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Proceedings of the 68th Annual Meeting of the North Central Weed Science Society

December 9-12, 2013
Columbus, OH

This document contains the program and abstracts of the papers and posters presented at the annual meeting of the North Central Weed Science Society. Titles are arranged in the program by subject matter sections with the abstract number in parenthesis, abstracts are found in numerical order. Author and keyword indices are also included.

PROGRAM

General Session

Welcome: NCWSS, MIPN, and OIPC

Current Issues and Future Perspective: Update from CAST. Phillip W. Stahlman*; Kansas State University, Hays, KS (97)

WSSA EPA-Subject Matter Expert Position: My Initial Impressions. Michael Barrett*; University of Kentucky, Lexington, KY (98) (N/A)

NCWSS Presidential Address. Dave Johnson*; DuPont Pioneer, Johnston, IA (99) (N/A)

Necrology Report. Kirk A. Howatt*; North Dakota State University, Fargo, ND (100) (N/A)

Agronomic Crops

Common Windgrass Management in Winter Wheat. Christy L. Sprague*; Michigan State University, East Lansing, MI (1)

†Shattercane X ALS-Tolerant Sorghum F1 Hybrid and Shattercane Interference in ALS-Tolerant Sorghum. Rodrigo Werle[1], Jared J. Schmidt[1], John Laborde[1], Angela M. Tran*[1], Cody F. Creech[2], John L. Lindquist[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Nebraska-Lincoln, North Platte, NE (2)

Interactions Between Foliar Applied RyzUp SmartGrass Tank Mixed with Synthetic Auxin Herbicides in Corn. Eric J. Ott*[1], James M. Wargo[2], John A. Pawlak[3]; [1]Valent USA Corporation, Greenfield, IN, [2]Valent USA Corporation, Atlanta, GA, [3]Valent USA Corporation, Lansing, MI (3)

†Control of Glyphosate-Resistant Giant Ragweed by Tank Mixing Glufosinate with 2,4-D and/or Dicamba in Corn. Zahoor A. Ganie*[1], Kevin Watteyne[2], Amit J. Jhala[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Bayer CropScience, Lincoln, NE (4)

†Influence of Fall and Early Spring Application of Pre-packaged Tank Mixture of Iodosulfuron and Thiencarbazone-methyl on Control of Glyphosate-Resistant Giant Ragweed in No-till Corn. Simranpreet Kaur*[1], Kevin Watteyne[2], Amit J. Jhala[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Bayer CropScience, Lincoln, NE (5)

Control of HPPD-Resistant Waterhemp with Mesotrione and Tankmixes Applied Preemergence. Jon E. Scott*[1], Aaron S. Franssen[2], Stevan Z. Knezevic[1]; [1]University of Nebraska-Lincoln, Concord, NE, [2]Syngenta Crop Protection, Seward, NE (6)

Control of HPPD-Resistant Waterhemp in Corn and Soybean. Jon E. Scott*[1], Aaron S. Franssen[2], Stevan Z. Knezevic[1]; [1]University of Nebraska-Lincoln, Concord, NE, [2]Syngenta Crop Protection, Seward, NE (7)

†Weed Height and the Inclusion of Atrazine Influence Control of Multiple-Resistant Palmer Amaranth with HPPD-Inhibitors. Jonathon R. Kohrt*, Christy L. Sprague; Michigan State University, East Lansing, MI (8)

*Presenter; † Student Contestant

†Corn Yield as Influenced by Nitrogen Management, Residual Herbicide, and Other Pest Management Inputs. John T. Buol*, Rebecca R. Bailey, Elizabeth J. Bosak, Tim Trower, Vince M. Davis; University of Wisconsin-Madison, Madison, WI (9)

†Cover Crop Response to Corn and Soybean Residual Herbicides. Chris P. Corzatt*, Mark L. Bernards; Western Illinois University, Macomb, IL (10)

Italian Ryegrass, *Lolium multiflorum* and Other Cover Crops for Suppression of Soybean Cyst Nematode, *Heterodera glycines*.. Bruce A. Ackley*, Steven K. Harrison, Mark Sulc; The Ohio State University, Columbus, OH (11)

†Light Interception of Soybean as Influenced by Row Width, Seeding Rate, and Weed Competition. Thomas R. Butts*[1], Jason K. Norsworthy[2], Greg R. Kruger[3], Lowell Sandell[4], Bryan G. Young[5], Kevin W. Bradley[6], Lawrence E. Steckel[7], Mark M. Loux[8], Vince M. Davis[1]; [1]University of Wisconsin-Madison, Madison, WI, [2]University of Arkansas, Fayetteville, AR, [3]University of Nebraska-Lincoln, North Platte, NE, [4]University of Nebraska-Lincoln, Lincoln, NE, [5]Southern Illinois University, Carbondale, IL, [6]University of Missouri, Columbia, MO, [7]University of Tennessee, Jackson, TN, [8]The Ohio State University, Columbus, OH (12)

Weed Management with Flumioxazin+Pyroxasulfone in Soybean. Nader Soltani*, Christy Shropshire, Peter H. Sikkema; University of Guelph-Ridgetown, Ridgetown, ON (13)

The Influence of Herbicide Rate and Application Timing on the Soil-Residual Efficacy of Preplant Soybean Herbicides. R. Joseph Wuerffel*[1], Bryan G. Young[1], Julie M. Young[1], Mark L. Bernards[2], Aaron G. Hager[3]; [1]Southern Illinois University, Carbondale, IL, [2]Western Illinois University, Macomb, IL, [3]University of Illinois, Urbana-Champaign, IL (14)

†Optimum Glyphosate Application Timing in Soybean as Influenced by Preemergence Residual Herbicide Use Following Different Planting Dates. Ryan P. DeWerff*, Vince M. Davis, Shawn P. Conley; University of Wisconsin-Madison, Madison, WI (15)

†Control of Glyphosate-resistant Common Waterhemp with Long Chain Fatty Acid Inhibitors Applied in a Split Application in Soybeans. Debalin Sarangi*[1], Lowell Sandell[1], Stevan Z. Knezevic[2], Amit J. Jhala[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Nebraska-Lincoln, Concord, NE (16)

Dicamba in a Residual System for Glyphosate-Resistant Waterhemp Control in Soybean. Seth T. Logan*[1], Bryan G. Young[2], Julie M. Young[2], Simone Seifert-Higgins[3], Sara M. Allen[4]; [1]Monsanto, Tamaroa, IL, [2]Southern Illinois University, Carbondale, IL, [3]Monsanto Company, St. Louis, MO, [4]Monsanto, Bonnie, IL (17)

†Response of Glyphosate-resistant Horseweed to POST Herbicides. Joseph D. Bolte*, Reid J. Smeda; University of Missouri, Columbia, MO (18)

Enlist Soybean Tolerance to Enlist Duo. Jeff M. Ellis*[1], David C. Ruen[2], Eric F. Scherder[3], David M. Simpson[4], Scott C. Ditmarsen[5]; [1]Dow AgroSciences, Smithville, MO, [2]Dow AgroSciences, Lanesboro, MN, [3]Dow AgroSciences, Huxley, IA, [4]Dow AgroSciences, Indianapolis, IN, [5]Dow AgroSciences, Madison, WI (19)

Palmer Amaranth Control Program in Enlist Soybean. Kristin Rosenbaum*[1], Jeff M. Ellis[2], Brad Hopkins[3], Jonathan Siebert[4]; [1]Dow AgroSciences LLC., Lincoln, NE, [2]Dow AgroSciences, Smithville, MO, [3]Dow AgroSciences LLC., Indianapolis, IN, [4]Dow AgroSciences, Leland, MS (20)

In-Season Weed Control in Dicamba-Resistant Soybean Systems for Controlling Glyphosate Resistant and Other Tough to Control Weeds. Jeffrey Golus*[1], Lowell Sandell[2], Amit J. Jhala[2], Ryan S. Henry[1], Mayank Malik[3], Simone Seifert-Higgins[4], Tony D. White[4], Greg R. Kruger[1]; [1]University of Nebraska-Lincoln, North Platte, NE, [2]University of Nebraska-Lincoln, Lincoln, NE, [3]Monsanto, Lincoln, NE, [4]Monsanto Company, St. Louis, MO (21)

*Presenter; † Student Contestant

BAS 18322H for Glyphosate Resistant Waterhemp Control in Dicamba-Tolerant Soybean. Stevan Z. Knezevic[1], Jon E. Scott[1], Leo D. Charvat*[2]; [1]University of Nebraska-Lincoln, Concord, NE, [2]BASF Corporation, Lincoln, NE (22)

A197: A Technical Overview. Stott Howard*[1], Gordon D. Vail[2], John P. Foresman[2]; [1]Syngenta Crop Protection, Des Moines, IA, [2]Syngenta Crop Protection, Greensboro, NC (23)

†Control of Glyphosate-Resistant Volunteer Corn in Glufosinate-Resistant Soybeans. Parminder S. Chahal*[1], Greg R. Kruger[2], Lowell Sandell[1], Amit J. Jhala[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Nebraska-Lincoln, North Platte, NE (24)

†Timing of Volunteer Corn Control Affects Sugarbeet Yield. Amanda C. Harden*, Christy L. Sprague; Michigan State University, East Lansing, MI (25)

Dry Bean Desiccation with Various Herbicides in Canada. Nader Soltani*[1], Robert E. Blackshaw[2], Rob Gulden[3], Chris Gillard[1], Christy Shropshire[1], Peter H. Sikkema[1]; [1]University of Guelph-Ridgetown, Ridgetown, ON, [2]Agriculture Canada, Alberta, AB, [3]University of Manitoba, Manitoba, MB (26)

The Effect of Growth Stage on Switchgrass Atrazine Tolerance. Whitney M. Churchman*, Michael Barrett, David W. Williams; University of Kentucky, Lexington, KY (44)

†Selection Based Improvement for 2,4-D Tolerance in Red Clover . Tara L. Burke*, James Roberts, Norman Taylor, Michael Barrett; University of Kentucky, Lexington, KY (45)

†Increased Soybean Seeding Rates Versus Preemergence Herbicide Use. Ryan P. DeWerff*, Vince M. Davis, Shawn P. Conley; University of Wisconsin-Madison, Madison, WI (101)

†Effect of Soybean Pre- and Post-Emergence Herbicides on Glyphosate, Glufosinate, and Imidazolinone Resistant Volunteer Corn. Parminder S. Chahal*[1], Greg R. Kruger[2], Amit J. Jhala[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Nebraska-Lincoln, North Platte, NE (102)

†Control of Glyphosate-Resistant Giant Ragweed in Glufosinate- Resistant Soybean. Simranpreet Kaur*, Lowell Sandell, Rodrigo Werle, Amit J. Jhala; University of Nebraska-Lincoln, Lincoln, NE (103)

Control of Glyphosate-Resistant Giant Ragweed in Glyphosate-Tolerant No-till Soybeans. Lowell Sandell*[1], Greg R. Kruger[2], Amit J. Jhala[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Nebraska-Lincoln, North Platte, NE (104)

†Influence of Soybean Seeding Rate, Row Spacing and Herbicide Programs on the Control of Resistant Waterhemp in Glufosinate-Resistant Soybean. John Schultz*, Eric B. Riley, Jimmy D. Wait, Kevin W. Bradley; University of Missouri, Columbia, MO (105)

†Multiple-Resistant Palmer Amaranth Control with Soil-Applied Herbicides in Michigan. David Powell*, Christy L. Sprague; Michigan State University, East Lansing, MI (106)

Effect of Herbicide and Application Timing on Residual Control of Horseweed Resistant to Glyphosate and ALS Inhibitors. Bryan Reeb*, Mark M. Loux; The Ohio State University, Columbus, OH (107)

Soybean Breeding Over the Last 80+ Years Has Improved Plant Branching and Reduced the Penalty for Low Seeding Rates. Vince M. Davis*[1], Justin Suhre[2]; [1]University of Wisconsin-Madison, Madison, WI, [2]University of Illinois, Urbana-Champaign, IL (108)

*Presenter; † Student Contestant

Harvest Aid Effects on Black Bean Desiccation and Yield. Amanda M. Goffnett*, Christy L. Sprague;

Michigan State University, East Lansing, MI (109)

†Effect of Tillage and Herbicides on Control of Glyphosate-Resistant Giant Ragweed in Corn and Soybeans. Zahoor A. Ganie*, Lowell Sandell, Amit J. Jhala; University of Nebraska-Lincoln, Lincoln, NE (110)

†Management of Palmer Amaranth in Corn Using Cover Crops and Herbicides. Matthew S. Wiggins*, Lawrence E. Steckel; University of Tennessee, Jackson, TN (111)

†Waterhemp and Palmer Amaranth Control Using Dicamba, 2,4-D and Isoxaflutole Based Chemical Programs. Strahinja Stepanovic*[1], Lawrence E. Steckel[2], Jason K. Norsworthy[3], Bryan G. Young[4], Kevin W. Bradley[5], William G. Johnson[6], Mark M. Loux[7], Vince M. Davis[8], Thomas W. Eubank[9], Lowell Sandell[1], Greg R. Kruger[10]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Tennessee, Jackson, TN, [3]University of Arkansas, Fayetteville, AR, [4]Southern Illinois University, Carbondale, IL, [5]University of Missouri, Columbia, MO, [6]Purdue University, West Lafayette, IN, [7]The Ohio State University, Columbus, OH, [8]University of Wisconsin-Madison, Madison, WI, [9]Mississippi State University, Stoneville, MS, [10]University of Nebraska-Lincoln, North Platte, NE (112) (N/A)

The Effect of Growth Stage on Switchgrass Atrazine Tolerance. Whitney M. Churchman*, Michael Barrett, David W. Williams; University of Kentucky, Lexington, KY (44)

†Selection Based Improvemet for 2,4-D Tolerance in Red Clover . Tara L. Burke*, James Roberts, Norman Taylor, Michael Barrett; University of Kentucky, Lexington, KY (45)

Crop Response to Dicamba Applications on Soybean Event MON 87708. Paul Feng*[1], Cindy L. Arnevik[1], Joe Cordes[2], Mindy Devries[3], Mark Lubbers[4], Debi Herren[2], Radha Mohanty[1]; [1]Monsanto Company, St. Louis, MO, [2]Monsanto Company, Jerseyville, IL, [3]Monsanto Company, Huxley, IA, [4]Monsanto Company, Witchita, KS (156)

Dicamba Formulation Advancements. Joseph J. Sandbrink*, Alison Macinnes, John W. Hemminghaus, Jeff N. Travers, Simone Seifert-Higgins, Susan E. Curvey; Monsanto Company, St. Louis, MO (157)

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Stewardship of Engenia™ Herbicide. Shane Hennigh*[1], Walter Thomas[2], Steven Bowe[2], Luke L. Bozeman[2]; [1]BASF Corporation, Story City, IA, [2]BASF Corporation, Research Triangle Park, NC (159)

Enlist™ Soybean Tolerance and Weed Control with PRE Followed by POST Herbicide Programs. David C. Ruen*[1], Jeff M. Ellis[2], David M. Simpson[3], Jonathan A. Huff[3]; [1]Dow AgroSciences, Lanesboro, MN, [2]Dow AgroSciences, Smithville, MO, [3]Dow AgroSciences, Indianapolis, IN (160)

University Evaluation of Isoxaflutole Weed Management Programs in HPPD Tolerant Soybean System. Michael L. Weber*; Bayer CropScience, Indianola, IA (161) (N/A)

Enhanced Weed Management Solutions with MGI Herbicide-Tolerant Soybeans. Dain E. Bruns*[1], Rakesh Jain[2], Thomas H. Beckett[2], Brian L. Wilkinson[2], Brian Erdahl[2]; [1]Syngenta, Marysville, OH, [2]Syngenta, Greensboro, NC (162)

Influence of Weed Competition Duration on Soybean Nutrient Acquisition and Grain Yield Characteristics. Nick T. Harre*[1], Bryan G. Young[1], Scott E. Cully[2], Brett R. Miller[3], Mark Kitt[3], Bryan J. Ulmer[4]; [1]Southern Illinois University, Carbondale, IL, [2]Syngenta, Marion, IL, [3]Syngenta, Minnetonka, MN, [4]Syngenta, Basel, Switzerland (163)

*Presenter; † Student Contestant

New Residual Management Systems to Address Herbicide Resistant Weeds in Soybeans. Dario F. Narvaez*[1], James Whitehead[2], David Feist[3], Keith Miller[4], Dave Downing[5], Brian Ahrens[6]; [1]MANA, Wildwood, MO, [2]MANA,

Oxford, MS, [3]MANA, Ft. Collins, CO, [4]MANA, Troy, IL, [5]MANA, Raleigh, NC, [6]MANA, Coralville, IA (164)

Preemergence Weed Control in Soybean with Chlorimuron, Flumioxazin, and Metribuzin. Kelly A. Barnett*[1], Helen A. Flanigan[2], Kevin L. Hahn[3], Dan Smith[4]; [1]DuPont Crop Protection, Whiteland, IN, [2]DuPont Crop Protection, Greenwood, IN, [3]DuPont Crop Protection, Bloomington, IL, [4]DuPont Crop Protection, Madison, MS (165) (N/A)

Bicyclopyrone, a New Herbicide for Improved Weed Control in Corn. Gordon D. Vail*[1], Scott E. Cully[2], Ryan D. Lins[3], John P. Foresman[1]; [1]Syngenta Crop Protection, Greensboro, NC, [2]Syngenta, Marion, IL, [3]Syngenta, Byron, MN (203)

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Enlist™ Corn Tolerance and Weed Control with PRE Followed by POST Herbicide Programs. Joe Armstrong*[1], Michael Moechnig[2], Scott C. Ditmarsen[3], Mark A. Peterson[4]; [1]Dow AgroSciences, Davenport, IA, [2]Dow AgroSciences, Toronto, SD, [3]Dow AgroSciences, Madison, WI, [4]Dow AgroSciences, Indianapolis, IN (207)

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Enhancement of the Weed Control of Preemergence Saflufenacil and Dimethenamid Applications with Various Post Emergence Timings and Rates of Pendimethalin in Grain Sorghum. Randall S. Currie*[1], Curtis R. Thompson[2]; [1]Kansas State University, Garden City, KS, [2]Kansas State University, Manhattan, KS (209)

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Kochia Control in Wheat with Pre- or Postemergence Herbicides. Kirk A. Howatt*, Andrew N. Fillmore; North Dakota State University, Fargo, ND (211)

Management Options for Control of Glyphosate Resistant Kochia in Fallow. James R. Bloomberg*[1], Kevin Watteyne[2], Greg Hudec[3], Charlie Hicks[4]; [1]Bayer CropScience, RTP, NC, [2]Bayer CropScience, Lincoln, NE, [3]Bayer CropScience, Manhattan, KS, [4]Bayer CropScience, Fort Collins, CO (212)

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†Effect of Herbicide Carryover in Cover Crop Capacity to Affect Soil Structure and Nutrient Availability. Maria R. Rojas*, Darren Robinson, Laura Van Eerd, Ivan O'Halloran; University of Guelph-Ridgetown, Ridgetown, ON (48)

*Presenter; † Student Contestant

†Effect of Imazethapyr, Mesotrione and Saflufenacil Residues on Four Spring-Seeded Cover Crops. Li Yu*, Darren Robinson, Peter H. Sikkema; University of Guelph-Ridgetown, Ridgetown, ON (126) (N/A)

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†The Effect of Adjuvants and Nozzles on Cloransulam, Glyphosate, and Dicamba Efficacy and Droplet Size. Fernanda S. Antonio*, Ryan S. Henry, Andre O. Rodrigues, Jesaelen G. Moraes, Rafael Werle, Cody F. Creech, Greg R. Kruger; University of Nebraska-Lincoln, North Platte, NE (27)

†The Impact of Droplet Size on the Efficacy of 2,4-D, Atrazine, Chlorimuron, Dicamba, Glufosinate, and Saflufenacil. Jesaelen G. Moraes*, Rafael Werle, Fernanda S. Antonio, Andre O. Rodrigues, Cody F. Creech, Ryan S. Henry, Greg R. Kruger; University of Nebraska-Lincoln, North Platte, NE (28)

†Glyphosate, Fluazifop, Lactofen, and Dicamba Efficacy as Impacted by Adjuvants and Nozzles. Andre O. Rodrigues*, Fernanda S. Antonio, Jesaelen G. Moraes, Rafael Werle, Cody F. Creech, Ryan S. Henry, Greg R. Kruger; University of Nebraska-Lincoln, North Platte, NE (29)

†Herbicide Efficacy as Influenced by Carrier Volume and Weed Size. Cody F. Creech*[1], Rafael Werle[1], Jesaelen G. Moraes[1], Andre O. Rodrigues[1], Fernanda S. Antonio[1], Ryan S. Henry[1], Lowell Sandell[2], Greg R. Kruger[1]; [1]University of Nebraska-Lincoln, North Platte, NE, [2]University of Nebraska-Lincoln, Lincoln, NE (30)

Efficacy of Dicamba & Glyphosate Applied Through Commercial Application Equipment. Stephen A. Valenti*[1], Joseph J. Sandbrink[2], Jeff N. Travers[2]; [1]Monsanto, Fargo, ND, [2]Monsanto Company, St. Louis, MO (31)

Proposed Label Application Requirements for Dicamba in Roundup Ready® Xtend Crop Systems. Susan E. Curvey*, Jeff N. Travers, Joseph J. Sandbrink, Thomas B. Orr, Helen E. Mero; Monsanto Company, St. Louis, MO (32)

†Effect of Carrier Volume on Growth Regulator and Contact Herbicide Tank-Mixtures. Strahinja Stepanovic*[1], Matheus Palhano[1], Greg R. Kruger[2], Lowell Sandell[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Nebraska-Lincoln, North Platte, NE (33)

†Effect of Water Temperature and Storage Duration on MON 76757. Pratap Devkota*, William G. Johnson; Purdue University, West Lafayette, IN (34)

†An Evaluation of Three Drift Reduction Technologies for Aerial Application of Pesticides. Ryan S. Henry*[1], Annah Geyer[1], William E. Bagley[2], Greg R. Kruger[1]; [1]University of Nebraska-Lincoln, North Platte, NE, [2]Wilbur-Ellis, San Antonio, TX (35)

Drift Reduction to Soybean Fields When Using Best Management Practices with Enlist Duo. David M. Simpson*, Fikru Haile, Jerome J. Schleier; Dow AgroSciences, Indianapolis, IN (36)

†The Influence Of Carrier Volume And Spray Nozzle Type On Herbicide Coverage At Late Post Application to 31-cm Tall Soybean. Travis Legleiter*, William G. Johnson; Purdue University, West Lafayette, IN (136)

†Interaction of Carrier Water pH and Hardness on the Efficacy of MON 76757 and 2,4-D Choline. Pratap Devkota*, William G. Johnson; Purdue University, West Lafayette, IN (137)

Increasing Activity of Growth Regulator Herbicides with Water Conditioners. Donald Penner*, Jan Michael; Michigan State University, East Lansing, MI (138)

†Glyphosate, Fluazifop, Lactofen, and Dicamba Efficacy and Droplet Size as Influenced by Adjuvants. Cody F. Creech*[1], William E. Bagley[2], Lowell Sandell[3], Greg R. Kruger[1]; [1]University of Nebraska-Lincoln, North Platte, NE, [2]Wilbur-Ellis, San Antonio, TX, [3]University of Nebraska-Lincoln, Lincoln, NE (139)

†Tomato Injury and Downwind Deposition from Aerial Applications of Glyphosate. Ryan S. Henry*[1], Brad Fritz[2], Clint Hoffmann[2], William E. Bagley[3], Andrew Hewitt[1], Greg R. Kruger[1]; [1]University of Nebraska-Lincoln, North Platte, NE, [2]USDA-ARS, College Station, TX, [3]Wilbur-Ellis, San Antonio, TX (140)

Glyphosate Drift Deposition and Tomato Injury from Ground Applications. Greg R. Kruger*[1], Ryan S. Henry[1], Cody F. Creech[1], Brad Fritz[2], Clint Hoffmann[2], William E. Bagley[3], Andrew Hewitt[1]; [1]University of Nebraska-Lincoln, North Platte, NE, [2]USDA-ARS, College Station, TX, [3]Wilbur-Ellis, San Antonio, TX (141) (N/A)

Low Volume Dormant Stem Treatments for Extending the Brush Control Season. Pat Burch[1], Travis Roger[2], Ernest S. Flynn*[3]; [1]Dow AgroSciences, Christiansburg, VA, [2]Dow AgroSciences, Charleston, SC, [3]Dow AgroSciences, Ankeny, IA (166)

Calibration Technology. Robert E. Wolf*; Wolf Consulting & Research LLC, Mahomet, IL (167)

The Effects of Nozzles and Drift Reduction Agents on Droplet Size Distributions of Dicamba and Glyphosate Mixtures. Thomas B. Orr*[1], Kirk B. Remund[1], Jeff N. Travers[1], Joy L. Honegger[1], Andrew Hewitt[2]; [1]Monsanto Company, St. Louis, MO, [2]University of Nebraska-Lincoln, North Platte, NE (168)

Evaluating Drift Reduction Technologies for the Control of Glyphosate-resistant Waterhemp Using Dicamba and Glyphosate. Robert E. Wolf*[1], Scott M. Bretthauer[2], Matthew Gill[2], Bryan G. Young[3], Greg R. Kruger[4]; [1]Wolf Consulting & Research LLC, Mahomet, IL, [2]University of Illinois, Urbana-Champaign, IL, [3]Southern Illinois University, Carbondale, IL, [4]University of Nebraska-Lincoln, North Platte, NE (169)

Nonionic Surfactant Adjuvant with Optimized Physical and Biological Properties for Herbicide Tank Mixtures. Gregory J. Lindner*[1], Kevin Penfield[1], Bryan G. Young[2], Marcia Werner[3]; [1]Croda Inc, New Castle, DE, [2]Southern Illinois University, Carbondale, IL, [3]Croda Brasil, Campinas, Brazil (170)

Atomization of Agricultural Tank Mixtures in Response to a Pulse Width Modulation (PWM) Spray Delivery System. Lillian C. Magidow*[1], Stephanie Wedryk[1], Donald Penner[2]; [1]Winfield Solutions, St. Paul, MN, [2]Michigan State University, East Lansing, MI (171) (N/A)

Minimizing Dicamba Drift with Improved Hooded Sprayers. Joseph J. Sandbrink*[1], Jeff N. Travers[1], Steve Claussen[2]; [1]Monsanto Company, St. Louis, MO, [2]Willmar, Willmar, MN (172)

Methods for Deactivating Dicamba Solutions in Agricultural Spray Equipment. Susan E. Curvey*[1], David A. Morgenstern[1], Jeff N. Travers[1], Joseph J. Sandbrink[1], Ryan J. Rector[2]; [1]Monsanto Company, St. Louis, MO, [2]Monsanto Company, St Louis, MO (173)

Simple and Reliable Tank Cleaning. David A. Morgenstern*, Ronald J. Brinker, James W. Taylor, James P. Fornango, Jeff N. Travers; Monsanto Company, St. Louis, MO (174)

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Use of Non-Traditional Extension Outreach Tools for Turfgrass Weed Science. Jared A. Hoyle*; Kansas State University, Manhattan, KS (37)

Manual for Propane-Fueled Flame Weeding in Corn, Soybean, and Sunflower. Stevan Z. Knezevic*[1], Avishek Datta[2], Chris Bruening[3], George Gogos[3], Jon E. Scott[1]; [1]University of Nebraska-Lincoln, Concord, NE, [2]Asian Institute of Technology, Bangkok, Thailand, [3]University of Nebraska-Lincoln, Lincoln, NE (38)

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Time of Weed Removal in Corn and Soybeans, A Field Teaching Tool - Seeing is Believing. Lisa M. Behnken*[1], Fritz Breitenbach[1], Jeffrey L. Gunsolus[2], Ryan P. Miller[1]; [1]University of Minnesota, Rochester, MN, [2]University of Minnesota, Saint Paul, MN (39)

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Ellis[3], Eric F. Scherder[4], David C. Ruen[5], Corey K. Gerber[6], Fritz Koppatschek[7], Luke A. Peters[2]; [1]Dow AgroSciences, Noblesville, IN, [2]Dow AgroSciences, Indianapolis, IN, [3]Dow AgroSciences, Smithville, MO, [4]Dow AgroSciences, Huxley, IA, [5]Dow AgroSciences, Lanesboro, MN, [6]Purdue University, West Lafayette, IN, [7]ABG Ag Services, Sheridan, IN (40) (N/A)

Global Technology Transfer at Dow AgroSciences: Blended Learning for Employee and Customer Education. Gary A. Finn[1], Bruce E. Maddy[2], Ed King[1], David E. Hillger*[1]; [1]Dow AgroSciences, Indianapolis, IN, [2]Dow AgroSciences, Noblesville, IN (41)

Take Action: A Cooperative Herbicide Resistance Educational Program. William G. Johnson, Travis Legleiter*; Purdue University, West Lafayette, IN (42)

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Glyphosate Weeds in Ontario. Peter H. Sikkema*[1], Darren Robinson[1], Francois Tardif[2], Mark B. Lawton[3], Nader Soltani[1]; [1]University of Guelph-Ridgetown, Ridgetown, ON, [2]University of Guelph, Guelph, ON, [3]Monsanto, Guelph, ON (183)

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Stewardship for BASF Herbicides. Luke L. Bozeman*[1], Sandra Wilson[1], Robert E. Wolf[2], Daniel Pepitone[1]; [1]BASF Corporation, Research Triangle Park, NC, [2]Wolf Consulting & Research LLC, Mahomet, IL (188)

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†Herbicide Combinations for the Control of Nimblewill in Kentucky Bluegrass Lawns. Michael Barrett, Alexandra P. Williams*; University of Kentucky, Lexington, KY (47)

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†Characterization of an Indiana Palmer Amaranth Population Resistant to Glyphosate. Doug J. Spaunhorst*, William G. Johnson; Purdue University, West Lafayette, IN (51)

Inheritance of Atrazine Resistance in Palmer Amaranth. Mithila Jugulam*, Amar S. Godar, Curtis R. Thompson; Kansas State University, Manhattan, KS (52)

†Biochemical Basis for Metabolism-based Atrazine Resistance in waterhemp. Anton F. Evans*, Rong Ma, Jacqueline Janney, Brittany A. Janney, Dean E. Riechers; University of Illinois, Urbana-Champaign, IL (53)

†Influence of Soil Residual Fomesafen and Dicamba Tank-Mixtures on the Frequency of PPO-Resistant Waterhemp. Theresa A. Reinhardt*, R. Joseph Wuerffel, Julie M. Young, Bryan G. Young; Southern Illinois University, Carbondale, IL (54)

†EPSPS Pro106Ser Substitution in a Glyphosate Resistant Goosegrass Population from Tennessee. Janel L. Huffman*[1], Chance W. Riggins[1], Lawrence E. Steckel[2], Patrick Tranel[1]; [1]University of Illinois, Urbana-Champaign, IL, [2]University of Tennessee, Jackson, TN (55)

Differential Response of Lambsquarters from Kansas to Glyphosate. Randall DeGreeff*, Amar S. Godar, Anita Dille, Dallas E. Peterson, J. Mithila; Kansas State University, Manhattan, KS (56)

*Presenter; † Student Contestant

†Inheritance of Glyphosate Resistance in Kochia. Kindsey Niehues*, J. Mithila; Kansas State University, Manhattan, KS (57)

Multiple Hebicide-Resistant Kochia from Kansas. J. Mithila*[1], Amar S. Godar[1], Randall S. Currie[2], Anita Dille[1], Curtis R. Thompson[1], Phillip W. Stahlman[3]; [1]Kansas State University, Manhattan, KS, [2]Kansas State University, Garden City, KS, [3]Kansas State University, Hays, KS (58)

†Transfer of Phenoxy Resistance from Wild Radish to Canola via Embryo Rescue. Andrew Dillon*, Mithila Jugulam; Kansas State University, Manhattan, KS (59)

†A Multi-State Study of the Association Between Glyphosate Resistance and EPSPS Gene Amplification in Waterhemp. Laura A. Chatham*[1], Chance W. Riggins[1], James R. Martin[2], Greg R. Kruger[3], Kevin W. Bradley[4], Dallas E. Peterson[5], Mithila Jugulam[5], Patrick Tranel[1]; [1]University of Illinois, Urbana-Champaign, IL, [2]University of Kentucky, Princeton, KY, [3]University of Nebraska-Lincoln, North Platte, NE, [4]University of Missouri, Columbia, MO, [5]Kansas State University, Manhattan, KS (127)

Non-Target-Site Resistance to ALS Inhibitors in Waterhemp. Jiaqi Guo*, Chance W. Riggins, Nicholas Hausman, Aaron G. Hager, Dean E. Riechers, Patrick Tranel; University of Illinois, Urbana-Champaign, IL (128)

†Absorption and Translocation of 2,4-D in Resistant and Susceptible *Amaranthus tuberculatus*. Lacy J. Valentine*[1], J. Mithila[2], Amar S. Godar[2], Zac Reicher[1], Greg R. Kruger[3]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Kansas State University, Manhattan, KS, [3]University of Nebraska-Lincoln, North Platte, NE (129)

Mesotrione Resistance is Increased Under Elevated Growth Temperatures in Palmer Amaranth. Amar S. Godar, Mithila Jugulam*, P. V. Vara Prasad; Kansas State University, Manhattan, KS (130)

†*Amaranthus* Species: Pollen Expression of EPSP Synthase and *In Vitro* Pollen Germination. Tye C. Shauck*, Reid J. Smeda; University of Missouri, Columbia, MO (131)

†New Evidence for Multiple Glyphosate-Resistance Mechanisms Within a Population of Common Ragweed. Jason T. Parrish*[1], Mark M. Loux[1], David M. Mackey[1], Leah K. McHale[1], Doug Sammons[2], Dafu Wang[2], Elizabeth L. Ostrander[3], Dana A. d'Avignon[3], Xia Ge[3], Philip Westra[4], Christopher R. Van Horn[4], Andrew T. Wiersma[5]; [1]The Ohio State University, Columbus, OH, [2]Monsanto Company, St. Louis, MO, [3]Washington University, St. Louis, MO, [4]Colorado State University, Fort Collins, CO, [5]Michigan State University, East Lansing, MI (132)

†Uptake, Translocation, and Metabolism of 2,4-D in Enlist Soybeans. Joshua J. Skelton*[1], David M. Simpson[2], Dean E. Riechers[1]; [1]University of Illinois, Urbana-Champaign, IL, [2]Dow AgroSciences, Indianapolis, IN (133)

Kochia Populations Response to Glyphosate and EPSPS Gene Copy Number. Amar S. Godar*[1], Phillip W. Stahlman[2], Mithila Jugulam[1], Anita Dille[1]; [1]Kansas State University, Manhattan, KS, [2]Kansas State University, Hays, KS (134)

Evolution and Status of Glyphosate Resistant Kochia in American Great Plains. Philip Westra*[1], Andrew T. Wiersma[2]; [1]Colorado State University, Fort Collins, CO, [2]Michigan State University, East Lansing, MI (135)

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†Effect of Cover Crop and Winter Annual Weed Removal Timing and Soybean Planting Date on Soybean Yield. Deanne Corzatt*, Mark L. Bernards; Western Illinois University, Macomb, IL (60)

Glyphosate-Resistant Waterhemp Response to Glyphosate Doses in Nebraska. Jordan Moody*[1], Lucas Baldridge[1], Lowell Sandell[1], Greg R. Kruger[2]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Nebraska-Lincoln, North Platte, NE (61) (N/A)

†Measuring Ecological Fitness in the Absence of Herbicide Selection of Five Herbicide-Resistance Traits in Waterhemp using a Multi-Generation Greenhouse Study. Chenxi Wu*[1], Adam S. Davis[2], Patrick Tranel[1]; [1]University of Illinois, Urbana-Champaign, IL, [2]USDA-Agricultural Research Service, Urbana, IL (62)

Use of Residual Herbicides to Control Waterhemp and Palmer Amaranth. Lucas Baldridge*[1], Jordan Moody[1], Strahinja Stepanovic[1], Lowell Sandell[1], Lawrence E. Steckel[2], Jason K. Norsworthy[3], Bryan G. Young[4], Kevin W. Bradley[5], William G. Johnson[6], Mark M. Loux[7], Vince M. Davis[8], Thomas W. Eubank[9], Greg R. Kruger[10]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Tennessee, Jackson, TN, [3]University of Arkansas, Fayetteville, AR,

[4]Southern Illinois University, Carbondale, IL, [5]University of Missouri, Columbia, MO, [6]Purdue University, West Lafayette, IN, [7]The Ohio State University, Columbus, OH, [8]University of Wisconsin-Madison, Madison, WI, [9]Mississippi State University, Stoneville, MS, [10]University of Nebraska-Lincoln, North Platte, NE (63) (N/A)

Waterhemp Resistance to Post Emergent Application of HPPD Herbicides. Stevan Z. Knezevic*[1], Jon E. Scott[1], Aaron S. Franssen[2], Vinod K. Shivrain[3]; [1]University of Nebraska-Lincoln, Concord, NE, [2]Syngenta Crop Protection, Seward, NE, [3]Syngenta Crop Protection, Vero Beach, FL (64)

†Differential Responses to Atrazine Preemergence and Postemergence in Two Populations of Atrazine-resistant Waterhemp from Illinois. Rong Ma*[1], Anton F. Evans[1], Shiv S. Kaundun[2], Brittany A. Janney[1], Dean E. Riechers[1]; [1]University of Illinois, Urbana-Champaign, IL, [2]Syngenta UK, Berkshire, England (65)

†Landscape Movement of 2,4-D Resistance in waterhemp. Lacy J. Valentine*[1], Zac Reicher[1], Patrick Tranel[2], Greg R. Kruger[3]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]University of Illinois, Urbana-Champaign, IL, [3]University of Nebraska-Lincoln, North Platte, NE (66)

†Growth Rate, Dry Matter Accumulation, and Seed Yield of Common Waterhemp. Joseph M. Heneghan*, William G. Johnson; Purdue University, West Lafayette, IN (67)

†Impact of Emergence Date on Reproductive Potential of Amaranthus. Heidi R. Davis*, Reid J. Smeda; University of Missouri, Columbia, MO (68)

Emergence Patterns of Waterhemp in Nebraska in 2013. Chandra J. Hawley*[1], Lacy J. Valentine[2], Lowell Sandell[2], Amit J. Jhala[2], Greg R. Kruger[1]; [1]University of Nebraska-Lincoln, North Platte, NE, [2]University of Nebraska-Lincoln, Lincoln, NE (69) (N/A)

†Waterhemp Control Under Varying Drought Stress Conditions with 2,4-D and Glyphosate. Joshua J. Skelton*, Brittany A. Janney, Dean E. Riechers; University of Illinois, Urbana-Champaign, IL (70)

†Identifying Gender-specific DNA Markers in Waterhemp. Ahmed Sadeque*, Patrick J. Brown, Patrick Tranel; University of Illinois, Urbana-Champaign, IL (71)

†Characterization of Illinois Populations of Waterhemp and Palmer Amaranth for Herbicide Mode-of-Action Sensitivity and Soil Residual Activity. Jamie L. Long*, Julie M. Young, Bryan G. Young; Southern Illinois University, Carbondale, IL (72)

†Emergence Patterns of Waterhemp and Palmer amaranth in the Southern and Midwestern U.S. Lucas X. Franca*[1], Bryan G. Young[1], Jason K. Norsworthy[2], Thomas W. Eubank[3], Lawrence E. Steckel[4], Mark M. Loux[5], William G. Johnson[6], Vince M. Davis[7], Reid J. Smeda[8], Greg R. Kruger[9]; [1]Southern Illinois University, Carbondale, IL, [2]University of Arkansas, Fayetteville, AR, [3]Mississippi State University, Stoneville, MS, [4]University of Tennessee, Jackson, TN, [5]The Ohio State University, Columbus, OH, [6]Purdue University, West Lafayette, IN, [7]University of Wisconsin-Madison, Madison, WI, [8]University of Missouri, Columbia, MO, [9]University of Nebraska-Lincoln, North Platte, NE (73)

*Presenter; † Student Contestant

Historical Distribution of Giant Ragweed and Cocklebur in the North Central Region. Ramarao Venkatesh*[1], Robert A. Ford[1], Emilie E. Regnier[1], Steven K. Harrison[1], Christopher Holloman[1], Robin Taylor[2], Florian Diekmann[1]; [1]The Ohio State University, Columbus, OH, [2]Texas A&M University, Temple, TX (74)

GIS Analysis of Glyphosate Resistance in Giant Ragweed . Robert A. Ford*[1], Ramarao Venkatesh[1], Emilie E. Regnier[1], Steven K. Harrison[1], Christopher Holloman[1], Robin Taylor[2], Florian Diekmann[1]; [1]The Ohio State University, Columbus, OH, [2]Texas A&M University, Temple, TX (75)

Metagenomic Evaluation of Rhizosphere Microbial Community Dynamics in Glyphosate-Treated Giant Ragweed

Biotypes. Jessica R. Schafer*, Steve G. Hallett, William G. Johnson; Purdue University, West Lafayette, IN (76)

Giant Ragweed Resistance to Glyphosate in Nebraska. Stevan Z. Knezevic*[1], Jon E. Scott[1], Avishek Datta[2]; [1]University of Nebraska-Lincoln, Concord, NE, [2]Asian Institute of Technology, Bangkok, Thailand (77)

†Emergence Time of Summer and Winter Annual Weeds in the Midwestern USA. Rodrigo Werle*[1], Lowell Sandell[1], Mark L. Bernards[2], Doug Buhler[3], Bob G. Hartzler[4], John L. Lindquist[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]Western Illinois University, Macomb, IL, [3]Michigan State University, East Lansing, MI, [4]Iowa State University, Ames, IA (78)

†Defining the Weed Host Range of *Clavibacter michiganensis* subsp. *nebraskensis*, Causal Agent of Goss's Wilt of Corn. Joseph Ikley*, Kiersten Wise, William G. Johnson; Purdue University, West Lafayette, IN (79)

†Influence of Cereal Rye and Annual Ryegrass Cover Crops on Management of Glyphosate Resistant Horseweed. Tyler A. Johnson*, Mark M. Loux; The Ohio State University, Columbus, OH (80)

†Impact of Weed Management and Nitrogen Rate on Nitrous Oxide Emissions in Corn. Rebecca R. Bailey*, Vince M. Davis; University of Wisconsin-Madison, Madison, WI (81)

†Herbicide Carryover Evaluation in Cover Crops Following Corn and Soybean Herbicides. Daniel H. Smith*[1], Travis Legleiter[2], Elizabeth J. Bosak[1], William G. Johnson[2], Vince M. Davis[1]; [1]University of Wisconsin-Madison, Madison, WI, [2]Purdue University, West Lafayette, IN (82)

†Winter Annual Weed Suppression with Oilseed Radish. Sandler Leah*, Kelly Nelson; University of Missouri, Columbia, MO (83)

Impact of Cover Crops on Weed Dynamics in Organic Dry Beans. Erin C. Hill*, Karen A. Renner, Christy L. Sprague; Michigan State University, East Lansing, MI (84)

†Fitness of Sorghum, Shattercane and Their F2 Hybrid Progeny. Jared J. Schmidt*[1], Scott Sattler[2], Diana Pilson[1], Aaron J. Lorenz[1], Jeff f. Pedersen[2], John L. Lindquist[1]; [1]University of Nebraska-Lincoln, Lincoln, NE, [2]USDA-ARS, Lincoln, NE (85)

Weed Control in Shelterbelts. Devin A. Wirth*, Richard K. Zollinger; North Dakota State University, Fargo, ND (86)

†Kochia Seed Characteristics Under Different Crop Canopies. Andrew Esser*, Anita Dille; Kansas State University, Manhattan, KS (113)

†Influence of Emergence Timing on the Vegetative and Reproductive Development of Palmer Amaranth in Indiana. Doug J. Spaunhorst*, William G. Johnson; Purdue University, West Lafayette, IN (114)

†Influence of Spring Tillage on Emergence of Giant Ragweed in Nebraska. Rodrigo Werle*, Lowell Sandell, Simranpreet Kaur, Amit J. Jhala, John L. Lindquist; University of Nebraska-Lincoln, Lincoln, NE (115)

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†Giant Ragweed Seed Production and Retention in Soybean and Field Margins. Jared J. Goplen*[1], Jeffrey L. Gunsolus[1], Craig Sheaffer[1], Roger Becker[1], Jeffrey Coulter[1], Fritz Breitenbach[2], Lisa M. Behnken[2], Gregg Johnson[3]; [1]University of Minnesota, Saint Paul, MN, [2]University of Minnesota, Rochester, MN, [3]University of Minnesota SROC, Waseca, MN (116)

†Control of Glyphosate Resistant Horseweed with Glyphosate DMA/2,4-D Choline (Enlist Duo) in Corn. Laura R. Ford*[1], Darren Robinson[1], Allan McFadden[2], Nader Soltani[1], Robert Nurse[3], Peter H. Sikkema[1]; [1]University of Guelph-Ridgetown, Ridgetown, ON, [2]Dow AgroSciences Canada Inc, Guelph, ON, [3]Agriculture and Agri-Food Canada, Harrow, ON (117)

†Impact of Herbicides on *Clavibacter michiganensis* subsp. *nebraskensis*, Causal Agent of Goss's Wilt of Corn. Joseph Ikley*, Kiersten Wise, William G. Johnson; Purdue University, West Lafayette, IN (118)

†Effect of Humidity and Humectant on Glufosinate Efficacy. Andrew R. Kniss[1], Carl W. Coburn*[1], Richard K. Zollinger[2]; [1]University of Wyoming, Laramie, WY, [2]North Dakota State University, Fargo, ND (119)

†Response of Common Waterhemp to Waterstress. Debalin Sarangi*, John L. Lindquist, Suat Irmak, Amit J. Jhala; University of Nebraska-Lincoln, Lincoln, NE (120)

†Status of Herbicide Resistance in Ohio Amaranthus spp. Samantha N. Konkle*, Mark M. Loux, Tony Dobbels; The Ohio State University, Columbus, OH (121)

†Nitrous Oxide Emissions as Influenced by Nitrogen and Weeds Before and After Postemergence Glyphosate Application. Rebecca R. Bailey*, Vince M. Davis; University of Wisconsin-Madison, Madison, WI (122)

†Concomitant Nutrient Release of Decaying Weed Residues Following Postemergent Weed Control. Nick T. Harre*, Bryan G. Young, Jon E. Schoonover; Southern Illinois University, Carbondale, IL (123)

†The Applicability of Tilman's Resource Ratio Theory to Four Amaranthaceae Species. Lauren M. Schwartz*, Bryan G. Young, David J. Gibson; Southern Illinois University, Carbondale, IL (124)

†The Effect of Mob Grazing on Canada thistle Control, Pasture Productivity and Utilization, and Forage Quality. Anders M. Gurda*[1], Mark J. Renz[1], Geoffrey E. Brink[2]; [1]University of Wisconsin-Madison, Madison, WI, [2]USDA-ARS Dairy Forage Research Center, Madison, WI (125)

Effect of Winter Wheat Cover Crop Residue on Dry Bean Development and Harvest Loss. Andrew R. Kniss*[1], Robert Baumgartner[2], David Claypool[1]; [1]University of Wyoming, Laramie, WY, [2]University of Wyoming, Lingle, WY (175)

Benefits and Economics of "The Critical Period of Competition" and "The ZeroSeed Threshold" Weed Management Strategies for Transitioning to Organic Farming. Mohsen Mohseni-Moghadam*[1], Karen Amisi[2], Doug Doohan[3]; [1]OSU-OARDC, Wooster, OH, [2]Grand Valley State University, Allendale, MI, [3]The Ohio State University, Wooster, OH (176)

Can Overproduction of EPSPS Enhance Fitness in Certain Glyphosate-Resistant Weeds?: Avenues for Research. Allison A. Snow*, Mark M. Loux, Bruce A. Ackley, David M. Mackey, Zachery T. Beres; The Ohio State University, Columbus, OH (177)

Impact of Management and Atrazine Use on Late-Season Weed Escapes in Wisconsin Corn and Soybean Fields. Ross A. Recker*, Vince M. Davis; University of Wisconsin-Madison, Madison, WI (178)

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Palmer Amaranth: A Looming Threat to Soybean Production in the North Central Region? Adam S. Davis*[1], Aaron G. Hager[2], Bryan G. Young[3]; [1]USDA-Agricultural Research Service, Urbana, IL, [2]University of Illinois, Urbana-Champaign, IL, [3]Southern Illinois University, Carbondale, IL (179)

Something Wicked This Way Comes: New Reports and Herbicide Resistance Profiles of Invasive Palmer Amaranth Populations in Illinois. Chance W. Riggins*, Aaron G. Hager, Patrick Tranel; University of Illinois, Urbana-Champaign, IL (180)

Survey of Giant Ragweed Distribution and Spread in the North Central Region. Emilie E. Regnier*[1], Christopher Holloman[1], Steven K. Harrison[1], Mark M. Loux[1], Ramarao Venkatesh[1], Robert A. Ford[1], Robin Taylor[2], Florian Diekmann[1]; [1]The Ohio State University, Columbus, OH, [2]Texas A&M University,

Temple, TX (181)

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The Great Lakes Phragmites Collaborative: Building a Communication Stategy to Increase Regional Collaboration on Invasive Species Management. Amanda Sweetman*[1], Spphie Taddeo[1], Heather Braun[1], Kurt P. Kowalski[2]; [1]Great Lakes Commission, Ann Arbor, MI, [2]USGS-Great Lakes Science Center, Ann Arbor, MI (87) (N/A)

Invasive Phragmites in Great Lakes Coastal Corriors: Combining Radar Mapping and Habitat Suitability Modeling in an Online Decision Support Tool. Wesley A. Bickford*[1], Kurt P. Kowalski[1], Martha L. Carlson Mazur[2], Mike R. Eggleston[1]; [1]USGS-Great Lakes Science Center, Ann Arbor, MI, [2]Boston College, Chestnut Hill, ME (88) (N/A)

Invasive Plant and Native Amphibian Interactions. Lisa Regula Meyer*; Kent State University, Kent, OH (89) (N/A)

Is the Solution Worse Than the Problem? Examining the Effects of *Myriophyllum spicatum* and Triclopyr on *Lithobates pipiens* Tadpoles. Amanda Curtis*, M. Gabriela Bidart-Bouzat; Bowling Green State University, Bowling Green, OH (90) (N/A)

Historic Mining and Agriculture as Indicators of Presence and Distribution of Two Widespread Invasive Plant Species. Kellen M. Calinger*, Elisabeth Calhoon, Hsiao-chi Chang; Ohio State University, Columbus, OH (91)

The Effect of Invasive Species on Grassland Bird Nesting. Chelsea L. Merriman*, Kerri C. Martin; University of Notre Dame, South Bend, IN (92) (N/A)

Does the Rare, Native West Virginia White Butterfly (*Pieris virginiensis*) Oviposit on Invasive Garlic Mustard (*Alliaria petiolata*)? Samantha L. Davis*, Don Cipollini; Wright State University, Fairborn, OH (93) (N/A)

Invasive Plant Dynamics in Ash Ecosystems. Kathleen Knight*; USDA Forest Service, Delaware, OH (94) (N/A)

Native-Invasive Tree Litter Mixtures Enhance Invasive Species' Impacts on Nutrient Cycling During the Growing Season. Michael J. Schuster*, Jeffrey S. Dukes; Purdue University, West Lafayette, IN (95)

Exploring Direct and Indirect Comparative Allelopathic Effects of Invasive *Lonicera japonica* and Native *Lonicera sempervirens*. Nate Godby*, Kendra Cipollini; Wilmington College, Wilmington, OH (96)

Factors Associated with Invasive Plant Distribution along Wisconsin Roadsides. Mark J. Renz*[1], Joslyn Mink[2]; [1]University of Wisconsin-Madison, Madison, WI, [2]University of Wisconsin, Madison, Madison, WI (189)

Effects of Three Common Buckthorn Removal Techniques on the Regeneration of Understory Vegetation. Alexander M. Roth*, Alexandra G. Lodge, Lee E. Frelich, Peter B. Reich; University of Minnesota, St. Paul, MN (190)

Foliar-Applied Herbicides for Saltcedar Control. Walter H. Fick*; Kansas State University, Manhattan, KS (191)

***Ailanthus* Wilt, a Potential Biocontrol Agent in Ohio Forests?** Joanne Rebbeck*[1], Joan Jolliff[1], Donald Davis[2], Eric O'Neal[2]; [1]Northern Research Station, Delaware, OH, [2]Penn State University, University Park, PA (192)

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