Crops

LOCATION: Thoroughbred 1
TIME: 8:00 AM - 11:30 AM
CHAIR: Jonathan Huff
Dow AgroSciences
Herrin, IL
MODERATOR: Drew Denton
Mississippi State Univ
Mississippi State, MS

***SPEAKER**

8:00 A Product Portfolio for Selective Weed Control in Corn: Flexible Solutions Based on Various Herbicide and Safener Assets. C. H. Rosinger*; Bayer CropScience, Frankfurt, Germany (270)

8:15 Characterization of Multiple Herbicide Resistance in Kochia Accessions from Montana. P. Jha*, C. A. Lim, V. Kumar, S. Leland; Montana State University, Huntley, MT (271)

8:30 Distribution and Dose Response of ALS-Inhibiting Herbicide Resistant Shattercane and Johnsongrass Populations from Kansas and Nebraska. R. Werle*[1], A. J. Jhala[1], M. K. Yerka[2], J. Lindquist[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]ARS-USDA, Lincoln, NE (272)

8:45 Corn and Grain Sorghum Yield Response to Irrigation and Weed Management . B. W. Schrage*, W. J. Everman; NCSU, Raleigh, NC (273)

9:00 Grass Control in Sorghum as Impacted by Cultural Practices and Weed Management. T. E. Besancon*, W. J. Vincent, A. M. Knight, W. J. Everman; NCSU, Raleigh, NC (274)

9:15 Tolpyralate (SL-573): A New Post-Emergence Herbicide for Weed Control in Corn. H. Kikugawa*[1], Y. Satake[2], D. J. Tonks[3], M. Grove[4], S. Nagayama[5], M. Tsukamoto[2]; [1]Ishihara Sangyo Kaisha, LTD, Osaka, Japan, [2]Ishihara Sangyo Kaisha, LTD, Shiga, Japan, [3]ISK Biosciences, Kearney, MO, [4]ISK Biosciences, Spring, TX, [5]Ishihara Sangyo Kaisha, LTD, Mie, Japan (275)

9:30 Tolpyralate (SL-573): An Overview of Performance for Weed Control in Corn in the U.S. D. J. Tonks*[1], M. Grove[2], H. Kikugawa[3], M. Parks[1], S. Nagayama[4], M. Tsukamoto[5]; [1]ISK Biosciences, Kearney, MO, [2]ISK Biosciences, Spring, TX, [3]Ishihara Sangyo Kaisha, LTD, Osaka, Japan, [4]Ishihara Sangyo Kaisha, LTD, Mie, Japan, [5]Ishihara Sangyo Kaisha, LTD, Shiga, Japan (276)

9:45 Impacts of Atrazine Prohibition on Roundup Ready Adoption, Tillage, and Number of Herbicide Sites-of-Action Used in Wisconsin Crop Production. F. Dong[1], P. D. Mitchell*[1], R. A. Recker[2], V. M. Davis[1]; [1]University of Wisconsin, Madison, WI, [2]Monsanto, Mankato, MN (277)

10:00 Break

10:15 Assessment of Wisconsin Crop Production Systems Without Recent Atrazine Use and the Impact to Herbicide Resistance Management. V. M. Davis*[1], R. A. Recker[2], F. Dong[1], P. D. Mitchell[1]; [1]University of Wisconsin, Madison, WI, [2]Monsanto, Mankato, MN (278)

10:30 Introduction of SYN-A205 for Atrazine-free Weed Control in Corn. R. D. Lins*[1], T. H. Beckett[2], S. E. Cully[3], J. Foresman[2], G. D. Vail[2]; [1]Syngenta Crop Protection, Renville, MN, [2]Syngenta Crop Protection, Greensboro, NC, [3]Syngenta Crop Protection, Marion, IL (279)

10:45 Acuron Herbicide: Preemergence Weed Control and Corn Safety. R. Jain*[1], M. A. Cutulle[1], T. H. Beckett[2], S. E. Cully[3], R. D. Lins[4], G. D. Vail[2]; [1]Syngenta Crop Protection, Vero Beach, FL, [2]Syngenta Crop Protection, Greensboro, NC, [3]Syngenta Crop Protection, Marion, IL, [4]Syngenta Crop Protection, Renville, MN (280)

11:00 Pethoxamid-A New Herbicide for Use in Agronomic & Horticultural Crops. B. Hunt*[1], J. Barrentine[2], T. Hayden[2], B. Jacobson[2], A. Kendig[2], M. Krull[2], T. Ksander[2], G. Radeva[3], K. L. Smith[4]; [1]Cheminova A/S, Lemvig, Denmark, [2]Cheminova Inc, Research Triangle Park, NC, [3]Cheminova Canada Inc, Kilworth, ON, [4]Cheminova, Groveton, TX (281)

11:15 Performance of a Novel Clethodim Formulation. R. L. Pigati*[1], G. K. Dahl[2], J. V. Gednalske[3], E. P. Spandl[1], L. J. Hennemann[3], J. A. Gillilan[4], L. Magidow[5], A. Clark[5]; [1]Winfield, Shoreview, MN, [2]Winfield Solutions LLC, St. Paul, MN, [3]Winfield, River Falls, WI, [4]Winfield, Springfield, TN, [5]WinField / Land O Lakes, River Falls, WI (282)

THURSDAY MORNING FEBRUARY 12
Section 11. Physiology

LOCATION: Thoroughbred 5-7
TIME: 8:00 AM - 11:30 AM
CHAIR: Roland Beffa
Bayer CropScience
Frankfort, Germany

***SPEAKER**

8:00 Light, Weeds and Carbon Partitioning – How Does a Neighbour Do It? A. G. McKenzie-Gopsill*, S. Amirsadeghi, L. Lukens, E. Lee, C. J. Swanton; University of Guelph, Guelph, ON (283)

8:15 Thiamethoxam Enhances Soybean Competitive Ability with Weeds. H. Kim*, M. Afifi, E. Lee, L. Lukens, C. J. Swanton; University of Guelph, Guelph, ON (284)

8:30 Sarmentine, a Natural Herbicide from Long Pepper (*Piper longum*) Fruit with Multiple Mechanisms of Action. F. E. Dayan*[1], D. K. Owens[1], R. Asolkar[2], L. Boddy[2]; [1]USDA-ARS, University, MS, [2]Marrone Bio Innovations, Davis, CA (285)

8:45 Background, History, and Current Status of Dicamba Resistant Kochia in the Western US and Canada. P. Westra*[1], T. A. Gaines[1], M. Jugulam[2]; [1]Colorado State University, Ft. Collins, CO, [2]Kansas State University, Manhattan, KS (286)

9:00 Mechanism of Atrazine and Mesotrione Resistance in Palmer Amaranth (*Amaranthus palmeri*). B. Sridevi, A. Godar, C. Thompson, D. Peterson, M. Jugulam*; Kansas State University, Manhattan, KS (287)

9:15 Ploidy and Multiple Resistance in *Echinochloa* spp. N. R. Burgos*[1], C. E. Rouse[1], A. J. Fischer[2], A. L. Lawton-Rauh[3]; [1]University of Arkansas, Fayetteville, AR, [2]University of California, Davis, Davis, CA, [3]Clemson University, Clemson, SC (288)

9:30 Herbicide-resistant Weedy Rice Traits and Management. V. Singh*[1], N. R. Burgos[1], S. Singh[1], L. Earnest[2], R. Scott[3], S. Basu[1], A. Pereira[1], D. Gealy[4], A. Caicedo[5]; [1]University of Arkansas, Fayetteville, AR, [2]University of Arkansas, Rohwer, AR, [3]University of Arkansas, Lonoke, AR, [4]USDA- ARS, Stuttgart, AR, [5]University of Massachusetts Amherst, Amherst, MA (289)

9:45 Mode-of-Action Analysis of a New Arylpicolinate Herbicide from Dow AgroSciences. J. L. Bell*[1], P. R. Schmitzer[1], M. R. Weimer[1], R. M. Napier[2], J. M. Prusinska[2]; [1]Dow AgroSciences, Indianapolis, IN, [2]University of Warwick, Coventry, England (290)

10:00 Break

10:15 Characterization of an ALS-Resistant Yellow Nutsedge Population from an Arkansas Rice Field. P. Tehranchian*[1], J. K. Norsworthy[1], S. McElroy[2], V. K. Nandula[3], D. Riar[4], R. Scott[5]; [1]University of Arkansas, Fayetteville, AR, [2]Auburn University, Auburn, AL, [3]USDA, Stoneville, MS, [4]Dow AgroSciences, Indianapolis, IN, [5]University of Arkansas, Lonoke, AR (291)

10:30 Uptake and Translocation of Postemergence Applied C^{14}-halosulfuron to Purple Nutsedge. X. Li*[1], T. L. Grey[1], T. M. Webster[2], B. H. Blanchett[3]; [1]University of Georgia, Tifton, GA, [2]USDA-ARS, Tifton, GA, [3]University of Georgia, Valdosta, GA (292)

10:45 The Tolerance Mechanisms of Grasses to Isoxaben. C. Brabham*, T. L. Burke, M. Barrett, S. Debolt; University of Kentucky, Lexington, KY (293)

11:00 Inter-species Protein Trafficking Endows Dodder (*Cuscuta pentagona*) with a Host-Specific Herbicide-tolerant Trait. L. Jiang[1], F. Qu[2], Z. Li[1], D. Doohan*[2]; [1]China Agricultural University, Beijing, Peoples Republic, [2]Ohio State University, Wooster, OH (294)

11:15 Effect of Salinity on Host Parasite Relationship in *Phelipanche aegyptiaca*: Physiological Study. A. Cochavi*[1], J. E. Ephrath[1], S. Rachmilevich[1], H. Eizenberg[2]; [1]French Associates Institute for Agriculture and Biotechnology of Drylands, Sede Boqer, Israel, [2]Newe Yaar Research Center, ARO, Israel, Ramat Yishay, Israel (295)

THURSDAY MORNING FEBRUARY 12
Section 7. Education and Extension

LOCATION: Thoroughbred 2-3
TIME: 8:00 AM - 11:15 AM
CHAIR: Todd Baughman
Oklahoma State University
Lone Grove, OK

***SPEAKER**

8:00 Experiment Design Using ARM Software. S. R. Gylling*; Gylling Data Management, Inc., Brookings, SD (296)

8:15 Rstats4ag.org - A New Website to Help Agricultural Researchers Learn R. A. R. Kniss*[1], J. C. Streibig[2]; [1]University of Wyoming, Laramie, WY, [2]University of Copenhagen, Taastrup, Denmark (297)

8:30 Pay-for-play Publishing Scams: The Threat to Scientific Journals. S. M. Ward*; Colorado State University, Ft. Collins, CO (298)

8:45 Can We Learn From the Past? Antique Resources for WSSA. J. D. Byrd, Jr.*; Mississippi State University, Mississippi State, MS (299)

9:00 Back to the Future with Non-GMO Herbicide Programs. D. Lingenfelter*, W. S. Curran; Penn State University, University Park, PA (300)

9:15 "Zero Tolerance": A Community-Based Management Program for Glyphosate-Resistant Palmer Amaranth in Arkansas. K. L. Smith*[1], J. K. Norsworthy[2], R. Scott[3], A. M. Vangilder[4], R. L. Nichols[5], T. Barber[6]; [1]Cheminova, Groveton, TX, [2]University of Arkansas, Fayetteville, AR, [3]University of Arkansas, Lonoke, AR, [4]University of Arkansas, Rector, AR, [5]Cotton Incorporated, Cary, NC, [6]University of Arkansas, Little Rock, AR (301)

9:30 Effect of Herbicide and Application Timing on Residual Control of Horseweed Resistant to Glyphosate and ALS Inhibitors. B. Reeb*, M. M. Loux, A. Dobbels; Ohio State University, Columbus, OH (302)

9:45 Our Efforts to Reduce the Incidence of Off-target Movement of Auxinic Herbicides in High Value Crops. G. Rhodes, Jr.*, T. D. Israel; University of Tennessee, Knoxville, TN (303)

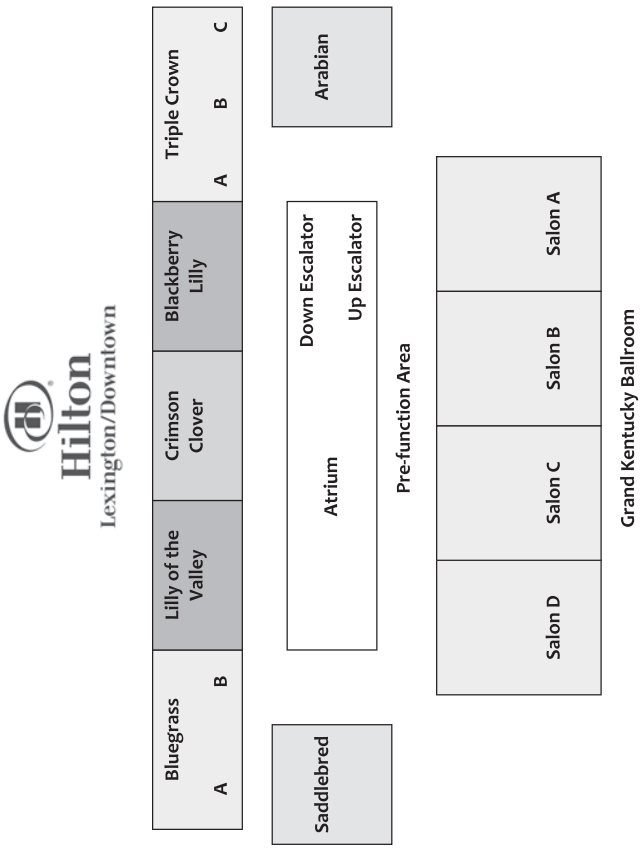
10:00 Break

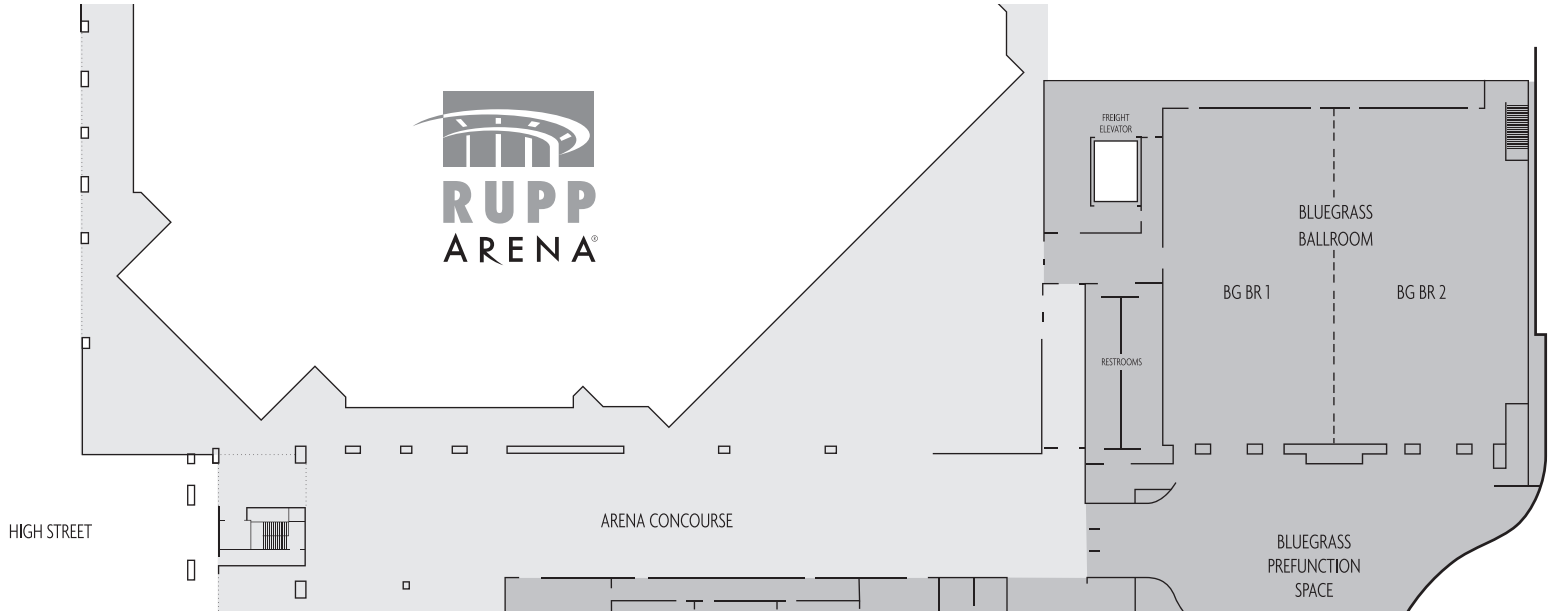
10:15 Teaching Undergraduate Weed Science as an Online Course: Student and Teacher Perspectives. P. B. Trewatha*; Missouri State University, Springfield, MO (304)

10:30 Unifying the Efforts in Teaching, Research, and Extension is Vital for the Advancement in Weed Science. H. Z. Ghosheh*[1], L. Grabau[2]; [1]Jordan University of Science and Technology, Irbid, Jordan, [2]University of Kentucky, Lexington, KY (305)

10:45 Mobile Applications as a Pest Management Tool for Extension Services. A. Rana*, J. Derr; Virginia Tech, Virginia Beach, VA (306)

11:00 Section Business Meeting

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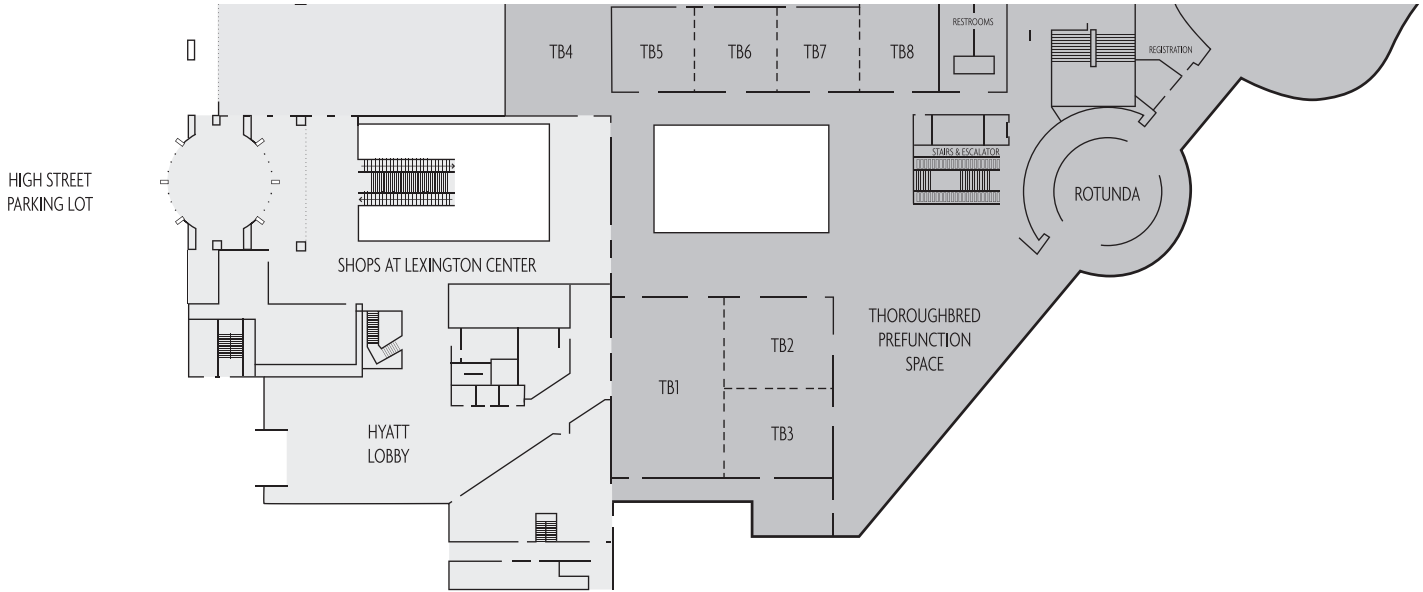
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TB8
THOROUGHBRED
PREFUNCTION
SPACE
RESTROOMS
STAIRS & ESCALATOR
REGISTRATION
ROTUNDA

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2013–2014
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Member-at-Large: Andrew Kniss (2017) Univ. of Wyoming, 1000 E. University Ave., Laramie, WY 82071

Director of Science Policy: Lee Van Wychen, National and Regional Weed Science Societies, 5720 Glenmullen Pl., Alexandria, VA 22303

Graduate Student Representative: Kate Venner (2015) Virginia Tech, 435 Old Glade Rd., Blacksburg, VA 24061

Aquatic Plant Management Society: Cody Gray (2016) United Phosphorus Inc., 11417 Cranston Drive, Peyton, CO 80831

CWSS: Hugh Beckie (2016) Agriculture and Agri-Food Canada, 107 Science Place, Saskatoon, SK S7N 0X2, Canada

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NEWSS Representative: Prasanta Bhowmik (2017) University of Massachusetts, Stockbridge Hall, Amherst, MA 01003

SWSS Representative: Eric Palmer (2017) Syngenta Crop Protection, 410 Swing Rd., Greensboro, NC 27409

WSWS Representative: Pat Clay (2015) Valent, 7498 N Remington Ave., Fresno, CA 93711

Executive Secretary: Joyce Lancaster, Allen Press, Inc., 810 East 10th Street, Lawrence, KS 66044-7050

WSSA Founder Award

1974 - R.H. Beatty

WSSA Original Honorary Members*

1964 - A.S. Craft
K.P. Buchholtz
F.L. Timmons
C.J. Willard
1966 - R.H. Beatty
1967 - W.S. Ball
W.B. Ennis, Jr.
1968 - G.F. Warren
1969 - E.P. Sylvester

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* Society members being honored were originally referred to as Honorary Members. Beginning in 1970 the term was changed to WSSA Fellows and the term Honorary Member has since been reserved for honoring contributions to weed science regardless of WSSA membership status.

WSSA Fellows*

1970 - W.C. Shaw
F.W. Slife
1971 - W.A. Harvey
L.G. Holm
D.D. Hemphill
1972 - B.E. Day
W.H. Minshall
1973 - E.K. Alban
W.R. Furtick
R. Behrens
G.C. Klingman
1974 - D.L. Klingman
R.D. Sweet
P.W. Santelmann
L.L. Danielson
1975 - D.E. Davis
J.R. Hay
E.G. Rodgers
R.P. Upchurch
1976 - A.P. Appleby
R.D. Ilnicki
D.E. Moreland

1977 - E.L. Knake
C.G. McWhorter
H.S. Friesen
L. Southwick
1978 - O.H. Fletchall
J.L. Hilton
H.M. LeBaron
D.W. Staniforth
1979 - H.P. Alley
R.E. Frans
K.C. Hamilton
T.J. Sheets
A.F. Wiese
1980 - J.D. Bandeen
S.N. Fertig
C.L. Foy
L.S. Jordan
R.A. Peters
1981 - J.F. Ahrens
L.H. Hannah
W.F. Meggitt
R.R. Romanowski
C.R. Swanson
1982 - J. Antognini
G.H. Bayer
J.H. Dawson
C.L. Switzer
R.B. Taylorson
1983 - R.N. Andersen
W.D. Carpenter
J.E. Gallagher
D.L. Linscott
L.W. Mitich
1984 - G.A. Buchanan
W.A. Gentner
M.M. Schrieber
R.L. Zimdahl

1985 - S.R. McLane
J.F. Miller
W.J. Saidak
E.E. Schweizer
R.J. Smith, Jr.
J.B. Weber
1986 - L.C. Burrill
R.D. Comes
R.A. Evans
R.H. Schieferstein
1987 - F.M. Ashton
J.W. Herron
G.R. Miller
M.G. Merkle
J.D. Nalewaja
W.H. Vanden Born
1988 - D.E. Bayer
G.H. Friesen
M.C. McGlamery
J.A. Meade
A.R. Putnam
J.D. Riggleman
1989 - O.C. Burnside
W.R. Mullison
E.C. Spurrier
G.R. Stephenson
L.M. Wax
A.D. Worsham
1990 - S.W. Bingham
R.W. Bovey
T.J. Monaco
E.W. Stoller
E.W. Stroube
R.E. Talbert
1991 - R.M. Devlin
T.L. Lavy
M. Newton
C.J. Scifres
B. Truelove
J.A. Young

1992 - R.J. Aldrich
C.C. Dowler
S.O. Duke
C.G. Messersmith
A.G. Ogg, Jr.
J.V. Parochetti
1993 - R.E. Doersch
C.L. Elmore
R.E. Eplee
J.O. Evans
L.R. Oliver
D. Penner
W.V. Welker
1994 - J.R. Abernathy
J.R. Baker
J.F. Ellis
R.E. Hoagland
G. Kapusta
W.A. Skroch
1995 - E.F. Eastin
A.S. Hamill
K.K. Hatzios
H.D. Tripple
H.J. von Amsberg
H.P. Wilson
1996 - F.L. Baldwin
W.L. Barrentine
P.C. Bhowmik
J.C. Graham
F.D. Hess
A.E. Smith, Jr.
1997 - H.D. Coble
R.G. Harvey
R. Prasad
R.L. Rogers
M. Singh
W.W. Witt
1998 - J.L. Barrentine
M.D. Devine
A.G. Dexter

C. V. Eberlein
S.D. Miller
P.S. Zorner

1999 - I. Morrison
D.S. Murray
R.F. Norris
H.D. Skipper
D.C. Thill
R.D. Wauchope

2000 - L.K. Binning
N.D. Camper
R. Charudattan
J.S. Holt
D.L. Shaner
G.A. Wicks

2001 - C.E. Beste
R.R. Hahn
A. Legere
A. Martin
R.D. Williams
G.Wills

2002 - R.E. Blackshaw
J.M. Chandler
J.D. Doll
J.C. Hall
D.R. Shaw
S.C. Weller

2003 - S. A. Dewey
R.M. Hayes
R. Nishimoto
A. Watson
T. Whitson
J. Wilcut

2004 - B.J. Brecke
J.L. Griffin
A.E. Miller
M.K. Upadhyaya

2005 - D.D. Buhler
J.E. McFarland
M.D.K. Owen
C. Swanton

2006 - M. Foley
J. Kells
R. Lym
A. York
2007 - K. N. Harker
R. Kremer
B. Majek
K. Vaughn
2008 - M.A. Locke
R. Wilson
C. Mallory-Smith
2009 - K. Renner
M. Barrett
A.R. Bonanno
2010 - J. Schroeder
J. Dusky
K. Reddy
2011 - J. DiTomaso
D. Mortensen
K. Al-Khatib
2012 - J. Derr
J.J. Jachetta
P. Stahlman
2013 - P. Banks
F. Forcella
J.M. Green
2014 - J.V. Anderson
T.C. Mueller
P.H. Sikkema

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1975 - A. John Speziale
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1979 - Menashe Horowitz
1980 - Virgil H. Freed
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1982 - Gideon D. Hill, Jr.
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1985 - Abed R. Saghir

1986 - Beatriz L. Mercado
1987 - Yang-han Li
1988 - Werner Koch
1989 - Tetsuotakema Tsu
1990 - Agustin Mitidieri
1991 - Okezie Akobundu
1992 - Jonathan Gressel
1993 - Hwan Seung Ryang
1994 - Peter Böger
1995 - Keith Moody
1996 - Su Shao Quan
1997 - Stephen B. Powles
1998 - Jens C. Streibig
1999 - Jost Harr
2000 - Allan Walker
2001 - Baruch Rubin
2002 - Karl Hurle
2003 - Helmut Walter
2004 - Aldo Alves
2005 - Aurora M. Baltazar
2006 - Robinson A. Pitelli
2007 - Bernal Valverde
2008 - R. Labrada Romero
2009 - H. Matsumoto
2010 - None awarded
2011 - R. Cousens
2012 - C. Baskin
J. Baskin
2013 - None awarded
2014 - P. Kudsk

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W.B. Ennis, Jr. .....1957 - 1959
A.S. Crafts.....1959 - 1960
K.C. Buchholtz.....1960 - 1962
W.C. Shaw .....1962 - 1964
G.F. Warren .....1964 - 1966
W.R. Furtick .....1966 - 1967
R. Behrens.....1967 - 1968
B.E. Day .....1968 - 1969

G.C. Klingman ..... 1969 - 1970
L.L. Danielson ..... 1970 - 1971
D.L. Klingman ..... 1971 - 1972
R.P. Upchurch ..... 1972 - 1973
E.G. Rodgers ..... 1973 - 1974
E.L. Knake ..... 1974 - 1975
C.R. Swanson ..... 1975 - 1976
F.W. Slife ..... 1976 - 1977
C.L. Foy ..... 1977 - 1978
P.W. Santelmann ..... 1978 - 1979
J.R. Hay ..... 1979 - 1980
W.D. Carpenter ..... 1980 - 1981
D.E. Davis ..... 1981 - 1982
T.J. Sheets ..... 1982 - 1983
C.G. McWhorter ..... 1983 - 1984
J.D. Nalewaja ..... 1984 - 1985
J.D. Riggleman ..... 1985 - 1986
O.C. Burnside ..... 1986 - 1987
J.H. Dawson ..... 1987 - 1988
J.F. Ahrens ..... 1988 - 1989
H.M. LeBaron ..... 1989 - 1990
L.W. Mitich ..... 1990 - 1991
J.R. Abernathy ..... 1991 - 1992
J. Antognini ..... 1992 - 1993
H.D. Coble ..... 1993 - 1994
A.G. Ogg, Jr. ..... 1994 - 1995
J.L. Barrentine ..... 1995 - 1996
S.O. Duke ..... 1996 - 1997
C.G. Messersmith ..... 1997 - 1998
F.D. Hess ..... 1998 - 1999
J.M. Chandler ..... 1999 - 2000
L.R. Oliver ..... 2000 - 2001
C. V. Eberlein ..... 2001 - 2002
B.A. Majek ..... 2002 - 2003
A.S. Hamill ..... 2003 - 2004
D.C. Thill ..... 2004 - 2005
C. Mallory-Smith ..... 2005 - 2006
D. Shaner ..... 2006 - 2007
J. Schroeder ..... 2007 - 2008
J. Derr ..... 2008 - 2009
D. Shaw ..... 2009 - 2010
J. Jachetta ..... 2010 - 2011
M. Barrett ..... 2011 - 2012
R. Lym ..... 2012 - 2013
J. Kells ..... 2013 - 2014

NOTES

PERSONAL TIME SCHEDULE

Time	Monday	Tuesday	Wednesday	Thursday
7:30		Poster Session	Poster Session	
8:00				
8:15				
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8:45				
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4:00	General Session and Awards Presentation			
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5:00			Business Meeting	
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6:00	WSSA Awardee Reception			
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