

NCWSS • News

North Central Weed Science Society

Vol 29, Number 3, Fall 2012

www.ncwss.org

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North Central
Weed Science Society

**If you are a member of
the NCWSS and have
material you would like
to submit to the
Newsletter, please send
it to:**

**Harlene Hatterman-
Valenti at
H.Hatterman.Valenti@ndsu.edu**

**Welcome
to Saint Louis for
our 67th Annual
Meeting!**

The Local Arrangements Committee is delighted to welcome you to Saint Louis for the 2012 Annual Meeting. The meeting will be held at the Hyatt Regency Saint Louis at the Arch, just off of I-70 (hyattregencystlouis.com) in the heart of downtown and across the street from the Gateway Arch.

Explore the Highlights section of the Explore Saint Louis website (explorestlouis.com) to learn what to do in Saint Louis. Saint Louis has plenty of landmarks (the Gateway Arch, Forest Park), art venues (Citygarden, the Contemporary Art Museum, the Saint Louis Art Museum) and unique attractions (Missouri Botanical Garden, City Museum). You can learn about the culinary scene from our local culinary magazines (saucecafe.com or feaststl.com) or experience our music and entertainment options (do314.com). If you're not sure what you want to do, go out and explore any of these neighborhoods: Washington Avenue in downtown Saint Louis, Soulard, the Loop, or the Central West End. Also keep in mind, deep down, Saint Louis is still a brewery town. It is home to the giant Anheuser-Busch Brewing Company as well as a dozen local microbreweries,

Continued on Next Page

Welcome to St. Louis - Continued

including Urban Chestnut, Four Hands, Perennial, and Schally, to name a few.

To attend the 67th Annual Meeting from December 10-13, register for the meeting and make your hotel reservations at our web site: ncwss.org. To receive the discounted meeting rate at the Hyatt Regency make your hotel reservations prior to November 23. To schedule meals, hospitality rooms, or other events, please contact Phil Banks: ncwss@marathonag.com or 575-527-1888.

If you have other questions regarding the meeting, please contact Emilio Oyarzabal, Local Arrangements Chairman: esoyar@monsanto.com or 314-694-4885.

Traveling to Saint Louis

Lambert St. Louis International Airport (STL) is 15 miles away of the Hyatt by car. If driving a car from Lambert to the Hyatt, take I-70 East to Memorial Drive exit. Go straight on Memorial Drive. Turn right onto Market Street. Turn right onto North 4th Street. Turn right onto Chestnut Street - hotel on left. Using the Metro Link from the airport -Terminal #1 to the Hyatt is a cost effective way of transportation. The closest station to the Hyatt Regency is located at 8th and Pine Street. Walk east on Pine to 4th and Pine Street. Enter through hotel's 4th street entrance. Another form of transportation is available through GO Best Express Airport Shuttle. Reserve on line at: www.gobestexpress.com or by phone at 1-877-STL-GOVAN (1-877-785-4682).

If you drive or rent a car, parking is available at the hotel and there are several public parking facilities close to the hotel.

Hotel Address:

Hyatt Regency Saint Louis at the Arch
315 Chestnut Street,
Saint Louis, Missouri, USA 63102
Tel: +1 314 655 1234 Fax: +1 314-241-6618

By car on I-70 from the West:

Take I-70 East to Memorial Drive exit. Go



straight on Memorial Drive. Turn right onto Market Street. Turn right onto North 4th Street. Turn right onto Chestnut Street - hotel on left.

By car on I-70 from the East:

On the State of Missouri and near the Mississippi River, Highways I-70, I-55 and I-64 overlap. After crossing the Poplar Street Bridge over the Mississippi River, take the I-70 W/Memorial Drive exit toward Kansas City/Interstate 64. Keep right at the fork, follow signs for Memorial Drive/Arch-Riverfront/Convention Center and merge onto Memorial Drive. Turn left onto Market Street. Turn right onto North 4th Street. Turn right onto Chestnut Street - hotel on left.

Note: The hotel is located just off of Interstate 70 in downtown Saint Louis. For personalized directions, calculate the route on Google Maps (<http://goo.gl/maps/Xgyfl>).

The NCWSS Newsletter is filled by its members
Edited by Harlene Hatterman-Valenti
and arranged put together Glenn Nice

A Word From Your President – Bryan Young



*Bryan Young
2012 President*

We all look forward to that normal year when the growing season progresses in a regular and predictable pattern. Apparently, extreme weather patterns are the new norm as we have experienced extensive variability in our climate over the past several years as it pertains to production agriculture. The unrest in our weather is fairly descriptive of the volatility we observe in other facets of our daily lives such as political strife, religious upheaval, and world hunger. Furthermore, the discipline of weed science has recently trekked through some volatile times in the uprising of more challenging herbicide-resistant weeds, defending new technologies or practices in weed management from opponents, and economic restrictions, especially state and government budgets, which interfere with our ability to perform our job duties successfully. Please consider the NCWSS your escape to sound science and stability. The NCWSS continues to boast a healthy membership, excellent conference programs, active committees, and a firm economic foundation to serve the North Central region on weed management issues. I look forward to welcoming you to the Hyatt Regency hotel at our 2012 annual conference in St. Louis.

The Executive Committee of the NCWSS met at Hyatt Regency in St. Louis in June to conduct our regular slate of business and also connect with hotel staff and facilities in planning for our upcoming conference. You may appreciate the fact that there are no looming major changes proposed for the NCWSS as membership appears content with our current course of operation and we enjoy a certain degree of financial health. However, we continue to look at prospects to improve the value of the society to our members which is why we opted to offer the recording of oral papers to presenting authors in 2012. I hope all of you will be patient, if necessary, with any additional technology at the podium and be willing to evaluate this feature for potential future use. The presence of the NCWSS in Washington DC through our Science Policy Director, Lee Van Wychen, continues to be a critical service that we provide for weed management issues and policies that impact the North Central region. Several notices come to my attention from Lee seeking either the support or comment from the NCWSS on bills being considered relating to policy or funding for federal programs. In some cases, Lee requests that the NCWSS consider being a signatory for letters that encourage a science-based decision process. I know that many of us are skeptical about how much impact these efforts have in a clouded political system, but if we aren't present with a voice at the table I'm certain other groups that may have dramatically different viewpoints will be present and all that more effective in our absence. I would like to thank Lee for his effort in an environment that I'm certain comes with inherent frustration. As they say, "common sense has no place in DC."

One of the highlights of my summer was attending the 2012 NCWSS Summer Weed Contest hosted by Doug Nord and his staff at Diamond Ag Research in Larned, KS on August 8 and 9, 2012. We were greeted with cooler than normal weather which was welcomed by participants throughout the region. A detailed summary of the contest is provided later in this newsletter, but I want to thank all the great staff at Diamond Ag Research, volunteers, coaches, corporate sponsors, and the student contestants. This contest for training our students is what sets us apart from professional societies in other crop production disciplines. I'm already looking forward to 2013 when Monsanto will be hosting the contest at their facilities in Monmouth, IL.

Our 2012 Program Chair, Dave Johnson, has been working diligently with the Program Committee to develop our annual conference and has provided a variety of symposia that are sure to interest our membership. In addition, Dave and Emilio Oyarzabal, Local Arrangements chair, have teamed together to ensure the logistics of the conference allow for a productive, enjoyable meeting. Not only do I encourage you to attend the conference, but consider bringing a friend, colleague, fellow graduate student, or an undergraduate student who would benefit from our conference experience and open their eyes to what weed science and the NCWSS has to offer. Have a safe and productive fall season and I look forward to seeing you in St. Louis this December.

2012 Annual Meeting Information

Dave Johnson, Program Chair

The 67th annual meeting of the NCWSS in St. Louis is fast approaching! The meeting will be December 10-13, 2012 at the Hyatt Regency at the Arch in downtown St. Louis. This is the first time NCWSS has been at this hotel, and Emilio Oyarzabal and his local arrangements team are working with the hotel to get things ready in what is a very nice facility. The paper and poster titles are in and we are working to organize them into what should be an interesting and valuable program for our members.

General Session

The general session will feature Dr. Dale Shaner, USDA-ARS scientist, who will provide his perspectives on the topic of where weed science has been and where it is going, a report on what's happening in Washington by Science Policy Director Lee Van Wychen, a report on CAST activities by NCWSS's CAST Representative Duane Rathmann, a Presidential Address by NCWSS President Bryan Young, and necrology report by Aaron Hager.

Awards Luncheon and Social

We will recognize our new NCWSS Fellows, Distinguished Achievement Awards winners, and student contest winners at the Awards Luncheon on Wednesday, December 12. The Society Social, sponsored by our sustaining members, will be that evening.

Symposia

Symposia this year will be "Invasive potential of biofuel crops", organized by Scott Flynn, and "Finding a career in weed science," organized by Connor Ferguson and Ashley Schlichenmayer, chair and vice-chair of the NCWSS Graduate Student Committee. In addition, Dawn Refsell is coordinating the always popular "What's New in Industry" session. Dawn is also organizing the Industry breakfast meeting, scheduled for Thursday morning, December 13.

Student Activities

In addition to the traditional student paper and poster contests, we are planning several activities geared towards students. A preconference tour of Monsanto's Biotechnology Center and the Missouri Botanical Garden will be offered to member students and their professors on Monday, December 10. This will require

arrival at the hotel on Sunday, December 9, and Monsanto has graciously agreed to cover the cost of this extra night for the participants. In addition, we are re-introducing the Student Quiz Bowl during the BASF-sponsored Student Mixer on Monday evening, December 10. See separate articles in this newsletter on these student activities. Dow AgroSciences is sponsoring the Student Luncheon and Business meeting on Tuesday, December 11. These activities, plus the Careers symposium, should be fun and valuable to our students, who represent the future of the weed science profession.

Committee Meetings

Several committee meetings are scheduled and we welcome your input. These meetings are open to all members and your input is very important to help guide future meetings and our society's role in the scientific community, as educators, and as weed managers.

Presentation Recording

At the request of NCWSS members, a change for 2012 is the recording of presentations and posters for viewing by members at a later date on the NCWSS web site. Presentation recording and posting is *strictly voluntary* and authors were able to choose whether or not they wanted their presentations recorded when they submitted their titles. Another option is to post a PDF version of slides or posters on the web site. Authors may change their minds and choose not to have their presentation recorded and posted or to remove it from the web site at any time by contacting the Program Chair. Presentations will be available for viewing by NCWSS members only for a period of one year after the meeting. The Strategic Planning Committee, lead by Brian Jenks and Bruce Ashley, has worked hard on the implementation of this process, which we hope will be valuable to our members.

Titles, Abstracts, and Presentation Loading

Title submission through the web-based system seemed to work very well this year, and I did not receive any requests for assistance. This system will also be used for submitting abstracts and oral slide presentations. See the NCWSS Summer 2012 Newsletter for complete instructions on submitting abstracts, which are **due by November 16**, and for

2012 Annual Meeting Information - Continued

preparing and submitting your slide presentations for the meeting.

Early Registration and Hotel Reservations

Please plan to attend the 2012 NCWSS meeting in St. Louis. **Early registration deadline for the meeting is November 23 (fee increases by \$50 after this date). Make your hotel reservations by November 10 to get the group rate.**

Judges Needed

We have a great turnout for the graduate paper and poster contests at this year's NCWSS Conference in December. Judging will take place on Tuesday, December 11th and we'll begin the day with a lovely breakfast. If you wish to participate as a judge please contact:

Graduate Paper contest chair:
Cheryl Dunne Cheryl.dunne@syngenta.com
Graduate Poster contest Chair:
Tate Castillo tate.castillo@bayer.com

Student tour of Monsanto and Missouri Botanical Garden — Pre-conference professional and educational program at the Annual NCWSS Meeting Saint Louis, December 10th 2012

Monsanto invites graduate students and interested professors attending the upcoming NCWSS annual meeting to participate in a professional and educational program tailored to meeting participants. Details on how to register are included below. Participants will check in at the Hyatt Regency in Saint Louis (the NCWSS meeting venue) on the night of Sunday, December 9. Monsanto will pay for the room for the night of December 9 (two students per room). At 8:00 am on Monday, December 10, buses will pick the participants and drop them off at the Monsanto Biotechnology Center in Chesterfield Village where breakfast will be provided. Participants will tour the facilities and interact with scientists involved in research and development of advanced crops, biotechnology and crop protection systems. Lunch will be served around noon and the buses will shuttle the participants to the Missouri Botanical Garden. The group will visit several attractions and learn about the institution's programs and scientific projects. Beyond the scientific achievements, the Garden is pursuing worldwide sustainability and conservation efforts. For more information visit:

<http://www.missouribotanicalgarden.org/>

On Monday evening buses will return the participants to the Hyatt Regency around 5:00 pm, in time to continue the established NCWSS program.

If you are interested in participating in this event, e-mail Emilio Oyarzabal (esoyar@monsanto.com) before **November 16, 2012** with the following information:

First and last name:

Institution name:

E-mail:

Cell phone (in case it is needed):

Roommate name:

Additionally, when you make your reservations at the Hyatt, be sure to include the night of December 9th to your stay and inform the Hyatt of your roommate name. Each participant should send a separate request. You must be registered for the NCWSS meeting in order to participate in the program.

Monsanto will send registered participants an email with full instructions and a detailed agenda.

Monsanto will ensure that registered participants are not billed for the night of the 9th. If you decide to cancel your trip, please, cancel the rooms to avoid charges for unoccupied rooms.

Thanks in advance for your interest. See you in St. Louis.

Dr. Emilio Oyarzabal

Monsanto

esoyar@monsanto.com

Student Symposium: Finding a Career in Weed Science

A professional development opportunity for students attending NCWSS Meeting Saint Louis, December 12th 2012

The NCWSS Graduate Student Committee will offer an exciting new opportunity for students attending the NCWSS annual meeting in Saint Louis this December.

The symposium will consist of presentations and discussion from experts on topics relevant to obtaining a career in weed science with an advanced degree. Topics included will be focused in the areas of: networking skills, resume building, interview, and negotiation skills, plus historical and future outlooks on weed science. Students will have the opportunity to interact with recent weed science graduates in an informal setting regarding the transition from graduate school into a full-time career. Experts and panelists will be selected from a range of professional settings: from industry to academia and governmental

agencies. The diversity of the topics and speakers will equip students with a better understanding of their career field and what opportunities lay ahead after graduation. Students will hone their skills in key areas needed to land the job and career they aspire to and to understand what skill sets our field may need in the future. The NCWSS Graduate Student Committee is working to increase the opportunities for students at the annual meeting and your participation and feedback is needed to improve meeting experiences for students. If you have any ideas for a future symposium please contact Connor Ferguson at connor.ferguson@huskers.unl.edu or Ashley Schlichenmayer at aaskv9@mail.missouri.edu.

Saint Louis, December 10th, 2012

The Quiz Bowl is making a comeback to the NCWSS annual meeting! Gather teammates for a head-to-head competition during the BASF Student Mixer on Monday night. Teams will consist of 3-4 people and will answer questions on weed science topics. The teams will be randomly paired off in a bracket similar to the NCAA basketball tournament, with the winning team from a pairing advancing to the next round until a winner is decided. Great prizes for the winning team! Multiple teams from a university are welcome. Teams can sign up for the Quiz Bowl at the start of the Mixer (by 6:45 pm, Monday, December 10). ♦

CAST's Issue Paper 49

Herbicide-resistant Weeds Threaten Soil Conservation Gains: Finding a Balance for Soil and Farm Sustainability

CAST's Issue Paper 49, ***Herbicide-resistant Weeds Threaten Soil Conservation Gains: Finding a Balance for Soil and Farm Sustainability***, may now be accessed free of charge on CAST website. The paper also is available in hard copy for a shipping/handling fee.

As the authors of the paper state, "The balance between conservation tillage and herbicide-resistant (HR) weed management is the central issue addressed in the paper. The fundamental conflict facing many producers with HR weed management issues today is the choice between using tillage or land stewardship practices that protect soil and water resources."

Herbicides were developed during the twentieth century to be used with conventional tillage for weed control. Conservation (or minimum) tillage subsequently evolved, which enabled less soil damage when used with herbicides. Selection pressure, however, has resulted in weed species that have made adaptations for survival in conjunction with tillage. This publication examines the impact of certain weed management practices on soil conservation objectives and addresses ways to mitigate negative effects. The U.S. government has put several federal policies and programs in place that help determine the selection and

implementation of crops and conservation programs in relation to herbicides and tillage. The authors of this paper discuss those programs with regard to

- The disagreement among organizations, there being no simple solutions;
- The need for collaboration among all parties; and
- A case study of Palmer amaranth, "one of the most high-profile problems," in Georgia cotton.
- A few of the paper's conclusions include the following:
 - Soil conservation is threatened by HR weeds
 - Growers are including and/or intensifying tillage practices because of HR weeds
 - Education programs are needed to show how HR weeds can be managed without losing recent gains
 - More research is necessary regarding HR weed management and soil conservation goals.

Task Force Authors: David Shaw, Chair, Mississippi State University; Stanley Culpepper, University of Georgia; Micheal Owen, Iowa State University; Andrew Price, National Soil Dynamics Laboratory; Robert Wilson, University of Nebraska.

Duane P. Rathmann
NCWSS CAST Representative

Washington Report

Lee Van Wyachen



Differences Between House and Senate Farm Bill Weed Science Issues

The Senate approved its version of the 2012 omnibus farm bill (S. 3240, the Agriculture Reform, Food, and Jobs Act of 2012) by a vote of 64-35 on June 21, 2012. Following that, the House Agriculture Committee conducted markup of its own version of the farm bill (H.R. 6083, the Federal Agriculture Reform and Risk Management Act of 2012) on July 11, 2012, and approved the amended bill by a vote of 35-11. Floor action on the House farm bill is still pending. Below are weed science related policy provisions that differ between the House and Senate versions of the bill.

1. Foundation for Food and Agricultural Research (FFAR).

- a. There is no current law.
- b. In the Senate Farm Bill, they propose FFAR, a new nonprofit corporation designed to supplement USDA's basic and applied research activities. The Senate provides total mandatory funding of up to \$100 million from the Commodity Credit Corporation (CCC). Federal funding is available only to the extent that the foundation secures an equal amount of non-federal matching funds for each dollar of expenditure. The foundation will solicit and accept private donations to award grants or enter into agreements for collaborative public/private partnerships with scientists at USDA and in academia, non-profits, and the private sector.
- c. The House did not include FFAR in their version.
- d. The National and Regional Weed Science Societies support the inclusion of FFAR in the Farm Bill.

2. Matching funds requirement for applied research and extension that is commodity or state specific.

- a. There is no current law
- b. The Senate did not have any language regarding matching funds
- c. The House has proposed that the recipient of a USDA competitive grant under a covered law that involves applied research or extension and is commodity-specific or state-specific must provide matching funds or in-kind contributions of equal value to the grant.
- d. WSSA strongly opposes this provision in the House Bill.

3. Petitions to Determine an Organism not a Plant Pest.

- a. The Plant Protection Act (PPA) governs USDA-APHIS regulation of the introduction and movement of all plant pests, noxious weeds, and plant products capable of harboring plant pests involved in interstate or foreign commerce. The statute governs all "regulated articles" meaning any material or tangible object that could harbor plant pests or noxious weeds. The statute also regulates the introduction into the environment and transportation of any bioengineered plant organism.
- b. The Senate Farm Bill does not make any changes.
- c. The House Farm Bill would amend the PPA to permit any person to petition USDA for a determination that an organism subject to regulation as a plant pest is not a plant pest for purposes of the

PPA. USDA would be required to conduct a “plant pest risk assessment” to determine the likelihood that such an organism is a plant pest. USDA would also conduct an “environmental analysis” that would be the sole analysis regarding the effects on the environment of an organism that is the subject of a petition. On the basis of these analyses, USDA would issue a determination within one year that an organism is or is not a plant pest. Should USDA fail to meet the time period for determination, the plant organism shall be deemed not to be a plant pest under the PPA.

- d. WSSA is evaluating the proposed change. APHIS did not propose the change, nor have they have they taken a position on it.

4. Pesticide Registration Improvement Act (PRIA III)

- a. PRIA II is set to expire in 2012. The original PRIA modified the framework for collecting fees to enhance and accelerate EPA’s pesticide registration activities; it included reauthorization of maintenance fees primarily to support activities related to existing registrations, and established registration service fees to be submitted with applications for new registrations.
- b. The Senate did not include PRIA III in their farm bill language.
- c. The House reauthorizes PRIA through 2017 and modifies fee collection provisions. It reauthorizes and increases annual aggregate limits for maintenance fees from \$22.0 million to \$27.8 million for FY2013-FY2017 and raises the annual maximum fee for registrants with not more than 50 registrations from \$71,000 to \$115,500, and those with over 50 from \$123,000 to \$184,800; for small business (as defined) with not more than 50 registrations from \$50,000 to \$70,600, and those with more than 50 from \$86,000 to \$122,100.

- d. The WSSA supports reauthorization of PRIA through 2017.

5. NPDES Fix Bill (H.R. 872)

- a. In October 2011, EPA issued a Pesticide General Permit (PGP) requiring a Clean Water Act (CWA) discharge permit for certain pesticide applications in or near waters of the U.S. EPA and states are implementing this permit requirement.
- b. The Senate did not include this language in their bill, despite bi-partisan support in both chambers.
- c. The House included language that would amend FIFRA and the CWA to provide that neither EPA nor a state may require a CWA permit for discharge of a pesticide whose use has been authorized pursuant to FIFRA. Defines specified circumstances where a permit would be required (e.g., municipal or industrial treatment works effluent that contains pesticide or pesticide residue). Effective October 1, 2012.
- d. The National and Regional Weed Science Societies are on record many times supporting an NPDES fix bill.

6. The Specialty Crops Competitiveness Act

- a. Authorized block grants to states to support projects in marketing, research, pest management, and food safety, among other purposes. Current mandatory CCC funding is \$55 million annually (FY2010-FY2012).
- b. The Senate reauthorizes the program through FY2017. Increases mandatory funding to \$70 million annually (FY2013 - FY2017), which would also raise the minimum grant amount received by each state/territory. Of the funds provided, allows for multistate project grants involving food safety, plant pests and disease, crop-specific projects addressing

common issues, and any other area as determined by USDA, with increased funding starting at \$1 million (FY2013) to \$5 million (FY2017).

- c. The House version is nearly identical to the Senate bill, except that the House also allows multistate projects for research.
- d. The WSSA supports the House version.

7. Conservation Compliance

- a. In exchange for certain USDA program benefits, a producer agrees to maintain a minimum level of conservation on highly erodible land. Highly erodible land can be considered eligible for program benefits if the land user agrees to cultivate the land using an approved conservation plan or qualifies for an exemption. Benefits include commodity support programs, conservation programs, disaster payments, and operating loans
- b. The Senate adds the federally funded portion of crop insurance premiums to the list of program benefits that could be lost if a producer is found to produce an agricultural commodity on highly erodible land without an approved conservation plan or qualifying exemption. Producers affected by this change have until January 1 of the fifth year after the date on which payments become subject to compliance to comply with an approved conservation plan.
- c. The House has no comparable provision.
- d. The WSSA supports conservation compliance, but only if NRCS grants temporary variances for weed and invasive plant management, including the use of tillage to control herbicide resistant weeds.

Supporters of Agriculture Research (SOAR) Launched

Supporters of Agricultural Research (SOAR) is a new non-partisan science-based coalition seeking sound research policies that focus more of our best minds on feeding America and the world. See: www.supportagresearch.org. SOAR was launched with an interactive webcast on July 25 by its four board members, Roger Beachy, William Danforth, Carol Tucker-Foreman, and Don Kennedy. SOAR is working with major research institutions, farmer groups, scientific organizations, and private sector partners who believe a strong competitive grants program will encourage top scientists from multiple disciplines—from botany and biology to energy and engineering—to address the many agriculture-related challenges facing our country today. SOAR believes the time is right to greatly increase funding for competitive grants in the exciting and rapidly expanding world of agricultural research. SOAR is calling on Congress to fully fund the Agriculture and Food Research Initiative (AFRI) at USDA. AFRI is authorized to receive \$700 million per year. But for 2012 it received only \$264 million, even as the cost for projects submitted for funding topped \$4 billion. ♦

Lee Van Wychen, Ph.D.

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2nd Annual North American Invasive Plant Ecology and Management Short Course



Canada Thistle
Photo Source: Ciba-Geigy,

Steve Young, Weed Ecologist
University of Nebraska-Lincoln West Central Research & Extension Center
North Platte, NE

The second annual North American Invasive Plant Ecology and Management Short Course (NAIPSC) was held June 26-28, 2012 at the University of Nebraska-Lincoln West Central Research & Extension Center in North Platte, NE.

The 31 participants that attended the 2012 NAIPSC included landowners, land managers from several agencies (e.g., NRCS, Nebraska Department of Agriculture, Army Corps of Engineers), and county weed superintendents. The states and provinces represented were from across North America and from as far away as Alaska. The 3-day course advanced participant understanding in many areas of invasive plant ecology and management.

All participants improved their knowledge of long-term weed management in natural systems and many had plans to look for new ways to integrate control efforts in the near future using what they had learned at the NAIPSC. More than half of the participants stated that they would make management changes as a result of the NAIPSC. For example, several participants said they would try to improve their approach in working with landowners to better integrate management, identify species, or adopt revegetation techniques to control invasive plant species. All participants felt that the time they spent at the NAIPSC was a good investment, even if they were already familiar with some of the material.

At the 2012 NAIPSC, participants were exposed to and involved in discussions on ecological aspects of integrated invasive plant management. Water use by invasive plants is not often thought of in managing invasive plants, but it does play a role in natural hydrologic cycles above- and belowground. This topic was addressed by two speakers with expertise on measuring water loss from plants and the water dynamics of ecosystems. It was conveyed to participants that invasive plants can draw many gallons of water from belowground and divert surface water away from critical habitat on an annual basis, which is another important reason for knowing the ecology of invasive plant species.

Over 20 different teaching and learning opportunities were offered during the 3-day NAIPSC. In particular was a presentation on Early Detection and Rapid Response (EDRR) that stressed the importance of early-stage monitoring and identification of invasive plant species. While we may know about invasive plants species, it takes trained professionals, volunteers, and land owners to actively seek out or watch for new invasive species in their area, whether at the local, regional, or national level. It all starts with individuals who are working together.

The NAIPSC is a venue that was created for the exchange of information between experts in various fields of invasive plant ecology and management and participants from a range of backgrounds and experiences. Participants are able to see, hear, and talk about the latest approaches for invasive plant management. At the NAIPSC, participants have the opportunity to apply their knowledge through tests and problem sets and keeping active through the NAIPSC online community. It is anticipated that through continued dialogue via the NAIPSC online community, participants will have an interactive resource, in addition to the materials they received at the NAIPSC, to help them in answering their questions related to the ecology and management of invasive plant species.

The NAIPSC is on Facebook and Twitter. Check the NAIPSC website (<http://ipscourse.unl.edu>) for details.



2012 NCWSS Student Summer Contest

| Overall Graduate Individual | University | Contestant Name |
|---|----------------------------------|-----------------|
| 1st Place | University of Missouri | Tye Shauck |
| 2nd Place | Kansas State University | Amar Godar |
| 3rd Place | Purdue University | Jared Roskamp |
| Overall Undergraduate Individual | | |
| 1st Place | Kansas State University | Jake Wyrill |
| 2nd Place | Kansas State University | Kim Kerschen |
| 3rd Place | University of Nebraska | Greg Renschler |
| Overall Graduate Team | | |
| 1st Place | University of Missouri | Team 1 |
| 2nd Place | University of Wisconsin— Madison | |
| 3rd Place | University of Nebraska | Team 2 |
| Overall Undergraduate Team | | |
| 1st Place | Kansas State University | |
| 2nd Place | Western Illinois University | |
| 3rd Place | University of Nebraska | |
| Field Sprayer Calibration Team | | |
| Graduate | University of Nebraska | Team 2 |
| Undergraduate | Kansas State University | |
| Unknown Herbicide | | |
| Graduate | University of Missouri | Tye Shauck |
| Undergraduate | Western Illinois University | Sarah Ziegler |
| Written Sprayer Calibration | | |
| Graduate | University of Missouri | Tye Shauck |
| Undergraduate | Kansas State University | Jake Wyrill |
| Weed Identification | | |
| Graduate | Kansas State University | Amar Godar |
| Undergraduate | Kansas State University | Kim Kerschen |
| Problem Solving | | |
| Graduate | Purdue University | Jared Roskamp |
| Undergraduate | Kansas State University | Jake Wyrill |

2012 NCWSS Student Summer Contest



**Tye Shauck
Overall Graduate 1st
Unknown Herbicide
Written Sprayer Calibration**



**Amar Godar
Overall Graduate 2nd
Weed Identification**



**Jared Roskamp
Overall Graduate 3rd
Problem Solving**



**Jake Wyrill
Overall Undergraduate 1st
Written Sprayer Calibration
Problem Solving**



**Kim Kerschen
Overall Undergraduate 2nd
Weed Identification**



**Jake Wyrill
Overall Undergraduate 1st
Written Sprayer Calibration
Problem Solving**



**Sarah Ziegler
Unknown Herbicide**

2012 NCWSS Student Summer Contest



**Overall Graduate Team
1st Place**

University of Missouri



**Overall Graduate Team
2nd Place**

**University of Wisconsin—
Madison**



**Overall Graduate Team
3rd Place**

**Team Field Sprayer
Calibration**

University of Nebraska

2012 NCWSS Student Summer Contest



**Overall Undergraduate
Team
1st Place**

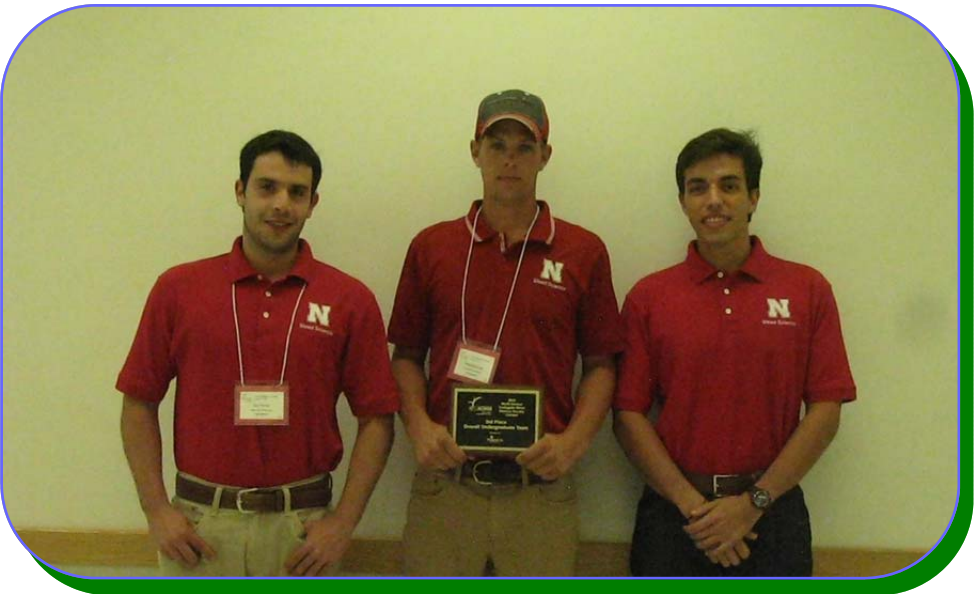
Team Sprayer Calibration

Kansas State University



**Overall undergraduate
Team
2nd Place**

**Western Illinois
University**



**Overall undergraduate
Team
3rd Place**

University of Nebraska

2012 NCWSS Student Summer Contest

Problems: Round 1, Undergraduate:

1. Background: Option applied to population of partial ALS-resistant Palmer amaranth:
 - a. P1151HR corn planted 05/JUL/2012. 1.75-inch depth 31,000 seeds/A. Plot 40 x 50 feet. Option applied (1.5 oz/A) + MSO (1.5 pt./A) + AMS (2 lb/A); 31/JUL/2012; Corn V-6, 22 inches in height and 2-8 inch Palmer amaranth
 - b. Cause: Option will not control ALS-resistant weeds.
 - c. Recommendation: Apply another herbicide which will control ALS-Resistant weeds e.g.: Laudis (V-9), Status (up to 36 inch) can still be applied to corn. Be aware of herbicide-resistant weeds when selecting herbicides in future.
2. Background: Cross-pollination cause of glyphosate-tolerant volunteer corn. Conventional corn grown in 2011. RR X LL corn grown in 2012. Roundup WeatherMax applied to control volunteer corn and weeds. Some volunteers aren't controlled due to cross-pollination of RR corn in adjacent field in 2011. Plot 30 x 50 feet.
 - a. P1151HR corn planted 05/JUL/2012. 1.75-inch depth 31,000 seeds/A
Roundup Weathermax applied at 22 oz/A on July 31,2012 to V-6 corn 22 inches in height.
 - b. Cause: Cross-pollination of glyphosate-tolerant corn with adjacent field in 2011.
 - c. Recommendation: May be able to hand-rogue or cultivate if appears it may present a harvest problem, otherwise live with it this year. In future, be aware of cross-pollination of adjacent fields, especially if growing specialty corns or identity-preserved varieties.
3. Recommendation: Do not apply more than 10 lbs of nitrogen or other high-salt fertilizer in band over row. Do not apply high-salt fertilizer to soybean in-furrow.
2. Some loss of stand to part of no-till field with visible injury to soybean. Some of the field looks OK, but some of it looks stunted and yellow to brown. Injury related to surface residue and soil type which vary throughout the field. Plot 30 x 120 feet.
 - a. Planted RR soybean July 23 Applied Sharpen at 1.5 oz/A 25/JUL/2012, then received 1.0 inch rain that night
 - b. Cause: Injury to soybean from Sharpen in sandy areas of the field. Label says not to apply to coarse-textured soils with less than 2% O.M.
 - c. Recommendation: Stand should be sufficient for surviving plants to produce near-normal yield (soybeans compensate well by branching). If future be aware that soil type restrictions are common and coarse-textures soils often present a greater risk of injury from soil-applied herbicides.

Problems: Round 2, Undergraduate:

9. Background: Herbicide treatment applied to tall weeds, 12-inch corn resulted in good weed control but injury to corn in form of chlorosis.
 - a. P1151HR corn planted 16/JUL/2012. 1.75-inch depth 31,000 seeds/A. Sprayed Glyphosate (22 oz/A) + Callisto (3 oz/A) + Atrazine (0.6 lb ai/A) + Lorsban 4E (2 pints/A) + COC (1%) + AMS (2 lbs/A) on 03/AUG/2012 to V-4 Corn, 12 inches in height. Palmer amaranth 2-26 inches in height.
 - b. Cause: Mixing Callisto with Lorsban increased injury potential and is restricted by label.
 - c. Recommendation: Do not apply the restricted tank-mix. If insecticide is needed, apply separately with proper interval between.

Problems: Round 1, Graduate:

1. Background: Starter Fertilizer injury to soybean. Plot 40 x 50 feet.
 - a. Planted RR soybean NK A1023758, 1¼ inch deep – planted 7/23; with 25 gallons per acre starter Fertilizer (28-0-0 and 10-34-0) (63 lbs 'N', 65 lbs "P2O5") applied as a 3-4 inch band on the soil surface over the row. Watered in 3 days after planting. Dual II Magnum herbicide applied preemergence at 1 pint/A.
 - b. Cause: Excessive salts in high rate of fertilizer injured seed prior to emergence. Rain moved herbicide into seed zone even though applied to surface.

Problems: Round 2, Graduate:

1. Background: Injury to sorghum following an herbicide application. Applied Finesse to wheat at 0.4 oz product/A 11/MAR/2012 and planted sorghum on July 18. Plot 30 x 50 feet.
 - a. Pioneer 84G62 planted 18/JUL/2012. 0.4 oz of Finesse 3/11
Double-cropped to Grain Sorghum, plant date: 18/JUL/2012

2012 NCWSS Student Summer Contest

Used grass herbicide at planting: S-metolachlor 1.0 lb/A on 7/19. On 31/JUL/2012, applied 0.05 oz Ally-XP + 0.25 lb ai. 2, 4-D to 4-leaf sorghum

b. Cause: Injury from 2,4-D in the form of lodging and stem twisting but also injury from Finesse application because too little rainfall

received between application and planting sorghum. Label warns of injury with abbreviated plant-back interval for sorghum.

c. Recommendation: Sorghum may grow out of it. Nothing can be done at this time. In future observe label restrictions.

People and Places Weed Science

Dr. Amit Jhala has joined the University of Nebraska-Lincoln, Department of Agronomy and Horticulture as a Weed Management Specialist on August 1, 2012.

Dr. Jhala's 50% research/ 50% extension appointment will a focus on weed management in Nebraska cropping systems and integrated weed management practices for environmental risk reduction.

Amit Jhala obtained his B.S. with Distinction in Agronomy from the Gujarat Agricultural University, India, and M.S. with Distinction in Weed Science from Anand Agricultural University, India. In 2005, he was honored with an ambassadorial fellowship sponsored by the Belgium Government to conduct research at the Ghent University, Belgium. Amit obtained his Ph.D. in Plant Science/Weed Science in 2009 from the University of Alberta, Canada. His doctoral dissertation was to evaluate pollen mediated gene flow from transgenic flax to conventional flax and evaluating hybridization of transgenic flax with wild and weedy species; and weed control in flax, wheat and canola.

His research work on gene flow is published in *Heredity* and recognized internationally. A special commentary has been published in *Heredity* recognizing sampling strategy he developed to determine minimum number of seeds required to evaluate pollen mediated gene flow from transgenic crops. His paper published in *Crop Science* detailing inter-specific hybridization of transgenic flax with wild and weedy species was selected as a quality paper by the Crop Science Society of America and he was invited to write a press note that was published in the *CSA News*.

Prior to joining the University of Nebraska-Lincoln, he was a postdoctoral fellow at the University of

California-Davis and the University of Florida in weed science programs. Thus, Amit has outstanding weed science research experience in three continents.

Amit's research areas include risk assessment of herbicide resistant crops, gene flow from glyphosate resistant weeds, leaching of soil-applied herbicides, and herbicide tank mixtures for control of herbicide-resistant and susceptible weeds. Amit says his training and expertise will be a good match to work on many burning issues of herbicide resistance weeds in soybean and corn in Nebraska, and he is looking forward to collaborating with other outstanding weed scientists at the University of Nebraska.

The West Central Research and Extension Center (WCREC), University of Nebraska-Lincoln, is actively researching pesticide drift and efficacy through the use of a state of the art facility. The aim of our research program is to understand the interrelationships between nozzle selection, nozzle pressure, solution chemistry, sprayer setup, and environmental conditions impact on pesticide applications. Our goal is to maximize pesticide efficacy while reducing off-target movement of agrochemicals. Off-target movement of pesticides is becoming increasingly important in today's agriculture environment with rising commodity and input prices and the Environmental Protection Agency's focus on drift reduction technologies.

The facility, which started collecting data in February, utilizes two wind tunnels which are custom designed to examine a pesticide's droplet spectrum (i.e. droplet size). Our high speed wind tunnel is designed to replicate aerial application conditions, while our low speed wind tunnel is used to replicate ground applications. We couple our research at the facility

with field experiments to obtain an accurate picture of a particular application's efficacy and drift potential. For more information, please contact:

We are collaborating closely with the USDA-ARS facility in College Station, TX, the University of Queensland, Australia and industry to make sure we are employing methods and generating research that will benefit agriculturalists across the US. Our program is focused on delivering our research findings through extension publications and meetings, peer-reviewed journal articles, and regional, national, and international meetings.

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Life After Weed Science

Have you ever wondered what happened to someone you saw at the North Central Weed Science Society Annual Meeting two, five or even 10 years ago? I'm sure many of you receive an annual alumni newsletter from a former educational institution that has a section devoted to updates (e.g. alumni spotlight, or letters from alumni) and so I was hoping to do something similar. Galen came up with the suggestion and I think it's perfect for NCWSS since I consider us one large family. So give me some feedback on this idea – good, bad, too much work etc. Right now it's just an idea, but with your help it can become an important part of the newsletter.

Position Available

Assistant Extension Professor of Weed Science University of Missouri

POSITION: Assistant Extension Professor of Weed Science. This is a professional-track (nontenure) position (100% extension) in the Division of Plant Sciences, College of Agriculture, Food and Natural Resources, University of Missouri.

LOCATION: This position is located at the Fisher Delta Research Center (FDRC) near Portageville in Southeast Missouri. Four other faculty members in the Division of Plant Sciences are located at the FDRC and are responsible for the research and extension needs of southeastern Missouri agricultural producers. FDRC facilities include over 1,000 acres of land for field research, numerous laboratories and greenhouses, a cotton gin, offices, and state of the art soil test laboratory and teleconferencing center.

RESPONSIBILITIES: To develop and promote an applied extension program that includes appropriate applied research with an emphasis on weed management in cotton, rice, soybean, corn and other important field crops produced in the Missouri Delta region. To conduct applied research that complements the extension program.

Specific responsibilities include:

- Develop a nationally recognized extension program for economically important weed species in one or more major agricultural crops produced in SE Missouri.
- Develop and promote effective weed control management programs based on producer needs and sound IPM principles. Extension clientele include large commercial farmers, agricultural consultants, and industry representatives.

Position Available - Continued

- Disseminate applied weed management information by publishing in extension and research journals and delivering presentations at scientific conferences; transfer information to the producers and industry by delivering oral and written results as appropriate in newsletters, farm magazines, and internet websites.
- Advise or co-advise graduate students.
- Cooperate with extension and research colleagues at the Delta Research Center, at the University of Missouri Columbia campus, and in University of Missouri Extension.
- Participate, as appropriate, in committees and other activities of the Division of Plant Sciences.

The appointee will serve as a member of the interdisciplinary Commercial Agriculture Crops Focus Team that includes faculty in plant science, soil science, biological engineering, and agricultural economics. The Commercial Agriculture Program develops and implements educational programs that assist Missouri crop producers and related agri-business to increase production efficiencies, reduce impact on air and water quality, improve their competitive positions, and increase profitability. This extension position also effectively integrates the weed control discipline at the FDRC and within the Division of Plant Sciences with other disciplines such as entomology, plant pathology, nutrient management, and crop production. The appointee will report to the Director of the Division of Plant Sciences and will be evaluated jointly by the Division Director and the Director of The University of Missouri Extension Commercial Agriculture Program.

SALARY AND BENEFITS: Salary will be commensurate with training and experience. Benefits available include health, dental, life, and disability insurance and a retirement plan.

DATE AVAILABLE: Applications will be accepted until the position is filled. Review of applications will begin November 1, 2012.