Comments from the President

Randy Prostak

I hope this NEWSSletter finds you having a great research season while still finding time to enjoy summer on the personal side of your life. Weather that is very different than the summer drought of 2016 seems to being having a very positive impact on the agricultural community we serve.

The 2017 Collegiate Weed Contest was held on July 25 in North Rose, NY. Despite less than perfect weather the event was a huge success. A very special thank you to Grant Jordan of A.C.D.S. and this entire staff. The above-and-beyond efforts of these individuals is greatly appreciated.

Preparations for the 72nd Northeastern Weed Science Society Annual Meeting (NEWSS) and

Important Dates

September 30, 2017: Title submission deadline
November 15, 2017: Abstract submission deadline
January 7, 2018: Deadline for presentation upload
January 8-11, 2018: NEPPSC Meeting at the Hilton at Penn’s Landing, 201 S Christopher Columbus Blvd, Philadelphia, PA

3rd annual Northeast Plant, Pest, and Soils Conference (NEPPSC) are progressing. This year the NEWSS will serve as the host society and will be joined by the Northeast Branch of the American Society of Agronomy, Crop Science Society of America, and the Soil Science Society of America (NE ASA-CSAA-SSSA) and the American Society of Horticultural Science - Northeast Region (NE-ASHS). Great to have NE ASA-CSAA-SSSA and NE-ASHS with us again this year.

Steve Young, director of the Northeast IPM center, has expressed an interest in taking over the coordination of NEPPSC. I am currently working with Steve to explore this possibility. Steve and I had discussed ways to move NEPPSC in a more sustainable direction with the intent of having future conferences much like the 2016 conference in which five regional scientific societies participated.

I wish you a successful remainder of the
2017 growing season and am looking forward to seeing you in January. Please feel free to reach out with any concerns and/or suggestions.

**President-Elect’s Report**

Carroll Moseley

It was so great to see all of the participants (and volunteers!) during the NEWSS Collegiate Weed Science Contest held at ACDS (North Rose, NY) back in July. Thanks to ACDS for putting on a great contest and to all of the volunteers contributing to the success of the contest!

Program planning has been underway for the 2018 Northeast Plant, Pest, and Soils Conference (NEPPSC) meeting at the Hilton at Penn’s Landing in Philadelphia, PA (201 S. Christopher Columbus Blvd). I am looking forward to seeing some great papers and posters at the upcoming annual meeting. Important deadlines include:

**Title Submission: September 30, 2017**

**Abstract Submission: November 15, 2017**

**Presentation Upload: Sunday, January 7, 2018**

Title submissions made after the deadline may be delegated to the poster session or cancelled all together, if there is no place in the program. Title and abstract submissions can be made through http://wssaabstracts.com/user/home.php?m=login. SUBMIT TITLES AS SOON AS POSSIBLE!

The meeting will begin on Monday, January 8, 2018 and will conclude on January 11, 2018 (with a few adjacent meetings rolling into Friday, January 12). Industry and Extension Roundtable discussions are planned for Tuesday afternoon, followed by the NEPPSC Opening Ceremony and Social Mixer. Dan Kunkel has been planning a symposium on the future innovation needs of the agricultural industry in the Northeast and across the US. We will have the traditional student paper and poster contests. We have also been working on a student quiz bowl and another event to get students together. We are looking forward to hosting everyone at the Hilton in Philadelphia. Please be ready to provide us information on your research as we get together in January 2018. If you have questions, please contact me at carroll.moseley@syngenta.com – I look forward to seeing everyone in January!
Vice President’s Report
Dan Kunkel

The Executive Committee is working hard to develop a great program for the 2018 NEPPSC meeting. We are currently considering a symposium session that will focus on how our respective societies will continue to evolve, adapt and respond to the needs of the US Crop Protection industry (row crops, specialty crops, turf, ag, forestry, etc). Moreover how technological developments, resulting from our hard work, can be rapidly integrated into productive practices. A sharing of ideas and experiences across the societies that attend the NEPPSC, where applied scientist will not only remain relevant but critical to meeting the challenge of feeding the growing population in a sustainable manner. We are also exploring the idea a workshop on using cover crops for weed and pest management. The Executive Committee is always looking for ideas for symposia and workshops.

If you have any suggestions for the 2018 meeting or for future meetings we would love to hear from you. As a member of NEWSS, you play a critical role in maintaining the high level of scholarship and service we provide as a society. The Executive committee wants your input! More information on these special sessions of the 2018 NEPPC will be presented in the summer newsletter. In the meantime please consider presenting your important work in one of the many sessions planned for the meeting. We expect a full and robust program. The NEWSS society and NEPPSC greatly appreciates your contributions and want to hear about your hard work.

Past President’s Report
Shawn D. Askew

Please consider nominating a deserving individual for one of the various society awards at the upcoming meeting. Requirements for various awards and the nomination process are outlined below. All nomination packages [which include nomination letters and letter(s) of support] need to be sent to me by email to saskew@vt.edu no later than October 21, 2017 by 5 pm EST. Thank you in advance for taking the time to recognize the outstanding members of our society!

NEWSS Awards and Their Criteria

The Fellow Award is one of the highest honors the Society presents. The purpose of this award is to recognize those members, at any point in their tenure, who have made significant contributions to the NEWSS. Criteria for eligibility are simple: the recipient must have been a member of the NEWSS and have made significant contributions to the NEWSS and to Weed Science in the Northeast.

a. The nomination must be by letter and 2 supporting letters are required.

b. The nominating letter should explain in general and specific terms the outstanding contributions of the nominee.
c. The contributions must be in regards to NEWSS and weed science in the Northeast.

d. Awards Committee members are not eligible.

e. Award is limited to a maximum of three recipients per year.

f. The Award is a plaque and life membership.

The **Award of Merit** recognizes career contributions to the NEWSS and weed management in the Northeast. Qualifications for the Award of Merit include: at least five years of participation at the annual meeting, service to the NEWSS on the executive committee or as a section chair, and presentation and authorship of papers at the annual meetings. The Award of Merit is normally awarded at or near an individual’s retirement. The criteria for this award are:

a. At least five years attendance at the Annual Meeting

b. A combination of two or more listed below:
   1. Presented or was the author/co-author of at least two papers at the Annual Meeting, or
   2. Served the Society for at least two years on the Executive Committee, or
   3. Served the Society for at least two years as a Section Chair

c. In case of doubt as to whether a member qualifies, the Awards Committee will decide. The Award should be flexible and the purpose or objective of the Award should be the major consideration. Has the person contributed significantly so that the recognition would be meaningful and appreciated?

d. A nomination letter and one supporting letter are required.

e. The Award is a plaque.

The **Outstanding Educator Award** was established to recognize outstanding contributions to outreach education or resident instruction in Weed Science and weed management. Accomplishments that may be considered include (but are not limited to) excellence in Cooperative Extension education, resident instruction, or other educational programs; or the development of novel and effective educational resources in Weed Science. Criteria for the award include:

a. Significant impact of an educational program (or programs) on weed management practices in the Northeast; and/or

b. Innovative and effective educational programs or materials which have improved or enhanced weed management systems in the Northeast (or show the potential to do so); and/or

c. Excellence in teaching, as evidenced by innovative teaching methods or significant impact on their audiences (understanding of Weed Science and weed management).

d. Candidates for the award must be active members of the NEWSS.

e. Public and private sector members are eligible.

f. A nomination letter and one supporting letter are required. In case of doubt as to whether a nominee qualifies, the Awards Committee will decide.

g. The Award is a plaque.

The **Outstanding Researcher Award** was established to recognize NEWSS members for their outstanding research contributions, in the public or private sector, that have had (or have the potential to have) a significant impact on weed management practices in the Northeast. Criteria for the award include:

a. Significant impact (or potential for such) of a research program or project on weed management practices in the Northeast; and/or

b. Innovative and effective approaches to weed management research and/or

c. Developments of novel instrumentation or devices used in weed management or weed science research in the Northeast.

d. Candidates for the award must be active members of the NEWSS.

e. Public and private sector members are eligible

f. A nomination letter and one supporting letter are required. In case of doubt as to
whether a nominee qualifies, the Awards Committee will decide.

g. The Award is a plaque.

The Robert D. Sweet - Outstanding Graduate Student Awards were established to recognize outstanding NEWSS students at the M.S. and Ph.D. levels for their work and contributions to the field of weed science in research, teaching, extension, and to the society. Criteria for the award include:

a. Students must be currently enrolled or have received their degrees no more than 12 months prior to the annual meeting and awards are limited to one M.S. and one Ph.D. per year.

b. Students are judged on academic and work history, research, teaching, and outreach activities, service, and honors and awards.

c. Awards are limited to a maximum of one M.S. and one Ph.D. level award per year, and both level awards are not required to be given in any one year.

d. Winners are student members of NEWSS.

e. Winners of the M.S. level award are also eligible for the award during their Ph.D. program.

f. A nomination letter and one supporting letter are required. In case of doubt as to whether a nominee qualifies, the Awards Committee will decide. The Award should be flexible and the purpose or objective of the Award should be the major consideration. The person should have contributed significantly so that the recognition would be meaningful and appreciated. The "Special Recognition Award" can be presented to service personnel who are not members of NEWSS but support members of NEWSS.

g. The Award is a plaque.

The M. Garry Schnappinger - Service Recognition Award was established to recognize outstanding service, above and beyond the call of duty, from someone who works in the area of weed science under the direction of university, federal, industry or private sector scientists. The nominee must demonstrate significant contributions to the field of weed science and/or to NEWSS. The nominee must be involved in the field of weed science and must have a combination of two or more listed below:

a. Presented or was the author/co-author of a paper at the Annual Meeting, or

b. Served the Society for at least two years as a Section Chair, or

c. Organized or had significant input into the Collegiate Weed Contest, or

d. Assisted a NEWSS member with other society duties, or

e. Published a paper in other Weed Science journals, or

f. Demonstrated other significant weed science activity (public schools or other areas). A nomination letter and one supporting letter are required. In case of doubt as to whether a nominee qualifies, the Awards Committee will decide. The Award should be flexible and the purpose or objective of the Award should be the major consideration. The person should have contributed significantly so that the recognition would be meaningful and appreciated. The "Special Recognition Award" can be presented to service personnel who are not members of NEWSS but support members of NEWSS.

g. The Award is a plaque.
Treasurer’s Report

Kurt Vollmer

July 2017 Financial Report as of August 18, 2017

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</tr>
</tbody>
</table>

Please note: The mailing address for NEWSS has changed. Please address all correspondence to:

Kurt Vollmer, NEWSS Treasurer
16483 County Seat Hwy
Georgetown, DE 19947

Executive Committee

NEWSS Board 2017
Front Row (L to R): Sudeep Mathew, Katelyn Venner, Randy Prostak, Kurt Vollmer, Quintin Johnson, Lee Van Wychen
Back Row (L to R): Theresa Reinhardt, Carroll Moseley, Wesley Everman, Shawn Askew, Michael Flessner, Dan Kunkel

Executive Committee, Chairs and Representatives

Randy Prostak  President
Carroll Moseley  President-Elect
Dan Kunkel  Vice-President
Shawn Askew  Past President
Kurt Vollmer  Treasurer
Sudeep Mathew  Membership Chair
Michael Flessner  Editor
Katelyn Venner  Public Relations Rep.
Wesley Everman  Sustaining Membership
Quentin Johnson  Research & Education
Theresa Reinhardt  Graduate Student Rep.
Mike Fidanza  WSSA Representative
Dan Kunkel  CAST Representative
Lee Van Wychen  Science Policy Director

NORTHEASTERN WEED SCIENCE SOCIETY
NEWSS Executive Committee 2016

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Weed Science Society of America
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Lee.VanWychen@wssa.net
Committee Members

Listed below are the Chairs and Chair-Elects for the various sections in 2017.

2018 NEWSS Annual Meeting
Carroll Moseley – Program Chair

Poster Session:
Michael Flessner – Chair
Katelyn Venner – Co-Chair

Agronomy:
Sandeep Rana – Chair

Turfgrass and Ornamentals:
Kyung-min Han – Chair
Matthew Elmore – Chair-Elect

Vegetables and Fruit:
Thierry Bensacon – Chair
Charlie Cahoon – Co-Chair

Vegetation Management and Restoration:
Lane Heimer - Chair

Program Committees for the 2017 NEWSS Meeting

Site Selection Committee
Carroll Moseley  President-Elect
Randy Prostak  President
Kurt Vollmer  Treasurer

Awards Committee
Shawn Askew  Chair
Rakesh Chandran
Greg Armel
Dwight Lingenfelter
Antonio DiTommaso

Nomination Committee
Shawn Askew  Chair
Jennifer D’Appollonio-Cote  Appointed by President
Sali Barolli  Selected at business mtg.
Darren Lycan  Selected at business mtg.
Michael Flessner  Selected at business mtg.

Resolutions Committee
TBA  Chair
TBA  Appointed by President
TBA  Appointed by President
TBA  Appointed by President

Collegiate Weed Contest Committee
Randy Prostak  President
Carroll Moseley  Chair
Grant Jordan  Host in 2017
Shawn Askew  Host in 2016
Jacob Barney  Host in 2016
Dwight Lingenfelter  Host in 2014
John Grande  Host in 2012
Greg Armel  Host in 2011
John Brewer  Graduate Student Rep.
Wes Everman  Sustaining Membership

Audit Committee
Kurt Vollmer  Treasurer
To be selected at 2018 Meeting

Archives Committee
Dan Kunkel  Chair
Shawn Askew  Past-President

Photo Award Committee
Hillary Sandler  Chair
Erin Hitchner
Rakesh Chandran
Art Gover
Victoria Kleczewski

Student Paper Awards Committee
Shawn Askew  Past President
Rakesh Chandran
Greg Armel
Dwight Lingenfelter
Antonio DiTommaso

Weed Science Field Days Committee
Quintin Johnson  Research and Education

Poster Award Committee
Matthew Elmore  Chair
Art Gover
Joseph Argentine
Larissa Smith
To be selected at 2018 Meeting
Past President’s Committee
Shawn Askew  Chair
Rakesh Chandran  Past-President

Herbicide Resistance Plant Committee
Mark VanGessel  Chair
Russ Hahn
Bill Curran
Dan Kunkel
Dave Mayonado

Endowment Committee
Carroll Moseley  President-Elect
Kurt Vollmer  Treasurer
Sudeep Mathew  Membership Chair
Shawn Askew
Rakesh Chandran
Greg Armel
Renee Keese  Appointed by President

NEWSS News was compiled by Katelyn Venner, Public Relations Representative. Please contact her at katelyn.venner@basf.com with any corrections, suggestions, or items to be included in the next newsletter (Winter 2017).

Editor’s Report

Michael Flessner

The 2017 NEPPSC and NEWSS Proceedings are now complete! Due to the planned NEWSS website renovation, the proceedings may not have been posted yet. If the proceedings are not available on the website and you desire a copy, please email flessner@vt.edu.

Dates for the 2018 NEPPSC meeting title and abstract submission have been set:
Title and abstract submission opens: September 1, 2017.
Title submission deadline: September 30, 2017.
Abstract submission deadline: November 15, 2017.

When submitting titles and abstracts, please follow the instructions below. Please note that these deadlines are slightly earlier than in previous years. Deadlines are firm. Failure to observed deadlines will result in the exclusion of the abstract from the proceedings.

SUBMITTING TITLES AND ABSTRACTS
We will again be using http://wssaabstracts.com for title and abstract submissions for our 2018 Annual Meeting. Deadlines and instructions are below.

DEADLINES: Titles are due on September 30th, 2017. Abstracts are due November 15th, 2017. These deadlines are FIRM. If an abstract is not
entered by November 15th, the title will not be included in the meeting’s proceedings.

LOG-IN. Go to http://wssaabstracts.com. If you submitted a presentation last year, your user login and password have been carried forward. Enter your login (usually your email address) and password and then click ‘login’. If you have forgotten your password, click ‘Reset Password’ and follow the instructions. Be sure your email program/server is able to receive emails from admin@wssaabstracts.com and it is not blocked as junk email. If you are a new user, click ‘Setup Account’ and follow the instructions.

SUBMIT TITLE (September 1, 2017 to September 30, 2017). Once logged in using the instructions above, click ‘Join a Conference’. You should then see a drop-down list appear at the bottom of the screen. Select "2018 Northeastern Plant, Pest, and Soils Conference" and click ‘Add’. Now click the green ‘Enter’ button that will appear next to "2018 Northeastern Plant, Pest, and Soils Conference". Click ‘My Titles and Abstracts’ and then ‘Add Title/Abstract’. Enter title using WSSA approved common names for crops and weeds (hover cursor over green question mark for formatting hints). Choose Poster or Oral presentation. If an Oral presentation, select your preferences for paper section (e.g. Agronomy, Ornamentals, Biology and Ecology, etc.).

Enter titles in ALL CAPS. Limit titles to 150 characters, including spaces. Include weed scientific names, italicized, in parentheses, without botanical authority.

Students wishing to compete in the oral competition need to select Student Presentations as your 1st Section choice. Students that are presenting papers but do NOT wish to be in the competition should NOT choose Student Presentations section but other appropriate sections. If competing in either the Oral or Poster student competition, choose ‘yes’ paper is to be judged.

All Authors from the previous year have been carried forward. Add the applicable authors from the drop-down list or click ‘new author’ to enter information for any author not already listed. Select the blue box next to the author that will be presenting the paper and use the green arrows to adjust the order the authors are listed if needed.

Once you have double-checked your information, click ‘Save’. The submitter and presenter should both receive a confirmation email that your title has been received. You will be able to log back in to edit, add, or delete any title, section, or author information until December 1, 2017. After that time, contact Michael Flessner (flessner@vt.edu) and Carroll Moseley (carroll.moseley@syngenta.com) to make changes.

SUBMIT ABSTRACT (September 1, 2017 to November 15, 2017). Prior to submission, refer to Instructions for Authors at http://www.newss.org/annualmeeting.php. Login to wssaabstracts.com using instructions above. Click ‘My Titles and Abstracts’ and select ‘Edit’ next to the desired title. Click ‘Add Key Words’ and choose the appropriate selections from the drop-down lists. NOTE: All key words contained in your Title should be actively selected as key words. They will NOT automatically appear in the index if not selected here. If a key word is not found in the prepopulated lists, you can enter additional terms in the User Defined category. Abstract text can be entered directly into the text window or copied from another program. DO NOT reenter any title or author information into the text window. Please use Arial font size 12 if copying abstract from another program. This will help ensure that no unintended changes in content or clarity occur when abstracts are converted to Arial font size 12 for the Proceedings. The proceedings are online only - not printed. However, abstracts should not exceed one page. To ensure your abstract is one page, the character count (visible at the bottom of the 'Abstract Text' window on the submission page) should not exceed 3200. If you do not intend to publish your data elsewhere, you may include a
Students on teams of 3 or 4 competed in the categories of weed identification, herbicide identification, solving farmer problems, written calibration, and calibrating a handheld boom with their team. Congratulations to the high placing teams and individuals! I hope that everyone had an experience they could learn from. I appreciated getting your feedback on the contest, both what you liked and what could be improved. Thank you so much for your participation in the contest and dedication to helping make it better.

Fast approaching is the annual meeting in January. I look forward to seeing you all there and bringing your research. I would like to mention that we have some earlier deadlines than in previous years and the board has discussed a zero-tolerance policy for late entries. We want you to present, but understand that you MUST get your titles, abstract, and presentation slides turned in on time in order to present. Start early, if you run into computer glitches, please contact someone right away so you can be in the program. On a different note, I am working with a members of the board to put together some great graduate student activities for this year including a quiz-bowl, student mixers, and a surprise activity for Wednesday night during the dessert social.

As the meeting approaches, remember to help mentor our new students, make sure they are aware of deadlines, and pass on your skills! Participating in paper and poster contest is the best way to improve scientific presentation skills and become more comfortable speaking to an audience, whether one or 50. Write these deadlines on your calendar and give yourself time to practice. Gather your peers and have a practice run even if your advisor does not initiate.

Work hard preparing your research for the annual meeting and for your graduation, do well in your classes, and I look forward to seeing you in January. Remember, I am here to represent you so feel free to email me with any comments or questions.

On a final note, I would like to congratulate all the graduates who may not join
us at the meeting and thank you for your participation in the society. We wish you all the best in your future endeavors but know you will always have a place at the weed science society. Looking forward to a great year!

WSSA Representative

Mike Fidanza

2018 WSSA Award Nominations Request - Deadline: Sept. 12, 2017
WSSA is currently accepting nominations for various awards to be presented at the 2018 Annual Meeting in Arlington, VA. All award nominations must be submitted electronically as a single pdf file. The deadline is Sept. 12, 2017, for all awards, except for the graduate student travel award (Oct. 31, 2017), Undergraduate Research Award, and the Photo Contest. Any WSSA member who has won an Outstanding Service Award is not eligible to receive another one for the subsequent three years. Fellows are eligible for all awards. Members of sub-committees are not eligible and cannot nominate for award of their committee. Contact the specific award sub-committee chair for questions or problems with electronic submission. Winners of awards will be asked to supply a biographical sketch (approximately 250 words), the names of two individuals whom the winner would like contacted with information about the award, and an electronic copy of a recent black and white picture and an informal color picture at work. For general questions about the Awards, contact Dwight Lingenfelter (dwight@psu.edu). Here is the link on the WSSA website for information for the awards: http://wssa.net/society/awards-2/.

Update on WSSA Journal Publications
The transfer of WSSA journals (i.e., Invasive Plant Management and Management, Weed Technology, Weed Science) from Allen Press to Cambridge University Press was completed in April 2017. Journal covers have been redesigned for greater visual impact online, and entire back content for all three journals should be archived by the end of the summer 2017. Currently, pre-2000 journal articles are only available via JSTOR, but once the digital archive is complete, all articles published in WSSA journals since 1951 will be accessible from Cambridge Core. A WSSA member subscription includes full online access to Weed Science, Weed Technology, and Invasive Plant Science and Management. For more information, go to www.wssa.net. Note, if you go directly to the journal home pages on Cambridge Core without first logging in as a WSSA member, you will not have access to journal content, and you will be redirected to login at wssa.net. Also of note, Sara Ward is the WSSA Director of Publications.

WSSA Summer Board Meeting
The WSSA Summer Board Meeting was held at the Crystal Gateway Marriott, in Arlington, VA, on July 13 and 14, 2017. Of note, there was a review of symposium proposals for the 2018 WSSA Annual Meeting, and most of the proposals were related to herbicide metabolism and herbicide resistance. Currently, proposal selection is still under further review.

WSSA 2018 Annual Meeting
The 2018 annual meeting of the WSSA is set for January 25 to February 3, 2018, in
Director of Science Policy Report

Lee Van Wychen

Off-Target Movement of Dicamba. Where Do We Go From Here?
Unfortunately, there have been many reports and news stories about off-target movement of dicamba this summer. Dr. Kevin Bradley, WSSA Past President, from the University of Missouri has been dealing with this issue for the past two summers and has researched and written extensively about it. I have combined parts of two University of Missouri IPM extension articles that Dr. Bradley recently wrote that address the current situation and include his recommendations for Missouri next year.

Author: Kevin Bradley
On a national scale, there are now more than 2,200 dicamba-related injury investigations being conducted by various state Departments of Agriculture (Figure 1), and more than 3.1 million acres of soybean estimated with dicamba injury (Figure 2). In my opinion, we have never seen anything like this before; this is not like the introduction of Roundup Ready or any other new trait or technology in our agricultural history.

**Figure 1. Official dicamba-related injury investigations as reported by state departments of agriculture (as of August 10, 2017).**

**Figure 2. Estimates of dicamba-injured soybean acreage as reported by state extension weed scientists (as of August 10, 2017).**

**Reasons.** In my opinion, there are basically four routes by which dicamba can move away from its intended target, and we have experienced every one of these in 2017. The real debate seems to be about what percent of the total off-target movement should be placed into each one of these categories.

First, dicamba can move off-target by way of physical drift at the time of application. This can occur due to spraying when wind speeds are too high, use of improper nozzles that produce fine droplets, or to a host of other factors that we can just chalk up to "bad sprayer decisions or set-up at the time of application." There's no doubt that physical drift of dicamba has occurred this season and that this is one of the major reasons for off-target movement of dicamba. But it isn't the only reason. I have visited and talked with many farmers and applicators who have done it right and still experienced movement of dicamba away from the direction of the prevailing winds at application.

A second way that dicamba can move off-target is through tank contamination. This usually occurs due to improper spray tank cleanout. Unfortunately, many have learned the hard way that it takes very, very little dicamba in the tank to cause problems on non-Xtend soybean that are sprayed after a dicamba application. There's no doubt that some portion of our issues with off-target movement of dicamba have been due to improper sprayer cleanout and tank contamination. However, many growers with injured soybean fields didn't even plant any Xtend soybean or spray a dicamba product through their sprayers. Some retailers also have dedicated sprayers for dicamba products only.

Another way that tank contamination can occur is through contamination of an actual herbicide product, such as what Monsanto says has occurred with a certain generic glufosinate product. I'm not aware that
any trade names of glufosinate products have been put forth or of any actual data presented about this potential problem at the time of this writing, but of course contaminated glufosinate could not explain any of the injury we have seen on Roundup Ready or conventional soybean, or any of the other vegetable or ornamental crops or trees that have been injured by dicamba.

A third way that dicamba can move away from its intended target is through temperature inversions. Temperature inversions usually occur in the evening hours around sunset when the air nearest the earth's surface becomes cooler than the air above it. This cooler air forms a stable mass that can be moved horizontally along the earth's surface and then can deposit anything that may have been in it once it dissipates. So for example, if an application of an approved dicamba product is made at 7 or 8 PM into a temperature inversion, any fine droplets that may have been part of this application may not land on the intended target, but instead may be redistributed some distance away once the temperature inversion dissipates the next morning. As a result of our work on temperature inversions over the past several years, our data indicates that we usually experience a temperature inversion at least one-half to two-thirds of the days in June and July, and that these inversions typically start around 6 to 8 PM and persist for 8 to 10 hours. Also as a result of funding from Missouri soybean growers, we now have a network of weather stations in Missouri that are able to tell users whether or not an inversion is occurring. There is some off-target movement of dicamba that occurred in 2017 that can be explained by spraying directly into a temperature inversion, but in my opinion most of our applicators are now very aware of this possibility and have avoided these evening or nighttime applications.

However, another possible way that dicamba droplets could end up in an inversion is through volatilization, which brings me to the fourth point.

The final way that dicamba can move away from its intended target is through volatility. Dicamba is an inherently volatile herbicide. We know that the older formulations of dicamba are more volatile and are illegal to apply. So if illegal applications of the older generic dicamba products have been applied, I have no doubt that dicamba has moved off-site in those applications through volatility. But in my experiences and discussions with farmers and retailers throughout the state, it does not seem that illegal applications of these older formulations have occurred on a wide scale with any regularity. I do not believe that the scope and scale of this issue can be explained away by illegal applications of older dicamba formulations.

As most on all sides of this issue are well aware, both BASF and Monsanto have taken steps and invested a lot of money to make these newly approved formulations less volatile. And they are less volatile. But as many have said, less volatile does not mean not volatile. We have been in the process of gathering volatility data on these newly approved dicamba products for several months. All of our results thus far indicate that we can detect dicamba in the air following an application of Engenia or XtendiMax/Fexapan for as many as 3 or 4 days following the application. University weed scientists in surrounding states are seeing similar results in their research. And so we come to the crux of the matter. I have yet to hear any manufacturer of the approved dicamba products say that volatility is one of the possible ways that dicamba has moved away from its intended target in 2017. But yet many university weed scientists like myself believe this is one of the major routes by
which off-target movement of dicamba has occurred, because our air sampling data, field volatility studies, and field visits indicate that to be the case. To say that all of these problems have occurred due to physical drift, tank contamination, or temperature inversions but not volatility is, in my opinion, disingenuous at best.

**My recommendation.** We are in the process of trying to understand how or if these cases can be correlated back to any particular environmental condition such as air or soil temperature, moisture, humidity, etc. That process isn't easy and it can't be done quickly, and any conclusions we can make will only be as good as the data we can get. I'm not sure what that process will yield, but from where I sit right now the only conclusions I can make are that the areas in Missouri that planted the most of the Xtend trait and sprayed the most Engenia, XtendiMax, or Fexapan are the areas where we saw the greatest amount of off-target movement and damage.

I know farmers are looking for answers and will soon be making decisions about their traits and weed management programs for next year. So my recommendation for those growers who wish to plant the Xtend technology is to go back to using dicamba at a timeframe and in a manner when it has been used "successfully" in the past. Based on our history of dicamba use in corn in April and May, and even on our experiences this year using these approved dicamba products in pre-plant burndown applications prior to June, we have seen far fewer problems with off-target movement of dicamba in that timeframe than what we experienced in June, July, and August. Even this season I was not notified of any problems with off-target movement of dicamba until early June, and the Missouri Department of Agriculture didn't receive their first dicamba complaint until June 13th. It seems that almost all of the problems with off-target movement occurred once in-crop, post-emergence applications started to be made for waterhemp and Palmer amaranth. Most of those occurred in June and July this season. I wish I had some definite date for a cutoff but at this time I do not; we will be conducting more weather analyses in the coming weeks and hopefully this process will help us understand which factors lead to more risk when applying these herbicides.

So for the sake of neighboring non-Xtend soybean fields, trees, vegetable crops, gardens, ornamentals, and our industry as a whole, my recommendation for those who want to plant the Xtend trait in 2018 is to use the approved dicamba products for the control of resistant horseweed (a.k.a. marestail), ragweed species and winter annuals in the pre-plant burndown where these products have a great fit, but to abstain from applying these products later in the season. In Xtend soybean, resistant waterhemp will have to be managed using an integrated approach that includes cultural practices like cover crops, narrow row spacings, etc. along with an overlapping residual herbicide program. For more information on managing waterhemp in different soybean system, see this multi-state publication: [Waterhemp Management in Soybean](#).

**FY 2018 Federal Budget**
The House and Senate have recently marked up their FY 2018 appropriations bills for agriculture and provided much more favorable numbers than the President’s budget request. The Senate numbers are particularly favorable with increases in FY 2018 funding for USDA’s National Institute of Food and Agriculture (NIFA), Agricultural Research Service (ARS), Economic Research Service (ERS), National Agricultural
Statistics Service (NASS), APHIS, and NRCS compared to FY 2017. The final endgame for the FY 2018 appropriations process is still a big question mark, but given the House and Senate numbers for USDA programs important to weed science, we should be ok.

**Selected USDA Discretionary Appropriations Accounts**

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* Crop Protection and Pest Management (CPPM): Addresses high priority pest issues using IPM.
** House and Senate Appropriators rejected the White House proposal to close 17 of ARS’s 112 research facilities, estimated to be at least $1 billion behind in deferred maintenance needs.

**Davis and Panetta Launch House Ag Research Caucus**

House Agriculture Committee members Jimmy Panetta (D-CA) and Rodney Davis (R-IL) have launched the Congressional Agriculture Research Caucus to promote research needs in advance of the 2018 farm bill. Davis and Panetta are both members of the House Ag Subcommittee on Biotechnology, Horticulture and Research, with Davis serving as Chair.

Rep. Davis (R-IL): “By investing in agricultural research today, we will ensure U.S. agriculture remains competitive globally and continues to lead the way in food and agriculture innovation. My district is home to several major universities that are at the forefront of agricultural research critical to our state and national economies. Additionally, the potential for public-private partnership between industry and academia allows us to expand our horizon and reach new goals. I look forward to joining my colleagues on both sides of the aisle to make agriculture research a priority.”

Rep. Panetta (D-CA): “As a representative of the Salad Bowl of the World, I believe it is of the utmost importance to equip our growers, shippers, and farmworkers with the most effective tools possible. Strategic investments in research for plant breeding, crop protections, and mechanization will support the future success of the agriculture industry while also helping to address major concerns relating to resource conservation and labor shortages. I look forward to working with Congressman Davis and our colleagues on both sides of the aisle to further support our nation’s agriculture industry.”

Current Ag Research Caucus members include: Newhouse (R-WA), Schrader (D-OR), Yoho (R-FL), Grisham (D-NM), Rooney (R-FL), Loebsack (D-IA), Blum (R-IA), Pingree (D-ME), Hice (R-GA), Carbajal (D-CA), Kelly (R-MS), Nolan (D-MN), Marshall (R-KS), Maloney (D-NY), Thompson (R-PA), Takano (D-CA), Jayapal (D-WA), Shea-Porter (D-NH), and Garamendi (D-CA).

**ID’ing Palmer Amaranth Seed in Conservation Seed Mixes**

A great example of the value of USDA capacity funds return on investment is the work done by Dr. Patrick Tranel’s lab at the University of Illinois that was supported by Hatch Act funds.
They developed and validated a qPCR assay for distinguishing Palmer amaranth from 12 other Amaranthus species. The assay can consistently detect a single Palmer amaranth seed when present in a pool of 100 Amaranthus species’ seeds. The key is to make sure every seed is ground up during the extraction process. The only option available prior to that was a California company that tests individual seeds using DNA sequencing that costs $100 per seed. Tranel said the qPCR assay is available to other testing labs for free. The testing protocol is published in Pest Mang Sci: A quantitative assay for Amaranthus palmeri identification.

Farm Bill Hearings in Full Swing by House and Senate

There have been several hearings already on the Research Title of the Farm Bill where we have emphasized a balanced portfolio of funding for the entire USDA research, extension, and education (REE) mission area. On June 15, the Senate Ag Committee held a hearing titled “Agricultural Research: Perspectives on Past and Future Successes for the 2018 Farm Bill.” During the week of July 10, the House Ag Committee held two Farm Bill hearings on how to foster technological innovations for producers, which I believe is great opportunity for weed science (see next story).

During the week of July 31, the House Ag Committee conducted “open mic” listening sessions titled “Conversations in the Field” at San Angelo, TX, Morgan, MN, and Modesto, CA. Another field hearing is scheduled for August 30, 2017 at the Farm Progress Show in Decatur, IL. Anyone can step up to the mic for 2 minutes and talk about their concerns.

Fennimore Presents ‘Robotic Weed Wars’ Seminar On Capitol Hill on May 22

On May 22, 2017, Dr. Steve Fennimore from UC-Davis presented a seminar on Capitol Hill titled “Robotic Weed Wars: A New Game, New Players and New Rules”. The seminar was part of the National Coalition for Food and Agricultural Research (NC-FAR) Lunch-n-Learn seminar series. WSSA is a member of NC-FAR and a sponsor of the seminar series. NC-FAR is a consensus-based and customer-led coalition that serves as a forum and a unified voice in support of sustaining and increasing public investment at the national level in food and agricultural research, extension and education.

Abstract: U.S. vegetable growers are mainly dependent on hand weeding to achieve acceptable weed control since there are relatively few herbicides registered for use in these small acreage crops due to the nearly $300 million cost of researching, developing, and testing a new herbicide that would meet today’s regulatory requirements. Labor shortages have led to higher hand-weeding costs that run $150 to $300 per acre, thus vegetable growers have begun to adopt automated robotic weeders. Machine vision technology, together with data processors, have been developed to enable commercial machines to recognize crop row patterns and control automated devices that perform tasks such as removal of intra-row weeds, as well as to thin crops to desired stands. However, it is doubtful that private funding alone from small startup companies will be adequate to develop automated robotic weeders designed for U.S. crops. Public funding is needed to help train students in the multidisciplinary fields of science, technology, and engineering needed to advance the development of automated robotic weeders. Research is needed on more challenging precision weed control technologies, such as lasers or sand abrasives to remove weeds. These public investments would be a win-win for everyone as it generates higher paying jobs in the crop protection industry, leads to the use of lower risk weed control tactics, and maintains a safe and affordable food supply.

National Academies Seek Input on Future of Food and Agriculture Research

Science Breakthroughs 2030: A Strategy for Food and Agricultural Research is a new National Academies of Science study to identify ambitious scientific opportunities in food and agriculture research. They are asking for input from
scientists to identify emerging opportunities. You can submit your ideas on IdeaBuzz and “vote” and comment on ideas that have already been submitted.

**Weed Science Societies Comment on APHIS Revision of its Biotechnology Regulations.**

The National and Regional Weed Science Societies submitted comments on APHIS’s proposed rule regarding the importation, interstate movement, and environmental release of certain genetically engineered (GE) organisms. While we complimented APHIS on the many positive aspects of the proposal (i.e. moving from a “regulate first, then analyze” approach to an “analyze first, then regulate only if necessary”), we encouraged APHIS to repropose a rule that minimizes regulatory uncertainty related to their weed risk assessment model. We expressed our willingness to partner with APHIS in identifying specific, risk-based criteria for assessing GE crops for potential ‘weediness,’ but stressed that federal noxious weed authority in the Plant Protection Act should not be used to regulate GE crops.

**WOTUS Rule Rescinded. Rewrite is Next Step.**

On July 27, the EPA and Army Corps of Engineers published their proposed rule, "Definition of "Waters of the United States (WOTUS)" - Recodification of Pre-Existing Rules." This is the first step of a two-step process intended to review and revise the definition of "waters of the United States" consistent with President Trump’s Executive Order of February 28, 2017.

This first step proposes to rescind the WOTUS rule that was issued by EPA and the Army Corp in 2015. That rule is in judicial limbo as it was stayed by the 6th Circuit Court in a lawsuit brought by many states that opposed it.

Proposing to re-codify the regulations that existed before the 2015 Clean Water Rule will provide continuity and certainty for regulated entities, the States, agency staff and the public. Nothing in the proposed rule issued on July 27 restricts the ability of States to protect waters within their boundaries by defining the scope of “navigable waters” regulated under State law more broadly than the federal law definition.

The EPA and Army Corp will issue a second notice and comment period on a new proposed rule later this year or next year that interprets “navigable waters” that is consistent with Justice Scalia’s opinion in *Rapanos v. United States (2006)*. In that opinion, Scalia argued that federal jurisdiction of the Clean Water Act extends only to water bodies with a permanent flow or non-navigable waterways that connect via surface water with areas with permanent flow.

Comments on the first step dealing with the reinstatement of the pre-existing WOTUS rule are due on September 27, 2017. Comments should be limited to the appropriateness of the rescission and not on the scope of the definition of WOTUS. Comments can be submitted at: https://www.regulations.gov/docket?D=EPA-HQ-OW-2017-0203

**“NPDES Fix” Legislation**

On May 24, the House passed the Reducing Regulatory Burdens Act (HR 953) by a vote of 256-165. The Senate has not acted on its companion measure (S 340). This is the fourth time this legislation has been up for a vote in the past 7 years, each time passing the House, but ending up stalled in the Senate. The National and Regional Weed Science Societies have supported the NPDES-fix legislation from the start and endorsed a letter to Congress urging passage of H.R. 953, along with more than 100 other organizations.

**CABI Invasive Species Compendium Training Available**

The CABI (Centre for Agriculture and Biosciences International) Invasive Species Compendium, http://www.cabi.org/isc/, is an encyclopedic resource for 10,000+ invasive species in all taxa that brings together a wide range of different types of science-based information to support decision-making in invasive species management worldwide. It
comprises detailed datasheets that have been written by experts, edited by an independent scientific organization, peer reviewed and enhanced with data from specialist organizations, images, maps, and a bibliographic database of abstracts and full text articles. New datasheets and data sets continue to be added on a weekly basis. During any given month the CABI Invasive Species Compendium is accessed by 81,000 users from 220 countries.

During the July 2017 public meeting of the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW - my most favorite acronym in all of DC), long-serving invasive species professional Hilda Diaz-Soltero from USDA APHIS provided an overview and training on how to most effectively use and search the ISC for meeting attendees. Hilda’s recorded presentation and training is available at: https://my.usgs.gov/confluence/display/FICMN EW/Presentation+Recordings.

Her powerpoint slides (as well as other presentations from previous FICMNEW meetings) are available at: https://my.usgs.gov/confluence/display/FICMN EW/Presentations.

For questions about the CABI Invasive Species Compendium, please contact Hilda Díaz-Soltero, Caribbean Advisor to the APHIS Administrator: Hilda.Diaz-Soltero@aphis.usda.gov or cell (202) 412-0478.

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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


Jan. 22 - 24, 2018  Southern Weed Science Society (SWSS), Atlanta, GA  www.swss.ws


Mar. 12-15, 2018  Western Society of Weed Science (WSWS), Garden Grove, CA  www.wsweedscience.org

Jul. 15 - 18, 2018  Aquatic Plant Management Society (APMS), Buffalo, NY  www.apms.org
The 2017 NEWSS Annual Weed Contest was hosted at ACDS Research, Inc. on July 25, 2017. Twelve graduate teams and nine undergraduate teams compete for a total of 79 students from six universities across the region. The contest went smoothly and despite the cool, wet conditions. The contest site was beautiful, and allowed students to see how crops like onions, radishes and cabbage are grown in Upstate New York. The contest concluded with the awards ceremony at the beautiful Webster Arboretum. The contest was quite competitive, Virginia Tech Graduate Team 1 won the graduate student division and University of Guelph Undergraduate Team 1 won the undergraduate division. Grant Jordan and the team at ACDS stepped up this year and hosted an amazing contest on very short notice. Many thanks to them! It could not have been possible without financial support and many volunteers.
Farmer Problems
At the Arboretum
Webster Arboretum, Webster NY

Dwight and the Penn State crew enjoy each other’s company over drinks outside the banquet hall.

The ACDS Research, Inc. team photo. Many thanks to these folks for putting on a great contest!!

Fearless NEWSS Past-President Shawn Askew prepares to take the group photo from the best vantage point.
Awards
Undergraduate Team Awards

First Place Undergraduate
Guelph Undergraduate Team 1
(Alex Sanders, Todd Frey, Peter Buys, and Brett Hilker)

Second Place Undergraduate
Guelph Undergraduate Team 3
(Aniken Young, Julie French, Anita Rastapkevicius, and Emily Priester)

Third Place Undergraduate
Cornell Undergraduate Team 1
(Cynthia Sias, Roxana Padilla, Elsa de Becker, and Patricia Chan)
Awards...cont’d
Undergraduate Individual Awards

First Place Undergraduate
Alexander Sanders (Guelph)

Second Place Undergraduate
Patricia Chan (Cornell)

Third Place Undergraduate
Todd Frey (Guelph)
Awards...cont’d
Graduate Student Team Awards

First Place Graduate Team
Virginia Tech Graduate Team 1
(Kara Pittman, Shawn Beam, John Brewer, and Camden Shelton)

Second Place Graduate Team
Guelph Graduate Team 1
(Meghan Grguric, Brittany Hedges, Elizabeth Buck, and Lauren Benoit)

Third Place Graduate Team
North Carolina State University Grad 1
(Brandon Schrage, John Sanders, Manish Bansal, and Cole Smith)
Awards...cont’d
Graduate Individual Awards

First Place Graduate Student
John Brewer (Virginia Tech)

Second Place Graduate Student
Brendan Metzger (Guelph)

Third Place Graduate Student
Shawn Beam (Virginia Tech)