

# NCWSS • News

North Central Weed Science Society

Vol 34, Number 3, Fall 2017

[www.ncwss.org](http://www.ncwss.org)

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## St. Louis, MO Welcomes the NCWSS December 4-7

The 72<sup>nd</sup> annual meeting will be held at the Hyatt Regency at the Arch in St. Louis, MO.

- ⇒ Please visit the Annual Meeting page at <http://ncwss.org/annual-meeting/> to register for the Annual Meeting and make a hotel reservation.
- ⇒ Abstracts will be due on Friday, November 17, 2017. By this date, please enter the author information as indicated to access your oral or poster or presentation, cut and paste abstract, and submit.
- ⇒ Oral presentation PowerPoints should be uploaded by Monday, November 27, 2017.
- ⇒ Electronic program will be on the website soon
- ⇒ Program booklets will be available at registration



North Central  
Weed Science Society



To better serve our members,  
submission deadlines for  
2018 newsletter are set.  
Please submit articles to:  
[Vince.davis@basf.com](mailto:Vince.davis@basf.com)

By:  
March 7<sup>th</sup>  
July 11<sup>th</sup>  
October 10<sup>th</sup>

## Presidents Message - Greg Dahl



**Thank you for the opportunity to serve as your NCWSS President this year.** It has been an exciting and gratifying experience. I am deeply thankful for all of you that have volunteered and helped with the many activities and work of the society.

By the time you read this, I will have rated my last weed control plots for 2017. I will be looking at results and trying to figure out what we have learned this year.

I hope your summer went well. There were no shortage of challenges and opportunities. Many of our NCWSS members were very busy dealing with hard to control weed issues, application issues, and herbicide off-target movement. I am eager to learn from you what you have learned in 2017 and begin planning for 2018.

**I invite you to come to our NCWSS meeting at the Hyatt Regency by the Arch in St. Louis, MO on December 4 – 7, 2017.** Our President-Elect and Program Chair, Christy Sprague and Greg Elmore, Local Arrangements committee have developed a great program for the **72nd annual NCWSS meeting**.

We will have a full program, including a great set of student paper and poster contests that are being organized for the meeting. We will be using a Guidebook App again as an aid for you to plan and schedule the meetings and presentations you want to attend.

I want to thank Monsanto for hosting a student tour on Monday and BASF for sponsoring the student Mixer Monday night, and also Dow

AgroSciences for hosting a student luncheon on Tuesday. I would like to thank all the Sustaining members for their support of NCWSS.

There are several great symposia being planned for this coming meeting. Ryan Edwards will lead the session **“Weed Management through Equipment and Application”** on Wednesday morning. Chris Proctor will lead the session **“An Open Dialog on Dicamba”** on Wednesday afternoon. Thomas Butts will lead the session **“Taking the Next Step: Preparing for Your Future Career”** also on Wednesday afternoon. Joe Wuerffel, NCWSS Industry Chair will host the **“What’s New in Industry”** session on Thursday morning.

As you make your plans to attend, please be aware of these important changes to the meeting structure and plan accordingly:

**The Student Poster and Paper Awards will be awarded at the Society Social on Wednesday night.**

The **“What’s New in Industry”** Session will follow the Industry Breakfast on Thursday Morning. **Please arrange your travel so you can attend this session on Thursday morning.**

I encourage those of you that can attend to register to attend the **Women in Weed Science breakfast** on Wednesday morning and the **Industry Breakfast** on Thursday morning. Both sessions will have great presentations and be well worth your time.

The NCWSS Board of Directors met at the Iowa State University Field Extension Education Laboratory (FEEL) site near Ames, IA on July 26, just prior to the NCWSS summer weed contest. The NCWSS has been running well and we have made the transition from Executive Secretary, Phil Banks who served most excellently to our new Executive Secretary Tara Steinke who is doing great. My

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## Presidents Message continued - Greg Dahl

thanks to Past President, Anita Dille for handling the transition. The NCWSS Board of Directors approved using the Guidebook App for the 2017 meeting. The NCWSS is currently strong. We anticipate challenges as several of our sustaining members combine. I welcome any suggestions you might have about how we can make NCWSS better.

Our main event over the summer was the NCWSS Collegiate Weed Science Contest, hosted by John Hinz and Warren Pierson and their team at the Iowa State University Field Extension Education Laboratory (FEEL). They put on a great contest that was a wonderful professional development event for our graduate and undergraduate students in weed science. Thank you to the team and all the volunteers and judges, students and coaches, and everyone that helped to make this event successful. Congratulations to the winners. The future for weed science depends on finding capable young people and fostering interest and enthusiasm in weed science.

I am looking forward to seeing you in St. Louis as we look forward to another great meeting. We have been increasing attendance over the past several meetings. I would like to continue NCWSS increasing. Please encourage others to come too!

**Best Wishes**  
**Greg Dahl**

## 2017 Annual Meeting Information from the Program Chair Christy Sprague

The 72<sup>nd</sup> annual meeting of the North Central Weed Science Society is just around the corner! I am really excited for this year's meeting. We have a great venue and program planned. The meeting will be at the **Hyatt Regency** at the Arch in St. Louis, MO from **December 4<sup>th</sup>** through the **7<sup>th</sup>**. Greg Elmore and his local arrangements team have been busy working with the hotel staff to guarantee that we will have a terrific meeting.

As mentioned in a previous email the Program Committee has decided to make a few changes for the 2017 program. The most significant of these changes are that the graduate and undergraduate papers will be presented on both Tuesday afternoon and Wednesday morning with student paper and poster awards presented Wednesday evening at Society Social. The other significant change is that the **"What's New in Industry?"** session will be held **Thursday, December 7** from **8:30 – 10:00 am** after the Industry breakfast. Dr. Joe Wuerffel, NCWSS Industry Chair, has provided more information about this session and the industry breakfast in an article later in the newsletter.

### **Upcoming Deadlines**

#### ***Abstracts and Presentation Submissions***

**Abstracts** need to be submitted by **Friday, November 17, 2017**. By this date, please enter the author information as indicated to access your oral or poster or presentation, cut and paste abstract, and submit. Abstracts are to be submitted through the same system as title submission (<http://wssaabstracts.com>). Sign into your account as you did previously for the title submission. Click on the link to submit an abstract. Scroll down to the abstract part of the window and click anywhere in the area designated to hold the abstract. Cut and paste your abstract into the box provided. Develop an abstract in a word

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## 2017 Annual Meeting Information from the Program Chair Christy Sprague (continued)

processing program. There is no need to include the title or authors in the “cut and paste” portion since the correct information has been already entered. We recommend that you make all changes prior to pasting into the submission form. NOTE: If you make any changes to the title or authors, please email both the section chair and program chair ([sprague1@msu.edu](mailto:sprague1@msu.edu)) to alert us about the change.

**Oral presentation** PowerPoints should be uploaded by **Monday, November 27, 2017**. We are asking that all oral presentation authors upload their slides to the submission website at least one (1) week / seven (7) days prior to the meeting by Monday, November 27, 2017. This allows section chairs to preload the presentations on their computer and make sure that all presentations are working adequately. By using the submission website we can ensure that the section chairs receive your slides. If you are unable to meet this deadline, please contact your section chair one week prior to the meeting to make other arrangements.

### 2017 Program Highlights

#### **General Session**

This year's general session will feature two keynote presentations. We are excited to announce that our first keynote presentation will be from National Park Service experts Erin Hilligoss-Volkman and retired U.S. Army Colonel Paul Rosewitz on the scientific training and flora and fauna discovered on the Lewis and Clark Expedition with their presentation, “Lewis and Clark Expedition: Soldiers as Scientists”. The second keynote presentation will be from Dr. Jill Schroeder, highlighting the key findings from the 2017 Herbicide Resistance Listening Session project, “Managing Herbicide Resistance: Listening to the Perspective of Practitioners”. We will also hear from Dr. Lee Van Wychen, Director of Science Policy, as he presents an update on key issues and activities associated with his role in Washington D.C. and NCWSS President Dr. Greg Dahl as he give his NCWSS Presidential Address.

#### **Symposia**

We are excited to have four symposia scheduled for the 2017 meeting.

Learn about advances in application technologies, the latest decision tools and Smart Machines in the **“Weed Management through Equipment and Application Technologies”** symposium scheduled Wednesday morning, December 6.

The use of dicamba in Roundup Ready 2 Xtend soybean has been the topic of discussion for many NCWSS members. After the official launch this year there are still several questions related to this technology. On Wednesday afternoon, December 6, there is a symposium titled, **“An Open Dialogue on Dicamba Technology”** for those interested learning more about others experiences and how to proceed with this technology in 2018.

An addition on Wednesday afternoon, December 6, a special graduate student symposium is being held titled, **“Taking the Next Step: Preparing for your Future”**. In this symposium students will learn about how to craft professional cover letters and resumes and critical steps needed in applying, interviewing, and negotiating for academic and industry positions. There will also be a speaker that will highlight some of the different career paths that you can take with your graduate degree specializing in Weed Science.

The final symposium will be the ever popular **“What's New in Industry?”** symposium that will highlight new products in technologies. This symposium will be held on Thursday, December 7 from 8:30 – 10:00 am.

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## 2017 Annual Meeting Information from the Program Chair Christy Sprague (continued)

### *Student Activities*

- On **Monday morning**, December 4, Monsanto will be hosting an undergraduate and graduate student **tour** of their Technology Research Center at their **Chesterfield** location. Students attending the tour should plan on arriving at the hotel on Sunday, December 3. Please read Dr. Mayank Malik newsletter article to find out more specifics about this tour.
- On **Monday evening**, December 4, starting at 6:30 pm BASF will be sponsoring a **Student Mixer**. This event features a quiz bowl, great networking opportunities, and an all-around goodtime. We hope to see everyone there.
- The **Graduate Student Luncheon** and Business Meeting sponsored by Dow AgroSciences will be held **Tuesday**, December 5 from noon to 1:15 pm.
- The undergraduate and graduate student **poster contests** will be held on **Tuesday**, December 5 at both the morning and evening poster sessions. If you are a student please be at your poster for both time slots.
- The graduate student **paper contest** will run during the **Tuesday afternoon** and **Wednesday morning** paper sessions.
- Wednesday afternoon there is a graduate student symposium titled, ***“Taking the Next Step: Preparing for your Future”***.
- **Award winners** for the undergraduate and graduate student paper and poster **contests** will be recognized at the **Wednesday evening** Society Social starting at 5:30 pm in the Gateway East and Terrace rooms on the 18<sup>th</sup> floor.

**Students** are invited to participate in the **Thursday** morning's **Industry breakfast** starting at 7:00 am. Student tickets are sponsored by Syngenta, please see Dr. Joe Wuerffel's article in this newsletter about this event.

### *Awards Luncheon and Social*

Join us as we recognize and celebrate with our new NCWSS Fellows and Distinguished Achievement Award winners at the NCWSS Awards Luncheon on Wednesday, December 6. Join us also that evening for the all Society Social at 5:30 pm in the Gateway East and Terrace rooms on the 18<sup>th</sup> floor. This event is sponsored by our sustaining members and is open to all.

### *Committee Meetings*

Several committee meetings are scheduled throughout the conference, and we welcome your participation and input. These meetings are open to all NCWSS members, and your help and ideas are very important in helping to guide future of our society. Please see the program for committee times and meeting rooms.

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## 2017 Annual Meeting Information from the Program Chair Christy Sprague (continued)

### *Condensed 2017 NCWSS Program*

A complete version of the 2017 NCWSS Program will be posted online at <http://ncwss.org/> in the near future. We will also be sending out an email once the program is loaded into the Guidebook App. Below is a condensed version of the 2017 NCWSS Program. If you have any questions or concerns, please feel free to contact the program chair at [sprague1@msu.edu](mailto:sprague1@msu.edu).

#### ***Monday, December 4***

7:15 am – 2:00 pm	NCWSS Student Tour of Monsanto Technology Research Center
1:00 pm – 9:30 pm	Poster Session Setup
6:30 pm	Student Mixer and Quiz Bowl

#### ***Tuesday, December 5***

8:00 am – 9:45 am	Poster Session I
10:00 am – 12:00 pm	General Session
12:00 pm – 1:15 pm	Student Luncheon
1:15 pm – 5:00 pm	Herbicide Physiology (Oral Presentations)
1:15 pm – 5:00 pm	Equipment and Application Methods (Oral Presentations)
1:15 pm – 5:00 pm	Weed Biology, Ecology, Management (Oral Presentations)
1:15 pm – 5:00 pm	Agronomic Crops II: Soybean (Oral Presentations)
5:30 pm – 6:30 pm	Poster Session II

#### ***Wednesday, December 6***

6:30 am – 8:00 am	Women in Weed Science Networking Breakfast
8:00 am – 10:15 am	Agronomic and Specialty Crops (Oral Presentations)
10:30 am – 11:30 am	Invasive Weeds, Rangeland, Pasture, and Vegetation Management
8:00 am – 11:30 am	Agronomic Crops I - Corn (Oral Presentations)
8:00 am – 11:30 am	Agronomic Crops II - Soybean (Oral Presentations)
8:00 am – 11:30 am	<i>Symposium: Weed Management through Equipment and Application Technologies</i>
12:00 pm – 1:30 pm	NCWSS Awards Banquet
1:30 pm – 3:45 pm	Weed Biology, Ecology, Management (Oral Presentations)
1:30 pm – 5:00 pm	<i>Symposium: An Open Dialogue on Dicamba Technology</i>
1:30 pm – 4:15 pm	<i>Symposium: Taking the Next Step: Preparing for your Future Career</i>

#### **Thursday, Dec. 7**

7:00 am – 8:15 am	Industry breakfast
8:30 am – 10:00 am	<i>Symposium: What's New in Industry?</i>

# 2017 Annual Meeting

## Travel Information

**Hyatt Regency St. Louis at The Arch**  
**315 Chestnut Street**  
**St. Louis, Missouri, USA, 63102**  
 Tel: +1 314 655 1234 , Fax: +1 314 241 6618

### **PARKING AT HYATT REGENCY St. LOUIS**

Hyatt Regency St. Louis at The Arch makes parking simple, safe and secure. Our hotel is pleased to offer several options as an added convenience.

### **PARKING RATES:**

Hotel Self-Parking:

Self-parking at the hotel is based on limited availability.

Rates: 0-1 Hours.....\$15 plus tax

1-4 Hours.....\$25 plus tax

4-overnight.....\$29 plus tax

Please note: our hotel garage has a 6'4" clearance.

### **Valet Parking:**

Pick up on P1 level at the Motor Lobby.

0-1 Hours| \$25.00 + tax

1-4 Hours| \$30.00 + tax

4-6 Hours| \$35.00 + tax

6-Overnight Parking: \$39.00 + tax

Please note: our hotel garage has a 6'4" clearance.

## **PARKING BIGFOOT?**



### **Public Self-Parking:**

**Mansion House Garage:** located directly behind Hyatt at 330 N. 4th St.

Rates: 7 days a week| \$14

Please Enter at Mansion House Apartments. No in/out privileges, limited oversized parking. Rates subject to change during special events and cannot be billed to guestroom.

**Kiener East Garage:** located at 500 Pine St.

Rates: 20 minutes| \$1 (\$20 max)

Overnight| \$20

No in/out privileges. Rates subject to change during special events and cannot be billed to guestroom.

### **Oversized Vehicle/ Bus Parking:**

S&H Parking| Located at Broadway and Clark  
 Please call 314.621.1600 for rates, availability, or more information on parking in downtown St. Louis

### **MAIN TRANSPORTATION CENTERS:**

Lambert St. Louis International Airport (STL)

» 20 miles from the hotel

Amtrak St. Louis Station at 430 S. 15th St » 1.5 miles from the hotel

### **PUBLIC TRANSIT CENTERS:**

Metro Link Station at 8th and Pine » Takes you towards the Convention Center, Washington Park,

MO 99 Downtown Trolley » Takes you to popular attractions like the City Garden, Washington Ave, City Museum, and the Contention Center Edward Jones Dome.

⇒ **Mansion House has 6'2" clearance**

⇒ **Hotel garage has 6'5" clearance**

⇒ **Kiener garage has 6'10" clearance**

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## 2017 Annual Meeting Travel Information cont.



### Discounted Airport-to-Hotel Shuttle Transportation

The **North Central Weed Science Society** and GO BEST Express have partnered together to provide discounted shuttle service to/from the airport and downtown St. Louis hotels. Reserve in advance to guarantee a seat before they fill up.

**[CLICK HERE to receive 10% off your reservation!](#)**

Discount rate ONLY available by booking through the provided link in advance. Reservations made on the spot at the counter will be subject to standard rates of \$45 roundtrip. Discount code: NCWSS2017

**“Women in Weed Science” Networking Breakfast**  
**Anita Dille, Past President**

**To all NCWSS members:**

We are looking forward to hosting our **fourth annual “Women in Weed Science” networking breakfast at the upcoming annual meeting in St. Louis, on Wednesday, December 6, 2017 from 6:30 to 7:45 am.** All female attendees, including graduate and undergraduate students, spouses, and all academic and industry professionals are invited to participate in this networking opportunity. We will have a short presentation by Cheryl Dunne, who will describe her experience and share her story as one of the featured scientists on the program, FarmHer, Inc.

**When you register for the annual meeting, please check the box to indicate that you will join us for this networking breakfast. We’ll have a seat and food (no charge) waiting for you.**



## 2017 Annual Meeting Information: Student Tour - Monsanto Technology Research Center

### **Agriculture plays a critical role in our daily lives.**

Today, farmers around the world are facing significant challenges to keep up with the growing population and the increasing demand for food and clothing. At Monsanto, our scientists are working on developing new technologies and sustainable agriculture solutions to support and help farmers protect their crops and increase their yields while protecting our natural resources and biodiversity.

### **Monsanto is pleased to invite all graduate and undergraduate students for a rare opportunity to attend Monsanto's Technology Research Center tour in Chesterfield, MO on Monday, December 4, 2017.**

You will learn more about our Research and Development Pipeline directly from different Leaders of our Technology Organization. The tour will include several stops displaying our latest technologies and advancements across different research platforms, including weed control, insect control, disease control, bee health, biologicals, plant breeding, and data science.



**All graduate and undergraduate students interested will need to arrive at the Hyatt Regency St. Louis at the Arch hotel on Sunday, December 3 for the tour on Monday morning, December 4. Monsanto will cover the cost of the extra night for tour participants.**

### **Following is a brief description of timing and information to mark your calendars:**

- Overnight at Hyatt Regency at the Arch Hotel on December 3, 2017 (paid by Monsanto)
- Morning breakfast at the Hyatt Regency Hotel. Leave hotel by 7:15 AM.
- 8am-1pm – Tour of Research Facility, showcase of our products, lunch and return to Hyatt Regency Hotel. Participants are expected to return to Hyatt Regency Hotel by 2 PM.
- Transportation to and from Monsanto Technology Research Center will be provided.
- Additional guidelines and questions are addressed within the website link.

Monsanto's pipeline is our story of what we do and why we do it. We hope you can join us.

**Interested students need to register for the tour. They should contact:**

**Tommy Butts (608)-214-4215, [tbutts@huskers.unl.edu](mailto:tbutts@huskers.unl.edu) or**

**Mayank Malik (662)-402-9030, [mayank.s.malik@monsanto.com](mailto:mayank.s.malik@monsanto.com) to get the website link to register. The deadline for registration for the tour is November 13, 2017.**

## 2017 Annual Meeting Information: Industry Breakfast and 'What's New?' -Joe Wuerffel

### Industry Breakfast and What's New in Industry Session

Please note that the 'What's New in Industry' session has been moved from its usual Wednesday afternoon timeslot to Thursday morning. The business meeting will immediately follow the last presentation in the session. As for the Industry Breakfast, students may attend for free (courtesy of Syngenta) by indicating this on the 2017 NCWSS meeting registration form. For all other NCWSS members, the cost of the



breakfast this year is \$45, paid for when registering for the meeting. **The topic for this year's Industry Breakfast will be 'Communicating Agricultural Innovation to a Concerned Public', presented by Dr. Kevin Folta, Professor and Chairman of the Horticultural Sciences Department, University of Florida.** In addition to his academic endeavors, Dr. Folta hosts the "Talking Biotech" podcast, a podcast that aims to increase public understanding of science. I'm excited to have Dr. Folta present – he spends a tremendous amount of time and effort communicating science to the public, so I cannot think of anyone better to present on this topic.

**In addition to the Industry Breakfast, Dr. Folta will also present during the symposium on dicamba. As a primer for his presentation for the Industry Breakfast, Dr. Folta provided the following:**

Genetic engineering (familiarily "GMO") has been a great benefit in medicine, food, and agriculture, central to production of insulin, cheese making enzymes, and major agronomic crop plants. The technologies aid in profitable farming with less environmental impact, and stand to correct deficiencies in high-value specialty crops and also serve the world's malnourished and poverty stricken. Despite a perfect safety record and manageable environmental downsides that are well recognized by an overwhelming scientific consensus, the public perception of these technologies is generally negative. The reason for this is simple. Farmers, scientists, and the agricultural industry are not participating in the dialog. This creates an asymmetric discussion defined by TV doctors, food babes, and the internet's many charlatans that profit from fearmongering over communicating real science. The effects are many, and threaten choices for ag producers as well as development of new technologies to meet emerging challenges. However, the solution is simple. Agriculture professionals need to step into the discussion and share their knowledge with a curious public. Scientists, ag producers, and others need to earn the public's trust through transparent and values-based discussion. Our participation in the discussion ensures access to the best crop technology, and hastens the deployment of these products into places of need.

Sincerely,  
Joe Wuerffel

Please don't get 'HANGRY' during the meeting!

# Restaurants within Walking Distance

## Fast Food/Sandwiches

Jimmy John's- 508 Pine

Hardee's- 601 Chestnut St.

St. Louis Bread Company (Panera Bread)- 116 N 6th St.

Subway- 201 N. 6th St. (Closed Sat. & Sun.)

Pickles Deli- 701 Olive St.

Tortilla Grille- 201 N 6th (closed Sat. & Sun)

Snarf's- 6th and Washington (Inside the MX Building)

## Casual Dining

Angelo's Taverna- In the Drury Plaza Hotel (Closed Sun.)

Bailey's Range- 920 Olive St.

Caleco's Bar & Grill- Broadway & Chestnut

SubCharlie Gitto's- 207 N 6th St.

Chili Mac's Diner- 510 Pine St. (Closed Sat. & Sun.)

Bamboo Bistro- 214 N 4th St. (Closed Sun.)

Tigin Irish Pub- 333 Washington Ave (Inside the Hampton Inn)

Sauce on the Side- 411 N 8th St. ( Closed Sun.)

Pi- 6th & Washington (Inside the MX Building)

Taze Mediterranean- 626 Washington Ave. (Inside the MX Building)

Crazy Bowls and Wraps- 622 Washington Ave. (Inside the MX Building)

Porano Pasta- 634 Washington Ave. (Inside the MX Building)

Sugarfire Smoke House- 605 Washington Ave.

The Drunken Fish- Ballpark Village

Budweiser Brewhouse- Ballpark Village

## Fine Dining

400 Olive- 4th & Olive (Inside Hilton St. Louis Downtown)

Kemoll's- 211 N Broadway (Inside the Met Building ( Closed Sun.)

Tony's- 410 Market St. (Closed Sun. & Mon.)





# Washington Report

## Lee Van Wychen

*Fall 2017*



### Dicamba-Tolerant Crop Labels Revised

On October 13, 2017, EPA announced label changes for Extendimax, Engenia, and Fexapan herbicides. These label changes impose the following additional requirements for 2018:

Classifying products as "**restricted use**," permitting only certified applicators with special training, and those under their supervision, to apply them; dicamba-specific training for all certified applicators to reinforce proper use;

Requiring farmers to **maintain specific records** regarding the use of these products to improve compliance with label restrictions;

Limiting applications to when **maximum wind speeds are below 10 mph** (from 15 mph) to reduce potential spray drift;

Reducing the times during the day when applications can occur (**sunrise to sunset**);

Including **tank clean-out language** to prevent cross contamination; and

Enhancing susceptible crop language and record keeping with **sensitive crop registries** to increase awareness of risk to especially sensitive crops nearby.

The Restricted Use classification only applies to the labeled uses for Extendimax, Engenia, and Fexapan. Pre-existing dicamba herbicides (e.g. Clarity, Banvel) are not subject to the Restricted Use classification. For more information: <https://www.epa.gov/ingredients-used-pesticide-products/registration-dicamba-use-genetically-engineered-crops>

The updated labels can be found at:

Engenia Herbicide, [EPA Registration Number 7969-345](#)

XtendiMax with VaporGrip Technology, [EPA Registration Number 524-617](#)

DuPont FeXapan herbicide plus VaporGrip Technology, [EPA Registration Number 352-913](#)

The label revisions will help address dicamba off-target movement and minimize impacts to sensitive crops, but will those changes be enough to avoid a repeat of what occurred in 2017? Preliminary university research from this summer indicated that vapor drift was likely one of the factors contributing to off-target movement. Vapor drift is much harder to control than particle drift, but to what extent it contributed to off-target movement still remains unknown.

The weed science community needs to have constructive dialogue on how to research and address issues related to herbicide off-target movement. Can we improve educational efforts for on-target applications of all herbicides? Are there times, locations, or conditions where herbicides cannot be used because off-target risks exceed the benefits? What metrics should we use to quantify those risks and benefits? We'll have a chance to address some of those questions at the upcoming NCWSS meeting as well as several of the other weed science society meetings and hope you can join us.

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### **Dicamba: Who's Liable? Insurance Claims Denied as Companies Grapple with Dicamba Injury**

***By Emily Unglesbee , DTN Staff Reporter. October 20, 2017***

There was no question what was to blame for the curled soybeans on the central Illinois farm in late June. The farmer, the neighbor who made the application, even the investigator from the neighbor's insurance company, all agreed. Off-target dicamba movement was the culprit.

Yet the letter the injured farmer received months later from the insurance company was quite clear: "We do not find any negligence on the part of our insured and are respectfully denying your claim." The company concluded that the dicamba damage had occurred from volatility -- a factor beyond the applicator's control -- and that fault lay with the product, not the application of it.

DTN acquired copies of these letters, but because of the sensitivity of the situation, allowed the sources to remain anonymous.

The dicamba injury crisis of 2017 has forced many farmers and applicators to delve more deeply into the world of liability insurance, full of confusing language and important legal implications.

With Xtend soybean acreage set to swell toward 40 million acres in 2018, now is a good time to review what liability insurance does and does not cover -- and how dicamba has thrown a wrench in the works.

1. How does liability insurance handle herbicide damage?
2. What is covered?
3. What is not covered?
4. What have we learned from 2017?
5. How can you prepare for 2018?

The answers to those questions and the rest of the article is at: <https://www.dtnpf.com/agriculture/web/ag/news/article/2017/10/20/insurance-claims-denied-companies>

### **In Glyphosate Review, IARC Edited Out 'Non-Carcinogenic' Findings**

***By Kate Kelland, Reuters. October 19, 2017***

The World Health Organization's cancer agency dismissed and edited findings from a draft of its review of glyphosate that were at odds with its final conclusion that the chemical probably causes cancer. Documents seen by Reuters show how a draft of a key section of the International Agency for Research on Cancer's (IARC) assessment of glyphosate - a report that has prompted international disputes and multi-million-dollar lawsuits - underwent significant changes and deletions before the report was finalized and made public. **Reuters found 10 significant changes that were made between the draft chapter on animal studies and the published version of IARC's glyphosate assessment. In each case, a negative conclusion about glyphosate leading to tumors was either deleted or replaced with a neutral or positive one.**

The full story is at: <http://www.reuters.com/article/us-who-iarc-glyphosate-specialreport/in-glyphosate-review-who-cancer-agency-edited-out-non-carcinogenic-findings-idUSKBN1CO251>

### **EPA Finalizes Herbicide Resistance Management Guidance**

In September, after many years of collaboration between EPA and weed scientists, EPA finalized its "Guidance for Herbicide Resistance Management Labeling, Education, Training, and Stewardship", which is referred to as Pesticide Registration Notice (PRN) 2017-2. Please see: <https://www.epa.gov/pesticide-registration/prn-2017-2-guidance-herbicide-resistance-management-labeling-education>.

**Continued Next Page**

## Washington Report - Continued

This guidance applies to herbicide products applied in pretty much every crop and non-crop area, except for those applied in residential settings (i.e. lawns). One use category that we asked EPA to exclude from this guidance was herbicides applied for aquatic weed control due to the very different nature in how aquatic weeds are managed. However, aquatic use herbicides will also have to follow this guidance.

All new herbicide products will be required to have this labeling guidance as well as existing herbicides that go through registration review.

The herbicide resistance management guidance is simplified into 3 categories (pg. 10).

1. Label requirements
2. Terms of registration
3. Education, training, and stewardship.

Herbicide registrants will be responsible for the first 2 categories, which include guidance elements like MOA labeling, crop scouting, and reporting suspected and confirmed cases of herbicide resistance. The weed management stakeholder community (crop advisors, university extension, commodity groups, registrants, etc...) will be responsible for the 3rd category, which is basically providing educational and training materials to growers at the local level. EPA states “the most successful strategies for herbicide resistance management will be tailored for local conditions” and that the stakeholder community “work collaboratively” to design effective material. Guidance for developing resistance management plans and remedial action plans are provided in Appendix 1 at the end of PRN 2017-2.

### **Steve Censky Confirmed as USDA Deputy Secretary**

Action to fill vacancies in USDA leadership positions continues to move slowly. On October 3, 2017, Stephen Censky, USDA Deputy Secretary, and Ted McKinney, USDA Under Secretary for Trade and Foreign Ag were confirmed by the Senate. Censky and McKinney are the first USDA political appointees to get a confirmation hearing since USDA Secretary Sonny Perdue went before the Senate Ag committee in March.

Steve Censky has been CEO of the American Soybean Association for 21 years. Prior to that he held several appointments at USDA, including administrator of the Foreign Agriculture Service. Steve was raised on a corn and soybean farm in Jackson, MN and received his B.S. in agriculture from South Dakota State. He also has a postgraduate diploma in agricultural science from the University of Melbourne in Australia.

Ted McKinney worked in corporate affairs at Elanco and then Dow AgroSciences for 33 years before becoming director of the Indiana State Department of Agriculture in 2014. McKinney grew up on a family farm in Tipton, IN and was active in both 4-H and FFA. He received his B.S. in ag economics from Purdue in 1981.

Other USDA leadership positions are in various stages of the confirmation process. On October 19, the Senate Agriculture Committee approved by voice vote the confirmation of Greg Ibach, Nebraska’s Director of Agriculture, for USDA Under Secretary for Marketing and Regulatory Programs, and Bill Northey, Iowa’s Secretary of Agriculture, for USDA Under Secretary of Farm Production and Conservation. Both are awaiting final Senate confirmation.

Other USDA nominees awaiting a hearing by the Senate Ag Committee include Sam Clovis for

**Continued Next Page**

## Washington Report - Continued

USDA Under Secretary for Research, Education, and Economics, and Stephen Vaden as USDA General Counsel.

### **USDA Moves OPMP to the Office of the Chief Economist**

WSSA applauds Secretary Perdue's decision to move USDA's Office of Pest Management Policy (OPMP) from the Agricultural Research Service (ARS) to the Office of the Chief Economist, which advises the Secretary of Agriculture on the economic implications of policies and programs affecting the U.S. food and fiber system and rural areas. OPMP's focus does not match up well with the mission of ARS and will be better situated in the Office of the Chief Economist.

OPMP was established in September 1997, with the mandate to:

- Integrate USDA's strategic planning and activities related to pest management
- Coordinate USDA's role in the pesticide regulatory process and related interagency affairs, primarily with the EPA
- Strengthen USDA's support for agriculture by promoting the development of new pest management approaches that meet the needs of an evolving and sustainable U.S. agricultural system

OPMP is directed by Dr. Sheryl Kunickis and currently has a staff of eight pest management specialists, including Dr. Jill Schroeder, a past president of both WSSA and WWS.

### **John Deere Buys Blue River's Precision Weeding Technology**

On September 6, John Deere announced it was spending \$305 million to acquire [Blue River Technology](#), a developer of crop-spraying equipment that relies on machine learning. The acquisition also gives John Deere a 60-person team in the heart of Silicon Valley where it just opened an office to focus on high tech agricultural solutions.

[Blue River Technology](#) was founded in 2011 by Jorge Heraud, the former head of precision agriculture at Trimble, and Lee Redden, a Stanford PhD student and roboticist who grew up in Nebraska detassling corn on his father's and grandfather's farms. Together, they built and tested their idea in California's Central Valley - proving the applicability of machine learning, computer vision, and robotics to the field of agriculture. With an idea, support from friends & family, and a grant from the National Science Foundation's (NSF) Small Business Innovation Research (SBIR) program, Blue River Technology was born.

On a side note, **William Patzoldt, Senior Agronomist (and Weed Scientist) with Blue River**, will be speaking at the upcoming WSSA annual meeting in Arlington, VA as part of Steve Fennimore's symposium titled "The State of the Weed Control Industry In 2018."

Blue River Technology's products have integrated computer vision and machine learning software that enables "See & Spray", a real time precision spot treatment of weeds. Blue River's first smart machine was "LettuceBot", which was developed for precision lettuce thinning. Blue River is also developing an unmanned aerial system that can survey a field of crops and sense various plant and environmental characteristics. Through using a drone, this technology can enable their See & Spray technology to be more accurate - measuring and learning every step of the way.

Blue River has been conducting See & Spray demos in cotton the past couple of years and has developed a labeled image database of plants and weeds. The Blue River system brings together a great deal of computing power into a single system that not only sprays precisely within a crop row,

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but essentially checks its work on the way by and autocorrects to be even more precise.

This level of precision is growing for the industry as lower cost sensor technology becomes available. And once mated to machine learning systems that can take in the information to make decisions, more precision tools are possible.

### **FFAR Contributes \$15 Million Towards Photosynthetic Efficiency Research**

The Foundation for Food and Agriculture Research (FFAR), along with the Bill & Melinda Gates Foundation and the U.K. Department for International Development (DFID) announced on September 15 they are co-funding a five-year, \$45-million research project that will continue the work of Realizing Increased Photosynthetic Efficiency (RIPE) for sustainable increases in crop yield.

RIPE, <http://ripe.illinois.edu/>, was formed in 2012 and built on 50 years of photosynthesis research. RIPE is led by the University of Illinois in partnership with the USDA-ARS, University of Essex, Lancaster University, Australian National University, Chinese Academy of Sciences, Commonwealth Scientific and Industrial Research Organization, University of California, Berkeley, and Louisiana State University.

RIPE has simulated the 170-step process of photosynthesis from the inner workings of enzymes to interactions between neighboring plants in the field. RIPE has used these models to identify seven potential pipelines to improve photosynthesis and turn their ideas into sustainable yield increases. Last year, RIPE published work in *Science* that described how these pipelines could increase crop productivity by 20 percent - a dramatic increase compared to typical annual yield gains of just one percent or less. Two other RIPE pipelines have now shown even greater yield improvements in greenhouse and preliminary field trials. Researchers anticipate commercial seeds benefiting from this research will be available to farmers within approximately 15 years.

### **Australia's "WeedSmart" Program Helping to Stem Herbicide Resistance Tide**

In an August 30 [article in Seed Quest](#), Australian agricultural consultant and WeedSmart representative Peter Newman discusses how Australia is succeeding in stemming the tide of herbicide resistance. This success, he says, is partly attributable to an industry-wide education initiative called WeedSmart (<https://weedsmart.org.au/>).

WeedSmart was established by Australia's agricultural sector about 5 years ago after surveys showed a serious lack of awareness among Australian growers about herbicide resistance, in particular glyphosate resistance. The goal is to enhance on-farm weed management practices and promote the long term sustainability of herbicide use. WeedSmart is guided by an advisory committee and supports the work of three staff members who conduct an ongoing communication program targeted at growers. WeedSmart includes an online resource hub with research and practical solutions for growers on herbicide resistance, webinars, podcasts, social media presence, visits to field days and most recently, WeedSmart Week. WeedSmart is also backed by university research and thus helps researchers communicate directly to growers about the latest findings.

### **National Cover Crop Survey Results Indicate Weed Control Benefits**

Results from the 5<sup>th</sup> annual cover crop survey conducted by the Conservation Technology Information Center (CTIC) with help from Purdue University and funding from the American Seed Trade Association (ASTA) and USDA's Sustainable Agriculture Research & Education (SARE) are now available. The surveys and results are at [www.sare.org/covercropsurvey](http://www.sare.org/covercropsurvey).

The 2016-2017 survey received results back from 2,102 farmers, of which 88% used cover crops while 12% of the respondents did not. About 80% of the farmers who participated were commodity producers, while 20% are

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## Washington Report - Continued

involved in some form of horticulture or produce production. The average volume of cover-crop acres has steadily risen from 217 acres in 2012 to 451 acres in 2017.

Cereal rye remained the top choice of farmers for cover cropping, followed by oats and radish. Sixty-five percent of the cover crop users reported planting mixes of cover crops in 2016. Questions got more detailed on topics such as "planting green," meaning farmers drilled their cash crops into a standing cover crop. The survey showed 39% had done so. Of that group, 61% of those farmers who planted into a standing cover crop considered their weed control had improved. Just 8% stated that weed control was more challenging with that practice.

Another 25% said cover crops always help improve control of herbicide-resistant weeds for those farmers that use cereal rye as a cover. An additional 44% said they sometimes saw benefits controlling herbicide-resistant weeds. About 31% said they saw no benefit from that practice.

And, yet, among farmers who do not use cover crops, another 42% of respondents said one reason they don't use cover crops is their concern over the possible spread of resistant weeds.

### **Public Stakeholder Sessions Underway for New WOTUS Definition**

In step two of President Trump's Executive Order regarding waters of the United States (WOTUS), the EPA and Army Corp of Engineers are pursuing notice-and-comment rulemaking in which the agencies are conducting a substantive re-evaluation of the definition of "waters of the United States".

The agencies are holding 11 stakeholder input sessions on the proposed revised definition of WOTUS. Nine sessions are two-hour long teleconferences that are tailored for specific sectors, one will be open to the general public and one was an in-person session for small entities.

The stakeholder sessions began on Sept. 19 and are being held on a weekly basis through Nov. 21. Each will run from 1 to 3 p.m. eastern time. Information on how to register for these meetings is available at <https://www.epa.gov/wotus-rule/outreach-meetings>.

Registration for each webinar will close a week prior. Those wishing to provide verbal recommendations during the teleconference will be selected on a first-come, first-serve basis. Due to the expected volume of participants, individuals will be asked to limit their oral presentation to three minutes.

### **Stakeholder Sessions Schedule:**

Sept. 19, 2017 –	small entities (small businesses, small organizations and small governmental jurisdictions)
Sept. 26, 2017 –	environment and public advocacy
Oct. 3, 2017 –	conservation, e.g., hunters and anglers
Oct. 10, 2017 –	construction and transportation
Oct. 17, 2017 –	agriculture
Oct. 24, 2017 –	industry
Oct. 31, 2017 –	mining
Nov. 7, 2017 –	scientific organizations and academia
Nov. 14, 2017 –	stormwater, wastewater management and drinking water agencies
Nov. 21, 2017 –	general public

The agencies will be accepting written recommendations on the step two rulemaking effort through

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## Washington Report - Continued

a non-regulatory docket at <https://www.regulations.gov/docket?D=EPA-HQ-OW-2017-0480>. The agencies ask that this information be submitted on or **before Nov. 28, 2017**.

### **U.S. FWS Provides Update On Assessing Monarch Butterfly Status**

In August, the U.S. Fish and Wildlife Service (FWS) provided an update via a webinar on its Species Status Assessment (SSA) framework for the monarch butterfly. The FWS is developing a status review using the SSA framework as the scientific foundation for their decision on whether the monarch butterfly should be listed under the Endangered Species Act, which is due June of 2019.

[Watch the species status assessment update webinar](#) - August 2017 (24 minutes)

For more info on the monarch butterfly assessment process: <https://www.fws.gov/savethemonarch/SSA.html>

During the webinar, the U.S. FWS discussed their initial work in creating their Monarch Conservation Efforts Database (MCED). Their goal is to capture all monarch conservation efforts that are ongoing and planned. One of the key components of the MCED is milkweed and blooming nectar plant metrics. U.S. FWS will continue to provide updates and webinars on the MCED through June 2018 when they expect the MCED will be open for data entry.

Lee Van Wychen, Ph.D.

Science Policy Director

National and Regional Weed Science Societies

5720 Glenmullen Pl, Alexandria, VA 22303

[Lee.VanWychen@wssa.net](mailto:Lee.VanWychen@wssa.net)

Phone: 202-746-4686

### **Meetings of the National and Regional Weed Science Societies**

**Dec. 4 - 7, 2017 North Central Weed Science Society (NCWSS), St. Louis,**

**MO [www.ncwss.org](http://www.ncwss.org)**

**Jan. 9 - 11, 2018 Northeastern Weed Science Society (NEWSS), Philadelphia, PA**

**[www.newss.org](http://www.newss.org)**

**Jan. 22 - 24, 2018 Southern Weed Science Society (SWSS), Atlanta, GA [www.swss.ws](http://www.swss.ws)**

**Jan. 29 - Feb. 1, 2018 Weed Science Society of America (WSSA), Arlington,**

**VA [www.wssa.net](http://www.wssa.net)**

**Mar. 12-15, 2018 Western Society of Weed Science (WSWS), Garden Grove,**

**CA [www.wsweedscience.org](http://www.wsweedscience.org)**

**Jul. 15 - 18, 2018 Aquatic Plant Management Society (APMS), Buffalo, NY [www.apms.org](http://www.apms.org)**

# 2017 Summer Weed Contest



The North Central Collegiate Weed Contest was held on July 27 at the Iowa State University Field Extension and Education Lab. Eighty students from 8 universities participated in the contest. A big thank you to Warren Pierson at Iowa State University for hosting the contest, and a big thanks to the 55 volunteers who helped out. The weather cooperated and provided a beautiful day. Lastly, thank you Brent Pringnitz for the photographs which can be found at:

(<https://isu-anr.smugmug.com/2017NCCWSC>)

**Congratulations to all contest competitors and winners!**

## Team Awards:

Graduate Team	Undergraduate Team
1 <sup>st</sup> Place – University of Nebraska Clint Beiermann Thomas Butts Maxwell Oliveira Bruno Canella Vierira	1 <sup>st</sup> Place – Kansas State University Sarah Zerger Nicole Sudbeck Keren Duerksen
2 <sup>nd</sup> Place – Purdue University Nick Steppig Marcelo Zimmer Jodie Boe Brent Mansfield	2 <sup>nd</sup> Place – University of Nebraska Jacob Nikodym Nikola Arsenijevic Rodger Farr Samatntha Teten
3 <sup>rd</sup> Place – Kansas State University Nate Thompson Jeffery Albers Garrison Gundy Joey Rains	3 <sup>rd</sup> Place – Western Illinois University Tyler Wilson Luke Merritt Zachary Brewer Nathan Hilesen

## Individual awards:

Graduate Division	Undergraduate Division
<b>Overall Graduate Individual</b> 1 <sup>st</sup> place – Jodie Boe, Purdue University 2 <sup>nd</sup> place tie – Thomas Butts, University of Nebraska 3 <sup>rd</sup> place - Marcello Zimmer, Purdue University	<b>Overall Undergraduate Individual</b> 1 <sup>st</sup> place – Nicole Sudbeck, Kansas State University 2 <sup>nd</sup> place – Samantha Teten, University of Nebraska 3 <sup>rd</sup> place – Aidan Groves, Purdue University
<b>Written Calibration –</b> Aaron Brooker, Michigan State University	<b>Written Calibration -</b> Nicole Sudbeck, Kansas State University
<b>Unknown Herbicide Identification –</b> Maxwell Oliveira, Univ. of Nebraska	<b>Unknown Herbicide Identification –</b> Karen Duerksen, Kansas State University
<b>Farmer Problem –</b> Jeffery Albers, Kansas State University	<b>Farmer Problem –</b> Aidan Groves, Purdue University
<b>Weed Identification –</b> Thomas Butts, University of Nebraska	<b>Weed Identification –</b> Samantha Teten, University of Nebraska
<b>Team Calibration – University of Nebraska</b> Parminder Chahal Andre de Oliveira Rodrigues Adam Striegel Ethann Barnes	<b>Team Calibration – Tie between KSU &amp; WIU</b> KSU: Sarah Zerger      WIU: Tyler Wilson Keren Duerksen      Nathan Hilleson Nicole Sudbeck      Luke Merritt Zachary Brewer

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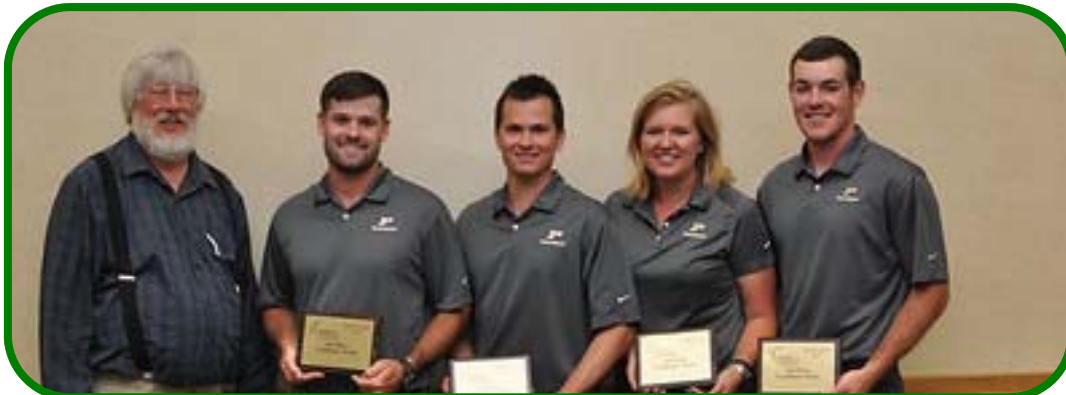


## 2017 Summer Weed Contest



**1<sup>st</sup>  
Graduate  
Team**

**University of  
Nebraska**



**2<sup>nd</sup>  
Graduate  
Team**

**Purdue  
University**



**3<sup>rd</sup>  
Graduate  
Team**

**Kansas State  
University**

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**1<sup>st</sup>**  
**Undergraduate**  
**Team**

**Kansas State**  
**University**

**1<sup>st</sup> (co)**  
**Team**  
**Calibration**



**2<sup>nd</sup>**  
**Undergraduate**  
**Team**

**University of**  
**Nebraska**



**3<sup>rd</sup>**  
**Undergraduate**  
**Team**

**Western**  
**Illinois**  
**University**

**1<sup>st</sup> (co)**  
**Team**  
**Calibration**



**1<sup>st</sup>**  
**Individual**  
**Grad Student**  
Jodie Boe  
(Purdue Univ.)

**2<sup>nd</sup>**  
**Individual**  
**Grad Student**  
Thomas Butts  
(Univ. Nebraska)



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**3<sup>rd</sup>**  
**Individual**  
**Grad Student**  
 Marcello Zimmer  
 (Purdue Univ.)



**1<sup>st</sup>**  
**Individual**  
**Undergrad**  
 Nicole Sudbeck  
 (KSU)



**2<sup>nd</sup>**  
**Individual**  
**Undergrad**  
 Samantha Teten  
 (Univ. Nebraska)



**3<sup>rd</sup>**  
**Individual**  
**Undergrad**  
 Aiden Groves  
 (Purdue Univ.)



## Written Calibration

**Grad:**  
 Aaron Brooker  
 (MSU)



**UG:**  
 Nicole Sudbeck  
 (KSU)



## Unknown Herbicide

**Grad:**  
 Maxwell Oliveira  
 (Univ. Nebraska)



**UG:**  
 Karen Duerkson  
 (KSU)





## Weed ID

**Grad:**  
Thomas Butts  
(Univ. Nebraska)

**UG:**  
Samantha Teten  
(Univ. Nebraska)



## Farmer Problem

**Grad:**  
Jeffery Albers  
(KSU)

**UG:**  
Aidan Groves  
(Purdue Univ.)



## Necrology



**Orvin C. Burnside**, 84, Oak Park Heights, Minnesota, formerly of Lincoln, died May 29, 2017. **Orvin** was born on June 9, 1932 in Hawley, Minnesota, where he was raised on a dairy farm. He served as an army officer in U.S. military intelligence during the Korean War.

**Orvin** was a professor and researcher in weed science at UNL for 26 years, until he returned to Minnesota as the UMN department head of agronomy and plant genetics. **Orvin** has produced over 400 separate publications and a profusion of course syllabi, extension bulletins and patents. His awards are numerous.

He served as president of the Weed Science Society of America, and North Central Weed Science Society. He enjoyed church work, hunting, fishing, golfing, and spending time with family. He is preceded in death by his first wife, Delores **Burnside**, and parents John J. **Burnside** and Sena (Dwyer) **Burnside**. He is survived by his wife, Clarice and children Bruce (Sandy), Kristi (Michael) Shoemaker, Nick (Jo Ann) Rude, Tim Rude, and Brenda Jonason.

# **Call for Papers**

## **Combatting Herbicide Resistant Weeds and Palmer Amaranth: Multiple Perspectives**

### **About the Conference**

Simpson College will host this conference on January 4-6, 2018. The aim of this conference is to bring together a wide diversity of agricultural stakeholders for an intensive 3-day discussion of Palmer amaranth and other herbicide resistant weeds. Through presentations, panels, posters, and invited speakers, those in attendance will hear multiple perspectives on these problems. This conference is not limited to academic researchers. We seek abstracts from a very wide and diverse group, which includes producers, industry personnel, university researchers and extension, graduate and undergraduate researchers, agricultural economists, natural resource conservation professionals, environmentalists, and other agricultural stakeholders who would like to present on any of the following topics:

- Palmer Amaranth Biology, Natural History, Physiology
- Herbicide Resistance of Palmer Amaranth and Other Weeds
- Non-chemical Control of Palmer Amaranth and Other Weeds
- Industry: Herbicide Innovation and Control
- Palmer Amaranth Impacts on Crop Yield
- Precision Agriculture
- Economic Impacts of Palmer Amaranth and Other Herbicide Resistant Weeds
- Palmer Amaranth and Conservation Programs
- Palmer Amaranth and International Agriculture
- Response to Palmer Amaranth as a Noxious Weed

There will also be panels of domestic and international producers, policymakers, environmentalists, etc. We encourage any and all interested individuals to attend.

### **Keynote Speakers**

Dr. Jason Keith Norsworthy, Professor of Crop, Soil, and Environmental Science University of Arkansas Presentation Title: "Lessons Learned from Herbicide-Resistant Palmer Amaranth: Advising Iowa Famers"

Dr. Michael Gunderson, Associate Professor and Associate Director of Research Purdue University Center for Food and Agricultural Business Presentation Title: TBA Dr. Bob Hartzler, Extension Weed Specialist and Professor of Agronomy Iowa State University Presentation Title: Palmer Amaranth in Iowa: Past, Present, and Future Dr. Robert Price, Senior Seed Botanist Plant Pest Diagnostics Branch, California Department of Food & Agriculture Presentation Title: "An Overview of Amaranths"

To submit an abstract, go to <http://www.simpson.edu/the-palmer-project/>

For any other questions please contact John Pauley <[john.pauley@simpson.edu](mailto:john.pauley@simpson.edu)>.

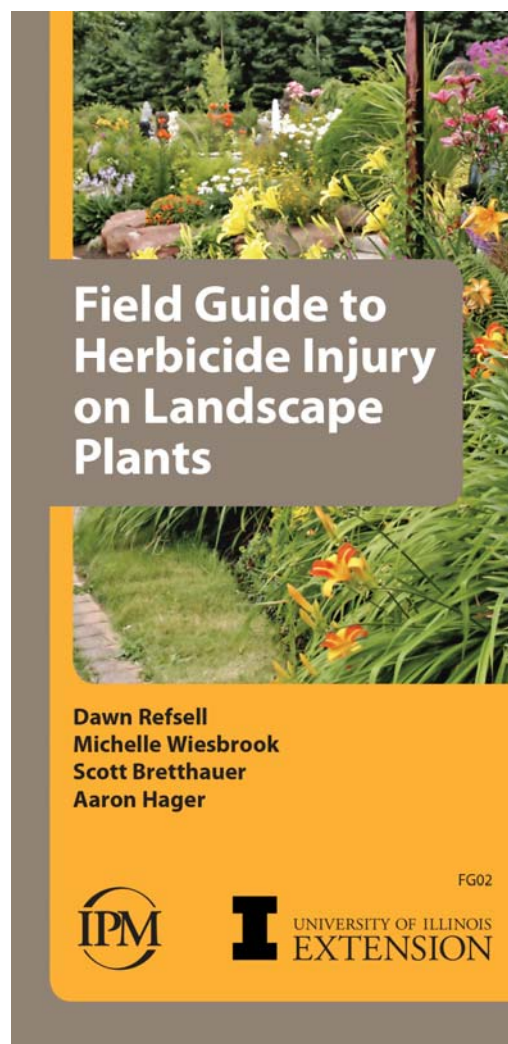


## People, Places, and other news...

### Field Guide to Herbicide Injury on Landscape Plants

Distinguishing herbicide injury from other causes of abnormalities on landscape plants can be challenging. With the *Field Guide to Herbicide Injury on Landscape Plants* you'll have in your pocket the details you need to troubleshoot and diagnose herbicide injury problems. This extensive guide presents over 200 color photographs of several herbicide families with images of vegetables, annuals, and herbaceous and woody perennials. Diseases and environmental conditions that may show similar symptoms are also highlighted in the key.

This 112 page, color-coded field guide will make your diagnosis more accurate and efficient. It was out of stock for a few years but is now newly updated and available for \$12 at <https://pubsplus.illinois.edu/FG02.html>. -Michelle Wiesbrook



### The Contract Research Division of Heartland Technologies, Inc. will become IMPACT Ag Services starting January 1<sup>st</sup>, 2018.

Wayne and Bernadette Olson are excited to announce that after 30 years they have sold the Contract Research division of Heartland Technologies, Inc. (HTI) to Jon and Jenica Rollins. We would like to thank the many clients who have entrusted HTI with their trials and many of whom became great friends. HTI will continue to focus on FieldPro and research data management. The owners of IMPACT Ag Services inc. Jon and Jenica are proud to announce that they will continue the legacy of HTI as a premier contract research facility in Indiana. Jon has been the Farm Manager/ Research Associate at Heartland Technologies since 2002. We will continue to bring clients the same caliber of trials that they have come to expect from Heartland Technologies under the new name of IMPACT Ag services inc.

<b>HEARTLAND</b> Technologies, Inc. "We are testing the future of Agriculture."  <b>Wayne Olson, Ph.D.</b> President  12491 East 136th Street Fishers, IN 46038 <a href="http://www.heartlandinc.com">http://www.heartlandinc.com</a>  Phone: (317) 776-0034 Fax: (317) 773-5661 <a href="mailto:wolson@heartlandinc.com">wolson@heartlandinc.com</a>		<b>IMPACT</b> <b>AG SERVICES</b>  <b>Jon Rollins</b> OWNER   RESEARCH MANAGER <a href="mailto:JON.ROLLINS@IMPACTAGSERVICES.COM">JON.ROLLINS@IMPACTAGSERVICES.COM</a> 317.502.5812  317.678.0998 2842 SOUTH 825 WEST LAPEL IN 46051 <a href="http://IMPACTAGSERVICES.COM">IMPACTAGSERVICES.COM</a>
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