Vol. 37, No. 2
August 2014

SOUTHERN WEED SCIENCE SOCIETY

# News from the SWSS

## President's Message

I hope that it has been an active and fruitful summer for our southern weed science professionals and students. I know that many of you have been battling more weed resistance issues this year and that our challenges are many while justification for our existence as a discipline is becoming more evident every day. The Herbicide Resistance Summit II will be held in Washington, DC on September 10, 2014 that will again highlight the importance, challenges, and needs in our discipline. The future is indeed bright but we will no doubt be challenged with much to do in the coming years with providing new technology and management techniques for our growers.

Brad Minton is developing a great program for the 2015 SWSS Annual Meeting at the Hyatt Regency Hotel in Savannah, GA. There will be symposia and special events along with the regular program. The Executive Board met at the Hyatt Regency Hotel in June and found the facilities at this hotel to be a great venue for our needs.

Local Arrangements Chair, Larry Newsome and his Local Arrangements Committee are working hard to make the meeting a success. Larry along with Lisa Smith will again be in charge of the Spouses Program. They plan to have a meeting area set up for the spouses and other guests. Look for more details in the future about the many opportunities for spouses in Savannah.

What's Inside



Future Meeting Site:
**Hyatt Regency**
**Savannah, Ga**
**January 26-28, 2015**

www.swss. ws

SWSS members should receive an e-mail notification that Paper/Poster titles can be submitted through the SWSS Website. We will be utilizing the same system for Paper/Poster Title and Abstract submission as for the last SWSS Meeting. The procedure is fairly straight forward and it will allow for the creation of the final program. If you have issues with the process, please let Brad Minton know so that these issues might be rectified.

There will again be a SWSS Golf Tournament as part of the 2015 SWSS Meeting. The Golf Tournement during the last several years has generated substantial earnings for the SWSS Endowment Fund. Hunter Perry has done some early reconnaissance and has reserved the Westin Savannah Harbor Golf Resort for our tournament venue. We look forward to having another great outing in January. Please be on the watch for the golf registration on our webpage.

Please take a moment to congratulate Dr. Jill Schroeder on her move to Washington, DC as the new USDA Office of Pest Management Policy. I understand that Jill doesn't exactly fit in our southern region news specifically since she is also not typically thought of as in our region based on her past location in New Mexico. However, her husband, Dr. Phil Banks and our Business Manager is most definitely affected by this development. Phil and Jill have successfully relocated to Washington to pursue this professional path together and we congratulate them both on

this move. Dr. Banks has assured us that operations for SWSS and the other societies that he has been managing will be moving forward as normal. Although he may be unboxing a few things while he is on the phone with us for a while. Congratulations on the position, Jill and best wishes to both of you as you relocated and establish your new life in DC. Believe me, I can relate.

It is also time to nominate your fellow SWSS members that you feel are deserving of one of the SWSS awards. Please see the information concerning the SWSS awards in this newsletter as we have some changes that include a new SWSS Fellow award. Please take the time to nominate those deserving of recognition this year and be ready to support a nomination with a supporting letter for your colleagues. The Awards Ceremony is an important part of the SWSS Annual Meeting that is not possible without your participation. Steve Kelly, Past President and Awards Committee Chair, is looking forward to your help with this process.

Sincerely,

Scott Senseman
President, SWSS

## People and Places

**Dr. Muthukumar Bagavathiannan** has recently joined the weed science faculty position at Texas A&M University based at College Station. Prior to this appointment, Muthu has been working as a postdoctoral research associate with Dr. Jason Norsworthy at the University of Arkansas. He will be conducting research with particular emphasis on herbicide resistance management in agronomic crops. His contact information is as follows: Muthu Bagavathiannan, Assistant Professor, Department of Soil and Crop Sciences, 370 Olsen Blvd, Texas A&M University, College Station, TX 77843-2474, Ph (off): 979-845-3041, Fax: 979-845-0456 http://soilcrop.tamu.edu/staff/bagavathiannan-muthu/

**Jill Schroeder Moves to USDA-Office of Pest Management Policy**
After 27 years at New Mexico State University, Dr. Jill Schroeder, Distinguished Research Professor of Weed Science, has accepted a new position in the Office of Pest Management Policy-USDA, effective August 1, 2014. Her new contact information is: Jill.Schroeder@ars.usda.gov Office Phone: 202-720-0066 Mobile Phone: 202-815-0588. USDA/ARS/Office of Pest Management Policy, 1400 Independence Avenue, S.W., Room 3871-South Building (MS-0314), Washington, DC 20250-0314.

**Garret Montgomery** finished his Masters of Science degree with Jason Bond at Mississippi State University and has started a Ph.D program with Larry Steckel at the University of Tennessee.

**Tom Eubank** has accepted a role with Dow AgroSciences as the Grain Development Specialist for the Mycogen Seeds business in the MidSouth District. Tom holds a B.S. degree in Agronomy, an M.S. in Weed Science and a Ph.D. in Weed Science from Mississippi State University. Dr. Eubank has an extensive background in agriculture beginning with ties to his family farm, 11 years of retail sales experience with a local farmer's cooperative and more recently as an Assistant Extension/Research Professor with Mississippi State University. His new contact information is: phone 662-822-1964, tweubank@dow.com.

**Blake Edwards** is with Monsanto as a Learning Center Agronomist in Scott MS. His new contact information is Cell: 6628206804; Office: 6627424286; Email: blake.edwards@monsanto.com.

**Michael L. Flessner** completed his PhD at Auburn University under the direction of Dr. Scott McElroy. He has accepted a position at Virginia Tech as the Assistant Professor and Extension Weed Science Specialist. Dr. Flessner's research and extension efforts will be focused in agronomic crops and pasture/forage weed management.

## Constitution and Operating Procedures Committee Activity

The Southern Weed Science Society Constitution, By-laws, and Manual of Operating Procedures need constant revision to reflect changes in our organization and science.

The following errors or omissions in the SWSS Constitution need to be corrected.

1. Article III, Section1. The entire list of Executive Board members needs to be corrected.
    a. Delete CAST representative, as per 1/24/10 action.
    b. Add additional Ex-Officio members; Newsletter Editor and Graduate Student Representative.
    c. The suggested inclusive changes:
        i. *"The officers of this Society shall be the President, President-Elect, Vice-President, Secretary-Treasurer, Editor, and immediate Past-President. The officers, four elected members-at-large, and Representative to the Weed Science Society of America (WSSA) shall constitute the Executive Board. The Business Manager, Chairman of the Constitution and Operating Procedures Committee, Newsletter Editor, and Representative to the Graduate Student Organization shall be ex-officio members of the Executive Board."*
2. Article V. The committee structure has been revised, as per vote at the SWSS Business Meeting in Birmingham.

These proposed changes to the SWSS Constitution require advance notification in the Newsletter and vote by membership at 2015 Business Meeting in Savannah.

Please refer to the SWSS Website for links to the proposed revision of the SWSS Constitution.

The following updates in the SWSS Manual of Operating Procedures were approved by the SWSS Executive Board. A complete copy of the revised SWSS MOP is available on the SWSS Website.

1. Executive Board Section
    a. Section 1 addresses voting privileges of SWSS Board. The language was revised and updated since the SWSS Board now has additional ex-officio members.
    b. Section 1 listed the representative to the Endowment Foundation as being on the SWSS Board and having voting privileges. A representative to the Endowment Foundation is not listed as being on the SWSS Board and that statement has been deleted.
    c. The inclusive changes:
        *i. "All officers, elected representatives, and appointed Ex-Officio members of the Executive Board (except the Business Manager and Website Editor) have full voting privileges."*
2. Business Manager Section.
    a. Numbering of items was to be corrected.
    b. Deleted statements for honoraria to recipients of the Distinguished Service Award and Weed Scientist of the Year awards, since these awards no longer exist.
    c. For the arrangement of plaques to be presented, the listing of awards was corrected to reflect the changes in SWSS awards (change Weed Scientist of the Year to SWSS Fellow).
3. Newsletter Editor Section.
    a. Change from 'Can attend the Executive Board meeting' to 'Serves as an ex-officio member of SWSS Executive Board, with voting privileges'.
4. Website Editor Section.
    a. This position is a 'for-hire' position, not a voluntary position and that is now stated in MOP.

5. Corrected the Awards Committee MOP to reflect new award (SWSS Fellow) and deleted mention of SWSS Distinguished Service Award and SWSS Weed Scientist of the Year.
6. Revised the score sheets for Graduate Student Contest; both oral and poster presentations.

Finally, committee chairmen and members need to study the MOP sections for their committee and submit the proposed changes to the Chairman of the Constitution and By-laws Committee. Changes to MOP require approval by the SWSS Executive Board, but not by the entire SWSS membership.

Respectively Submitted;

W. Carroll Johnson, III
Chairman, SWSS Constitution and Operating Procedures Committee
Carroll.Johnson@ars.usda.gov

**Graduate Student Organization Update**

There have been recent changes in the Graduate Student Organization's Executive Board. Former president, Blake Edwards, accepted a job with Monsanto and has stepped down. According to the SWSS bylaws, when the president steps down the vice president moves into the president role and the secretary moves into the vice president position. As such, I moved into the position of president, and our secretary, Sandeep Rana (Virginia Tech) is now our new vice president. To fill the vacancy for our secretary, nominations and voting took place through email to each school representative. John Brewer (Virginia Tech) was elected as our new secretary for the Graduate Student Organization. With that I would like to congratulate Blake, for his new position with Monsanto and also Sandeep and John for their advancements in the Graduate Student Organizations. Looking forward to seeing everyone in January.

Garret Montgomery
Graduate Student Organization President

## Join us in Savannah!!

Savannah Georgia is going to be a great location for the 2015 SWSS annual meeting.

Known as one of the most beautiful cities in America and a top travel destination it offers many experiences in both fine dining and scenery. We look forward to seeing you there January 26-28th, make your reservations now!

## Call for Paper and Poster Titles

The deadline for title submission this year will be **September 22, 2014**. We will again be using the same software package to handle title submission, abstract collection, and PowerPoint files as the WSSA. This process was extremely successful for the 2014 title submission process and we will continue this method. If at any time you have issues, please email me and I will assist you in the process (brad.minton@syngenta.com).

You are invited to submit titles for papers and posters to be presented at the 2015 annual meeting of the ***Southern Weed Science Society***. The meeting will be held **January 26-28, 2015** at the **Hyatt Regency Hotel in Savannah, Georgia**. Papers and posters may be submitted to one of the following sections:

- Graduate Student Oral Contest papers
- Weed Management in Agronomic Crops
- Weed Management in Turf
- Weed Management in Ornamentals
- Weed Management in Pasture and Rangeland
- Weed Management in Horticultural Crops
- Vegetation Management in Utilities, Railroads & Highway Rights of Way; Industrial Sites
- Weed Management in Forestry
- Physiological & Biological Aspects of Weed Management
- Educational Aspects of Weed Science
- Regulatory Aspects Related to Weed Science
- Soil & Environmental Aspects of Weed Management
- Weed Management in Aquatics
- Posters
- Graduate Student Symposium (Titles input by Brad Minton)

Paper sessions will consist of 15-minute presentations which includes time for questions. Workshop/Symposia presentations are by invitation and may be longer than 15 minutes allotted for volunteer papers. Periods for discussion will be interspersed in the sessions. Section Chairs are:

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|---|---|
| Graduate Student contest | Drew Ellis |
| Graduate student symposium | Garrett Montgomery |
| Weed Management in Agronomic Crops | Peter Eure |
| Weed Management in Turf | Ramon Leon |
| Weed Management in Ornamentals | Renee Keese |
| Weed Management in Pasture and Rangeland | Trevor Israel |
| Weed Management in Horticultural Crops | Renee Keese |
| Vegetation Management in Utilities, Railroads & Highway Rights of Way, Industrial Sites | Vernon Langston |
| Weed Management in Forestry | Jimmie Yeiser |
| Physiological & Biological Aspects of Weed Management | Ted Webster |
| Educational Aspects of Weed Science | Nilda Burgos |
| Soil and Environmental Aspects of Weed Management | TBA |
| Regulatory Aspects | Jerry Wells |
| Weed Management in Aquatics | TBA |
| Posters | Bob Scott |

## Submission of Titles

Title submission process for the 2015 meeting is the same as last year. We will be using the WSSA submission system, which is accessible from the SWSS website (http://www.swss.ws) by clicking the "Submit Title/Abstract" link on the homepage. Alternatively you can go directly to the submission website (http://www.wssaabstracts.com). See the instructions below for using the system.

**Titles are due no later than September 22, 2014.** Program and instructions for abstracts will be sent later to the presenter. Abstracts will be due no later than January 19, 2015.

Authors are encouraged to submit their best research and other results for presentation at the SWSS meeting. **Each author is assured of one senior-author presentation**, but multiple senior-author submissions will be accepted only as space and time is available. If you have several papers or posters you wish to present, please indicate which is highest priority by adding a note in the comments section on the title submission form, or emailing Brad Minton at brad.minton@syngenta.com.

**Graduate students**: If you intend to participate in the Grad Student paper or poster contest, select "Yes" from the dropdown menu next to "To be judged in the Student Contest" on the bottom portion of the title submission form. Regardless of your participation in the contest, please denote that you are a student when completing or updating your profile when you log in or when setting up your account.

Participation in Symposia/Workshops will be by invitation and titles will be submitted separately from the other sections.

## Title and Abstract System

On the WSSAAbstracts.com homepage, follow these steps:

1) Login
   - If you've previously used the WSSA abstract system, then enter you login name and password. The login name is your email address. If you've forgotten your password, click the 'Reset password' link on the right sidebar.
   - If this is your first time using the system, then you'll need to create an account. On the right side click "Setup New Account". Fill in your contact information and click "Submit". You'll receive an email with a link to set your password.
2) After logging in, on the right sidebar click "Join a Conference". A dropdown box will appear in the middle of the screen. In the dropdown list, select 2015 Southern Weed Science Society. You only have to perform this step one time.
3) Click the "Enter" button next to 'Southern Weed Science Society'.
4) On the next page, click 'My Titles and Abstracts'. Click the 'Add New Title/Abstract' button, and then enter your title, section, authors and keywords.

## Paper Presentations

**Only LCD Presentations will be used at the 2015 SWSS Meeting.**

**All presentations must be submitted via the website before the meeting (same as the 2014 meeting).** This is to avoid last minute changes and on-site loading that could potentially disrupt the program. To ensure quality presentations and a smooth transition from presentation to presentation all presenters will be required to follow directions provided on the website. Further instructions will be provided in the December newsletter.

All presentations will be in **PowerPoint 2007 for MS Windows** (PC compatible). ***Other formats such as MacIntosh/Apple will not be supported.***

Presentation size should be no larger than 100 MB. Use the "Compress" function from the "Picture Toolbar" in PowerPoint to reduce size of a file with pictures. Audio clips or sound are not allowed. Fonts used in the presentation are limited to basic ones such as Arial, Courier, or similar equivalents. Not all computers used at the meeting will support all fonts.

Animation is very strongly discouraged. Permission to use video must be prearranged. Contact the section chair before the meeting if you plan to use video clips. SWSS cannot guarantee proper functioning of the video.

Presenters will NOT be allowed to use their own computers during the sessions. More details will be provided in the December Newsletter for submitting presentations.

## Poster Presentations

No substantive changes have been made in the rules for poster presentation at the 2015 conference. More information will be provided in the next newsletter.

## Student Information

During the 2012 and 2013 submission process, some students failed to completely fill out the submission form that caused them to not be entered into the desired contest. This caused numerous program changes after printing and some confusion at the meeting. **Please be certain to fill out the submission form completely and accurately.**

Rules for the Student Contest are presented in Manual of Operating Procedures (MOP) on the SWSS website.

Students are eligible to participate in both the Student Paper Contest and the Student Poster Contest multiple times during a M.S. program and a Ph.D. program. However, a student cannot participate in both contests concurrently. A student can only win 1$^{st}$ place in the paper and poster contest once per degree program. All students presenting a paper or poster are eligible for any available student benefits whether or not they enter the contest.

Specific questions pertaining to the Student Contest should be directed to Chair of the Student Contest: Drew Ellis (atellis@dow.com).

If you have any questions about submitting a title for the 2015 meeting, please contact:

Brad Minton, 2015 Program Chair
Syngenta Crop Protection
20310 Lake Spring Court
Cypress, TX 77433
Tel: 281-923-2889
e-mail: **brad.minton@syngenta.com**

## Nominations for SWSS Awards

Please see the listings below describing our revised awards nomination procedures. Most packages will be much shorter and will include a nomination letter and 2 support letters. For some awards, a short summary document such as a resume or CV may be attached.
Besides the shortened nomination forms, the SWSS also has a new award. The SWSS board of directors decided to start naming SWSS Fellows. Beginning this year, the Distinguished Service Award will be re-named the SWSS Fellow Award. Please see the description below for details. The SWSS Board also discontinued the Weed Scientist of the Year Award. This information will also appear in the August 2014 SWSS Newsletter.

**The deadline for nominations is September 22, 2014**

Please send your nominations to the appropriate contact person for each award:

| Award | Contact | Email |
|---|---|---|
| Fellow | Eric Prostko | eprostko@uga.edu |
| Outstanding Young Weed Scientist* | Greg Stapleton | gregory.stapleton@basf.com |
| Outstanding Educator | Stephen Enloe | sfe0001@auburn.edu |
| Outstanding Graduate Student** | Vernon Langston | vblangston@dow.com |

*- denotes 2 awards, one for industry and one for academia

**- denotes 2 awards, one for MS student and one for PhD student

I very strongly encourage you to nominate your fellow members for our awards. Please contact me with comments, concerns or questions at steven.kelly@scotts.com

The **SWSS Fellow award** is the highest honor the Society presents. The purpose of this award is to recognize those members who have made significant contributions to the Southern Weed Science Society.

To be eligible for the SWSS Fellow award, the potential recipient must:

1. have been an active member of the SWSS for >20 years
2. be at least 50 years of age at the time of the annual meeting
3. have made significant contributions of service to the SWSS (including but not limited to: serving on committees or being an officer, hosting SWSS contests, judging at the paper/poster contest, etc..)
4. contributed substantially to the success of his/her company, university, and/or government agency and to advance the discipline of Weed Science in the SWSS region.

A. The nomination must be by letter and 2 supporting letters are required. (All sent in a single pdf file to the appropriate person listed on the SWSS website, at www.swss.ws).
B. The nominating letter should explain in general and specific terms the outstanding contributions of the nominee. The nominating letter should contain a listing of the various contributions to the SWSS, but is limited to 2 pages in total length. The 2 supporting letters are also limited to 2 pages in length for each letter. A summary document describing the nominee (such as a CV) may be added but is limited to a total of 3 pages in length.
C. The contributions must be in regards to SWSS and weed science in the SWSS region.
D. Awards Committee members are not eligible during their time of service on the awards committee.

E. Award is limited to a maximum of 0.4% of total SWSS membership each year (rounding up from the calculated percentage)
F. The Award recipient(s) receive a plaque at the annual meeting, and each subsequent year all winners will be recognized by a Fellows ribbon to wear at the annual meeting.

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The SWSS **Outstanding Educator Award (OEA)** is presented annually to a weed scientist in recognition of outstanding contributions to the Society and Weed Science through education. The Award is to be given in recognition of a broad range of activities including formal classroom teaching, outreach and public service or extension including workshops, seminars, short courses, or other means of communication, and mentoring undergraduate and graduate students.

To be eligible for the OEA award, the potential recipient must:
1. Must be a voting member of SWSS in the year of nomination
2. Must be an active member of SWSS during the last five (5) years.

A. The nomination must be by letter and 2 supporting letters are required. (All sent in a single pdf file to the appropriate person listed on the SWSS website, at www.swss.ws ).
B. The nominating letter should explain in general and specific terms the outstanding educational contributions of the nominee. The nominating letter should contain a listing of the various educational contributions, but is limited to 2 pages in total length.
The 2 supporting letters are also limited to 2 pages in length for each letter.
A summary document describing the nominee (such as a CV) may be added but is limited to a total of 3 pages in length. Possible information includes classes taught, number of graduate students advised, etc.
C. Awards Committee members are not eligible during their time of service on the awards committee.
D. Award is limited to one award per year.
E. The Award recipient receives a plaque at the annual meeting and a $1,000 cash award presented at the annual meeting.

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The SWSS **Outstanding Young Weed Scientist Award (OYWSA)** is presented annually to a young weed scientist; one from academia (teaching, research, extension) to be sponsored by BASF and one from industry to be sponsored by the SWSS in recognition of outstanding service to weed science.

To be eligible for the OYWSA, the potential recipient must:
1. Have been a voting member of the Society for the last five (5) years.
2. Be 40 years of age or younger on January 31 of the year she or he receives the award.
3. Must have completed at least five (5) years' work in weed science other than that related to academic studies. (5 full years post-graduation).

A. The nomination must be by letter and 2 supporting letters are required. (All sent in a single pdf file to the appropriate person listed on the SWSS website, at www.swss.ws ).
B. The nominating letter should explain in general and specific terms the outstanding contributions of the nominee. The nominating letter should contain a listing of the various contributions to the SWSS and to the discipline of weed science, but is limited to 2 pages in total length.
The 2 supporting letters are also limited to 2 pages in length for each letter.
A summary document describing the nominee (such as a CV) may be added but is limited to a total of 3 pages in length.
C. The contributions must be in regards to SWSS and weed science in the SWSS region.
D. Awards Committee members are not eligible during their time of service on the awards committee.

E. Award is limited to two awards each year, one award to an industry member and one to an academic member.
F. The Award recipient(s) receive a plaque at the annual meeting, and a $1,000 cash award.

The SWSS **Outstanding Graduate Student Award (OGSA)** (one each for students at the MS level and the PhD level) - These awards are sponsored by the SWSS Endowment Foundation and consist of a $100 cash award and a plaque for MS level and $200 cash award and plaque for PhD level. The awards are given annually to a graduate student (one at the MS level and one at the PhD level) who has demonstrated outstanding performance in graduate studies and related weed science activities.

To be eligible for the OGSA, the potential recipient must:
1. Must be enrolled as a graduate student in the degree program for which she/he is nominated within the calendar year prior to the SWSS annual meeting in January.
2. Have actively participated in SWSS sponsored activities such as the annual meeting, weed contest, student paper contest, or committee work.
2. Must have been a member of SWSS during their time as a student at an SWSS member institution.
A. The nomination packet should include a nomination letter, 2 supporting letters, 1-3 page CV, and an unofficial copy of the students transcripts are required. (All sent in a single pdf file to the appropriate person listed on the SWSS website, at www.swss.ws ).
B. The nominating letter should explain in general and specific terms the outstanding contributions of the nominee. The nominating letter should contain a listing of the various contributions to the SWSS, but is limited to 2 pages in total length.
The 2 supporting letters are also limited to 1 page in length for each letter.
One of the letters (nomination or supporting) must be from the student's advisor at the time of the nomination.
A summary document describing the nominee (such as a CV) should be limited to a total of 3 pages in length.
Transcripts of the student, including a listing of courses taken and grades earned should be included with the packet. Unofficial copies are acceptable, but the advisor agrees that the transcript represents the actual course of study of that student.
C. Students of Awards Committee members are not eligible during their time of service on the awards committee.
D. Award is limited to two awards each year, one for MS student and one for PhD student.
E. The Award recipient(s) receive a plaque at the annual meeting and a cash award.

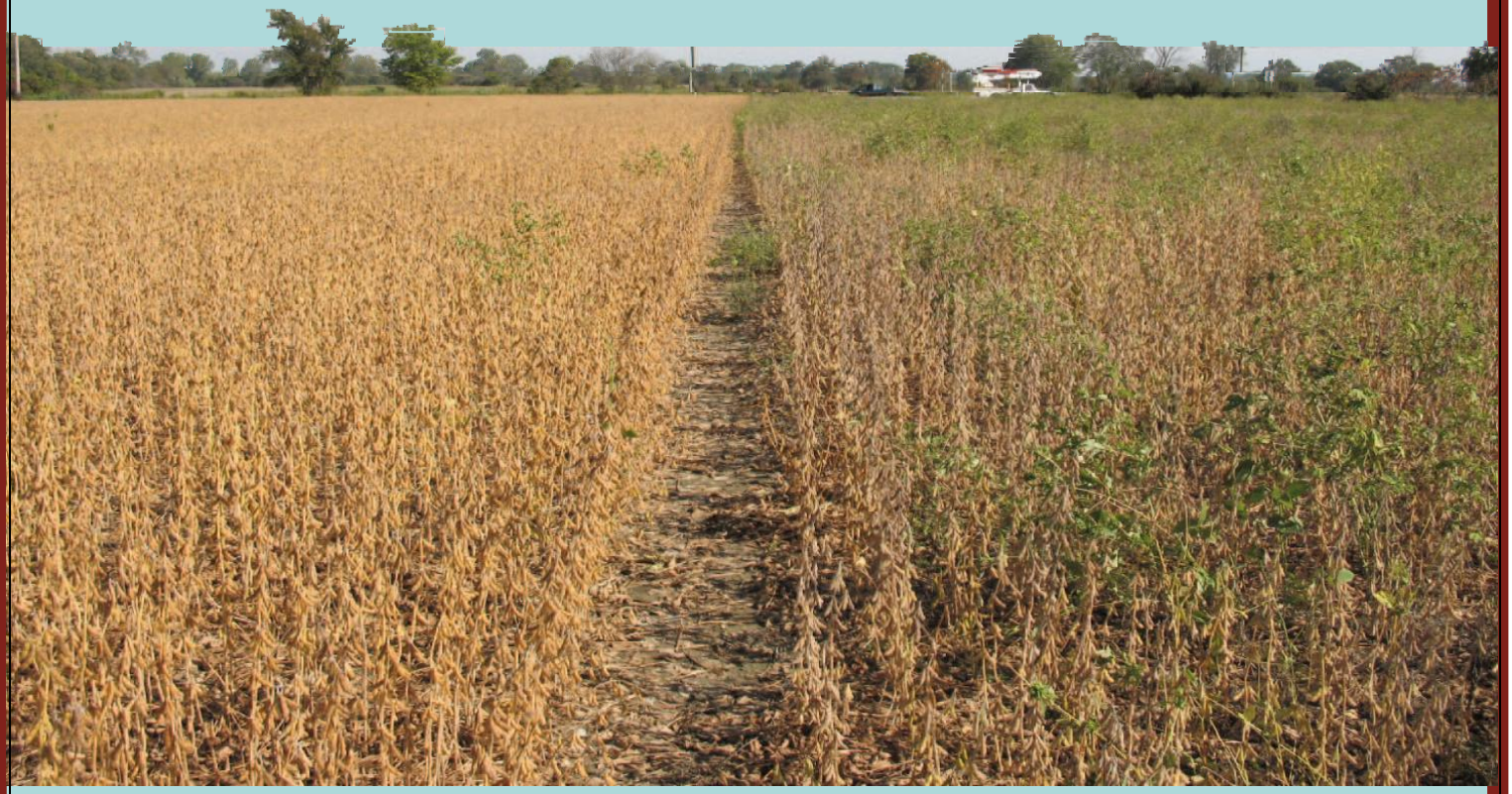
Proceedings Editor, Nilda Burgos, has completed the 2014 Proceedings from our annual meeting in Birmingham. It is posted at the website and can be viewed by following this link:
https://www.swss.ws/wp-content/uploads/2013/09/2014-Proceedings-Final.pdf

# Herbicide Resistance Summit II

**Sponsored by the Weed Science Society of America**

**Hosted by the National Research Council**

**Keck Center, Washington DC • September 10, 2014**



Building on the insights and perspectives that were established from the 2012 Herbicide Resistance Summit, one of the outcomes expected from Herbicide Resistance Summit II will include a more unified understanding of the issues across the country, understanding of differences of viewpoints, and approaches to solutions.

Everyone participating in the Herbicide Resistance Summit II should walk away understanding their role in addressing and solving the evolution of herbicide resistance in weeds. The Herbicide Resistance Summit II will end with the question "What will you do?"

## 2nd Herbicide Resistance Summit – A Call to Action

Incidences and severity of herbicide resistance are increasing in the U.S. and globally, and pose serious economic and environmental risks unless bold moves to proactively manage the problem are taken. The spread of weed resistance is a natural ecological phenomenon that is due to the repeated use of herbicide(s) with the same mechanism of action. This has happened with many types of chemical controls for weeds and other pests. Fundamentally, over-reliance on a single weed management approach, for example the extensive use of glyphosate herbicide, every year over many years, places tremendous selection pressure for the evolution of resistance. Weed management professionals understand the causes of resistance and the integrated management practices that can help mitigate the evolution of resistance. Nevertheless, herbicide resistance is still increasing.

Farmers and weed management professionals face significant challenges in implementing sustainable weed management systems. Specific barriers vary widely between individual farmers, crops and regions for a multitude of economic, physical, sociological, and regulatory reasons. For example, a barrier for some weed managers is the expectation that new herbicide products will be constantly introduced to solve the problem. Another challenge is that herbicide-resistant weeds can spread across farms due to seed and pollen movement, which discourages individual farmers from taking action due to a lack of effective community-based networks or organizations that assure them their neighbors will take action as well. Some farmers prioritize short-term profits, even when investments in more sustainable weed management can substantially increase long-term profitability. Government policies designed to reduce soil erosion for example limit the prospects for some farmers of using tillage to improve the sustainability of weed management. Thus, sustainable weed management is a classic example of what social scientists term a “wicked problem”, one in which there is a highly complex set of interactions between natural and human systems that defy simple or straightforward solutions.

Progress on this vexing problem demands a vigorous call to action. All parties to the problem must take ownership and responsibility for finding innovative solutions, and move past the view that this is someone else’s problem or fault. Simply continuing to do what was done in the past guarantees continued failure. Farmers must not be viewed as exclusive actors, but rather collaborators with herbicide manufacturers, farm supply firms, federal and state government agencies, university scientists, crop consultants, commodity and community organizations, and non-governmental organizations. Moreover, agricultural, biological and social scientists must engage with each other, and with the agricultural community, in broad interdisciplinary collaborations.

During the 2nd Herbicide Resistance Summit, presentations will address herbicide resistance development and management from a global perspective, the decision-making process for weed management, economics of proactively managing herbicide resistance, potential for community-based approaches to area-wide weed management programs, incentives and regulatory approaches that should be considered, the need for new and different education and outreach efforts, and a call for greater diversity in non-chemical weed management strategies. Time will be set aside for audience interaction after each presentation, and at the end of the Summit there will be discussion about specific action items for everyone involved.

Key action items to be discussed at the Summit include:

- Increase awareness that everyone engaged with agriculture has a role in managing herbicide resistance and accountability for that role.
- Develop a herbicide resistance management certification program for weed management decision makers and advisors.
- Reduce regulatory barriers to herbicide resistance management; e.g. conservation compliance.

- Establish prototypical, community-based area-wide herbicide resistance management programs for specific threats; e.g. Palmer amaranth in Iowa.
- Communicate the effect of herbicide resistance management on short and long-term farm profitability.
- Implement programs for scouting and controlling weed escapes.
- Provide short-term financial incentives to reduce the cost of developing and implementing field-by-field herbicide resistance management plans.
- Market/promote consistent and scientifically sound herbicide resistance management programs.
- Incentivize innovation in non-chemical weed management practices.

The Agenda for the Summit will be:

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|---|---|
| 9:00 | Welcome by USDA |
| 9:15 | Current State, Challenges, Accomplishments |
| 10:00 | Understanding the Decision Process |
| 10:45 | Break |
| 11:15 | Economics of Resistance Management |
| 11:45 | Community-Based Approaches to Resistance Management |
| 12:30 | Lunch |
| 1:30 | Global Perspective on Herbicide Resistance |
| 2:00 | Diversifying Weed Management Tactics |
| 2:30 | New Approaches to Education and Outreach |
| 3:00 | Break |
| 3:30 | Incentives and Regulations to Manage Herbicide Resistance |
| 4:00 | EPA's Perspective |
| 4:15 | Call to Action |
| 5:00 | Reception |

Please disseminate this information broadly to your constituencies. Attendance is open to anyone, and we need diverse thoughts represented at the Summit if it is to be successful.

The following are summaries of the topics to be covered. Details for the Summit and registration information can be found at: http://wssa.net/2014/08/resistance-summit-ii/

**Understanding the Decision-Making Process in Weed Management to Better Effect Change**
**David Ervin and Raymond Jussaume**

Herbicide resistance management (HRM) is a "wicked problem" that involves multiple, complex and uncertain causes and effects over time in the way humans and nature interact. The potential influences include biophysical, climatological, technological, economic, social and community factors. As such, HRM defies simple technological fixes, such as stacked traits, but requires adaptive management on the part of a community that experiments and learns to discover effective long-term control. These efforts likely will vary over cropping systems, local communities and regions. The search for effective solutions is complicated even further when herbicide resistance moves across fields and farm boundaries due to pollen flow and other processes. Under these circumstances, individual farmers cannot be expected to take action on their own to stem the spread of herbicide resistance because they are unsure whether their neighbors will reciprocate. This situation raises the issue of how neighbors and the larger community may affect HRM, an area that has been understudied in weed management. When herbicide resistant weeds are mobile across the landscape, all farmers and other stakeholders must be engaged in creating effective control programs. A holistic interdisciplinary decision framework is needed to sort out the roles of interacting natural and human influences on weed management. Further, natural and social scientists should collaborate with farmers and their advisers to integrate their real-time knowledge. Given this inherent complexity, we expect that the choice before farm managers is not *between* new technologies,

integrative on-farm tactics, educational programs, incentives and governmental policies, but rather to develop a portfolio approach in which combinations of the approaches can be tailored adaptively through experimentation to fit the specific situation

**The Economics of Herbicide Resistance Management**
**Terrance Hurley and George Frisvold**

The repeated use of a herbicide diminishes its effectiveness as weeds that are not controlled by it (i.e., resistant) become more common through natural selection, while weeds that are controlled (i.e., susceptible) by it become less common. While using a herbicide today benefits farmers through better weed control, it also imposes a future cost by accelerating resistance, which can leading to more weed damage later. Effective herbicide resistance (HR) management carefully balances this tradeoff between today's net benefits (benefits minus costs) of herbicide use with future net benefits. Achieving this balance can be difficult because managing resistance often involves incurring immediate, certain costs, while the benefits accrue in the future and are less certain. A number of motivations guide farmers' herbicide management decisions. Some are monetary, such as herbicide costs and revenues from higher crop yields. Others are non-monetary, such as the desire for simplicity and flexibility in farming, concerns for human and environmental safety, a grower's time horizon or aversion to risk, uncertainty, quality of life, and aspirations to steward the land for future generations. An individual farmer's decisions are also guided by decisions of other farmers, companies that supply seed, chemicals and other inputs, consultants and advisors, extension agents, landlords, lenders, media sources, regulations, and farm programs. These different players and institutions can all, to varying degrees, influence the economic returns to managing resistance. This influence can be positive or negative. For example, the effectiveness of an individual farmer's attempts to manage resistance can be diminished if neighboring farmers do not also manage resistance. This is because resistance can spread from neighboring farmers' fields through the movement of weed seed and pollen. Thus, an individual farmer's economic incentive to manage resistance can hinge crucially on what other growers do. Sales programs offered by herbicide manufacturers to increase market share can encourage the repeated use of the same herbicides, contrary to the fundamental principles of HR management. Alternatively, sales programs that provide economic incentives for diverse weed control can encourage HR management. Soil conservation programs can discourage some farmers from using tillage practices that help manage resistance. While there is general agreement that economic incentives play a central role in farmer resistance management decisions, these incentives are affected through many diverse channels. Therefore, promoting resistance management will require multiple tools and approaches.

**Toward a Community-Based Approach for Weed Management**
**David Ervin and George Frisvold**

Early research on managing pest resistance concluded that mobility applied only to insects, but a growing body of evidence indicates that it also applies to weeds. If herbicide resistance traits are mobile across farms, the susceptibility of those weeds to herbicides is a resource shared by all operators in the farm community. In such circumstances, it is in the collective, long-term interest of farmers to delay resistance and to conserve the usefulness of a herbicide as a weed management tool. Yet, steps taken by individual farmers in the short-run to conserve the usefulness of a herbicide (such as using alternative weed control tactics) can be costly. Thus, delaying resistance becomes a "common pool" problem – each farmer has an individual incentive to use the herbicide in the short run without considering effects on resistance. As such, individual farmers may not manage resistance because they are not assured their neighbors will match their actions. There have been three stereotypical approaches to managing common pool resources. A first approach is to impose government regulation requiring all growers to comply with specified weed management practices enforced with noncompliance penalties. Historically, such *command-and control* approaches to resource management have proved costly. This can occur because uniform standards do not provide adequate flexibility or incentives for innovation, while monitoring and enforcement can be costly. A second approach, using *incentive schemes* (public or private), offers growers payments or rebates to alter behavior. Incentive schemes are more popular with those being regulated, but in agriculture, require private or public funds to implement and also can suffer from high monitoring costs and lack of flexibility. The third, *community-based*

*approach* would encourage programs led by growers themselves. This approach has the advantage that growers actively design the management program and oversee its implementation, perhaps in collaboration with industry, government and universities. The role of government here is distinctly different from that of the top-down, command-and-control or incentive approaches. It is often as a facilitator and provider of scientific knowledge and complementary investments. Implementation and compliance still require significant design and monitoring effort and cost as well as a clear delineation of the relevant community of stakeholders. Yet, there are past examples in agriculture, such as groundwater management, pest eradication programs, and area-wide invasive weed control programs where community based approaches have succeeded.

**Diverse Approaches to Herbicide-Resistant Weed Management**
**Michael Owen**

The need to expand the adoption of tactics, in addition to herbicides, to more effectively and sustainably manage herbicide-resistant weeds and mitigate the selection for herbicide resistance where it has not yet become a problem is critical. Herbicide resistance in key weeds reflects agricultural systems where herbicides have been the principle and often sole tactic for controlling weeds—the most important pest complex in production agriculture. Historically, a more diverse suite of mechanical and cultural tactics supplemented the herbicide components of a weed management program. However, for the last 15 years, glyphosate has been the primary tactic used on a majority of the row crop acres in the United States. There are many reasons and justifications for this pest control approach including, but not limited to: time management efficiency, cost, effectiveness, and the simplicity and convenience of glyphosate-based weed control. Not unexpectedly, the predominantly short-term and ecologically narrow focus of the approach has resulted in adaptation within weed populations to the extent that it is clear that weed management in crops is not sustainable when based primarily on a single herbicide, in the absence of other herbicides and more diverse management practices. While herbicides will continue to play a significant role in weed management, including those populations that have evolved herbicide resistance(s), innovative new biological, cultural and mechanical approaches that supplement herbicide-based weed management are important parts of successful herbicide-resistant weed management. The key to extending the useful life of herbicides is for weed management advisors to recommend, and decision makers to adopt a diverse suite of tactics, in addition to herbicides, as part of locally customized, holistic and diverse weed management programs to establish sustainable control of weeds including the burgeoning population of herbicide-resistant weeds.

**Rethinking Education and Outreach for Successful Herbicide Resistance Management**
**Amy Asmus and Jill Schroeder**

Education is a key component of the outreach effort on Herbicide Resistance Management (HRM). However, traditional approaches for delivery of information must be reevaluated in light of other topics presented at this summit. Grower willingness to accept and use available information and technology to execute best management practices for HRM is complicated by the social, economic, and regulatory barriers to adoption. Therefore, we must consider that the traditional approach of “delivering” education must be accompanied by a clear understanding of the target audiences, a willingness to adopt new, diverse technologies, and engage the affected community in developing solutions. The keys to successful outreach include the recognition that growers have intimate knowledge of what practices work on their farms and they have access to many, sometimes competing and conflicting, information sources. The creators of these information sources and the key influencers have a responsibility to provide complete, non-biased, scientifically-sound and consistent information to decision makers and to be willing to partner with others to provide the best HRM options and advice. The agricultural community must recognize that the resources used by growers, the most effective management practices, and the barriers to adoption of HRM will vary greatly across management systems and regions. Our perception of educators must expand to include not only Extension specialists but also consultants, retailers/dealers, industry representatives, pesticide applicators, commodity organizations, farm press, growers, land managers, federal, state and tribal agencies and others. Education and outreach with regards to HRM must be integrated into all the information provided for crop production and land management. Educators must understand their audience; their learning styles, access to technology and information, risk tolerance,

economic flexibility and more. In addition, educators must be flexible in how they structure their outreach, which can include traditional education, but must consider new, non- traditional approaches as well as participating in community-based solutions. Partnerships among stakeholders, including agricultural groups, regulatory agencies, financial providers, retailers, farm managers, industry research, marketing and sales, educators, sociologists and economists are needed to provide current information, to adapt information delivery, and engage communities to solve the herbicide resistance problem.

**Carrots and Sticks: Incentives and Regulations for Herbicide Resistance Management**
**John Soteres, Michael Barrett and David Shaw**
A cooperative and coordinated effort of the public and private sectors is required to change the future of herbicide resistance. Financial incentives, whether public or private, can help overcome market-driven (driven by cost and profit) barriers to trial and eventually long term adoption of herbicide resistance best management practices (BMPs). Adoption of insect pest management and soil conservation practices supported by government incentives has been successful when sufficient resources existed to fund and effectively administer the programs. Industry incentives can and have been used to encourage herbicide resistance BMP use. Participation in voluntary, not legally required, herbicide resistance management (HRM) programs can be successful with strong enough incentives, well-defined participation standards, and measured results. Threat of credible government regulation can also serve as a strong incentive for behavior change and participation in voluntary HRM programs. The Environmental Protection Agency - Office of Pesticide Programs (EPA-OPP) regulates herbicide use under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). Discovery of new herbicide resistance is currently reported to EPA under FIFRA section 6(a)(2). It may be within the authority of EPA-OPP to regulate herbicide use for HRM. EPA-OPP can also encourage or require registrants to include proactive herbicide resistance management information on the herbicide label or as part of other activities, such as educational programs. Recently, EPA-OPP proposed requiring a registrant to manage herbicide resistance through a monitoring, reporting and mitigation program. While proactive HRM is preferred, prescriptive herbicides use directions (e.g., application frequency or mandated rotation of mechanisms of action) for HRM is not considered an effective approach as individual farm conditions vary so greatly. Instead, to foster individual and industry innovation, it is more important to allow local flexibility in designing appropriate HRM strategies rather than to attempt to define a “one size fits all” approach. On the other hand, an active monitoring, reporting and mitigation program for new resistance cases has potential, if carefully designed and implemented, to help curb further resistance development and spread.

- For those who will not be able to attend the meeting in Washington, a live webcast will be available. Check the WSSA website for the link to this webcast at www.wssa.net .
- For those participating via webcast, there will be an email address provided for submission of comments. That information will be sent out in two weeks.
- A block of rooms has been reserved for the Summit; deadline for using this block is **August 9**.
- Registration is free, but required to attend the Summit. Go to the WSSA website to register.
- This Summit is designed to provide a call to action for every participant, whether it be weed managers, federal and state agencies, academics, industry, stakeholder organizations, or advocacy groups.
- A display table will be provided for those with information on herbicide resistance management. However, to display you must contact David Shaw in advance with the information you plan to exhibit.

Look forward to seeing you September 10!

David Shaw, Chair
2nd Herbicide Resistance Summit Planning Committee

## 2014 Weed Contest Results

The 2014 Weed Contest was hosted by Agricenter International in Memphis, TN on August 6. There were seven universities represented who fielded 10 teams. In total, 51 students participated and of those, four were undergraduates. The following companies provided support for this year's event:

| | | | |
|---|---|---|---|
| Helena | Syngenta | Bayer CropScience | DuPont |
| Dow AgroSciences | Gylling Data Mgt. | FMC | |
| R&D Sprayers | Valent | BASF | |
| Monsanto | AMVAC | Dow Commercial | |

The top 3 teams at the 2014 Weed Contest were as follows:

First Place: University of Arkansas
Reiofeli Salas, Christopher Meyer, Vijay Singh, Christopher Rouse

Second Place: Virginia Tech
Sandeep Singh Rana, Katelyn Venner, John Brewer

Third Place: Mississippi State University
Gary Cundiff, Paul Mangialardi, Amber Eytcheson, Ben Lawrence

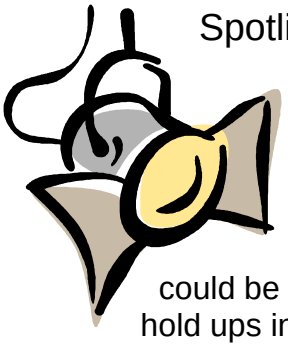
*First Place University of Arkansas, Coached by Nilda Burgos and Jason Norsworthy*

*Christopher Meyer*
*Top Individual, U of A*

Congratulations to the top ten individual winners: (please note that due to an error in calculating the scores, the top ten is different than was announced at the banquet.)

| | | | |
|---|---|---|---|
| 1 | Christopher | Meyer | University of Arkansas |
| 2 | Reiofeli | Salas | University of Arkansas |
| 3 | Sandeep | Singh Rana | Virginia Tech |
| 4 | Shilpa | Singh | University of Arkansas |
| 5 | Christopher | Rouse | University of Arkansas |
| 6 | Josh | Copes | Louisiana State University |
| 7 | Hunter | Smith | University of Florida |
| 8 | John | Brewer | Virginia Tech |
| 9 | Charlie | Cahoon | North Carolina State University |
| 10 | Ryan | Miller | University of Arkansas |

The winners from the Undergraduate Competition are as follows (all were from Mississippi State University):
1st Jodi Thomason
2nd Ethan Willers
3rd Skyler Smith



## Spotlight on new technology!

There are three new herbicide tolerant traits poised to be released from various USDA, EPA and world market restrictions over the next 1-3 years. Monsanto reached a milestone in August as the USDA comment period for their dicamba tolerant trait "Roundup Ready Xtend" was officially opened. According to Monsanto, cotton deregulation is scheduled for a 2015 release. Xtend soybean could be available at that same time depending on worldwide deregulation mainly due to hold ups in China. Monsanto is hopeful for a 2016 release of Xtend Soybean. Many state regulatory agencies are busy examining proposed buffer strips and other application requirements that will come with a federal label for dicamba.

Dow AgroSciences is moving forward with its new 2.4-D Choline trait. This technology: Enlist, Enlist Duo and E3, recently completely the USDA comment period which resulted in a recommendation to deregulate the seed. This technology combines tolerance of both glyphosate and glufosinate with 2,4-D. Dow is hopeful that Corn and Soybean will be available in 2015 with cotton to follow in 2016. As with the Xtend technology, many state agencies are grappling with how to enforce regulations that will be on both the federal labels and existing State regulations once Enlist hits the market.
HPPD tolerant soybeans are being developed by both Syngenta and Bayer (Balance Bean). These technologies are also being stacked with glyphosate, dicamba and the glufosinate traits and are scheduled for releases at various times and in various forms from now till the end of the decade. MGI (mesotrione, glufosinate, isoxaflutole) soybean from Syngenta is currently under USDA review; Bayer's Balance Bean has been de-regulated. Both await true global "acceptance" especially from the Chinese.

Both 2,4-D and dicamba when applied POST control most of the major broadleaf weeds that are currently resistant to glyphosate. With the Enlist technology there is the added benefit of glufosinate tolerance. HPPD soybean will provide another residual mode of action against pigweed and is pretty effective; although stacked traits are also in the pipeline once the companies can sort out legal issues. Most weed scientists agree that herbicides like metolachlor will still need to be used for grass control and resistance management once these technologies are labeled. It will also be important to manage drift and unwanted off –target movement of these technologies as some are already in the spot-light for these concerns.

*Submitted by: Bob Scott, SWSS Newsletter Editor*

***New herbicide programs control glyphosate resistant pigweed.***

## Washington Report

### FY 2015 USDA Appropriations

The FY 2015 appropriations process was in full swing as the Administration released its budget request in April and the House and Senate marked up their draft USDA budget in May. However, with the defeat of House Majority Leader Cantor in his primary and the unwillingness of the Senate to take "tough votes" on germane amendments, appropriations activity has screeched to a halt. The House managed to pass 8 of the 12 appropriations bills prior to August recess, but the Senate has not yet passed any of its appropriations bills. It is highly likely there will be a continuing resolution funding the government through at least the November elections. Included in the table is the enacted budget for each of the USDA agencies in FY 2014, followed by the proposed FY 2015 numbers from the Administration, House and Senate. The USDA Animal and Plant Health Inspection Service (APHIS), Economic Research Service (ERS), National Agricultural Statistics Service (NASS) and the National Resource Conservation Service (NRCS) are all slated for higher budgets by the Administration, House and Senate compared to FY 2014. The Administration's budget for the Agricultural Research Service (ARS) is down 1.6% percent to $1.104 billion compared to FY 2014 while the Senate proposed a $17 million increase for ARS compared to FY 2014. The Administration proposed a 4.4% increase for the USDA National Institute of Food and Agriculture (NIFA) to $1.335 billion compared to FY 2014 while the House proposed a NIFA budget for FY 2015 that's a smidge lower than its $1.277 billion it received this year.

| USDA Agency | FY 2014 | FY 2015 President | FY 2015 House | FY 2015 Senate |
|---|---|---|---|---|
| | (in thousands of dollars) | | | |
| APHIS | 821,721 | 834,341 | 867,705 | 872,414 |
| ARS | 1,122,482 | 1,104,403 | 1,120,253 | 1,139,673 |
| ERS | 78,058 | 83,446 | 85,784 | 85,373 |
| NASS | 161,206 | 178,999 | 169,371 | 178,154 |
| NIFA | 1,277,067 | 1,335,536 | 1,273,804 | 1,292,448 |
| NRCS | 812,939 | 814,772 | 843,053 | 849,295 |

Within NIFA, the Agriculture and Food Research Initiative (AFRI) is proposed to increase 2.8% from $316 million to $325 million in all three FY 2015 budget proposals. Similarly, all three budget proposals for FY 2015 from the Administration, the House, and the Senate have the Hatch Act staying at $244 million, the Smith Lever 3b and 3c funding for extension staying at $300 million, and IR-4 program funding staying at $11.9 million. The new Farm Bill that was passed in February also revived 2 programs that would have expired. The Specialty Crop Research Initiative (SCRI) will get $80 million per year in mandatory funding. The Organic Agriculture Research and Extension Initiative (OREI) will get $20 million per year.

### USDA NIFA Crop Protection and Pest Management (CPPM) Funding

CPPM is a new budget line item that repackages the following funding authorities: the Pest Management Alternatives Program, the IPM grants program, the Regional IPM Centers funding, and the Extension IPM (E-IPM) Coordinators program. CPPM received $17.1 million in funding for FY 2014 and is expected to see the same next year. Over half of the CPPM funding authority is derived from E-IPM capacity funds ($9.9 million). While the RFA for the CPPM closed in June, the Science Policy Committee would like to pass along some information regarding the distribution of funds among the pest management disciplines for the E-IPM program. Each eligible institution must submit a 3 yr proposal for the E-IPM funds at $300,000 max per year. There is only one proposal allowed for an institution. With the "repackaging" of the E-IPM funds into CPPM, there will now be up to a 30% indirect cost charge. However, USDA is hoping that universities take less than the 30% rate. The process of developing each institution's proposal is the responsibility of the Director of Cooperative Extension. The Director puts together the writing team and vets the proposal before submission. The 2014 directory of State Extension Service Directors and Administrators can be found here. Every state is a little different in terms of how the E-IPM application process works and who is the lead P.I. for the E-IPM funds proposal. Some states have very good "team efforts" among the pest management disciplines. Other states

are completely run by one pest management discipline or another. If your institution is not inclusive of all pest disciplines (specifically Weed Science) please let me know.

## House and Senate Direct Spending Towards Herbicide Resistance

The FY 2015 agriculture appropriation bills from the House and Senate both contain directives to the various USDA agencies to help improve herbicide resistance management. In the Senate Ag Appropriations Committee bill under the USDA research programs it states: "*Herbicide resistant weeds are a major threat to food, feed, and fiber production in the United States and the problem is expected to continue to increase in size and scope. Current funding for research and extension is woefully inadequate. The Committee is concerned that the lack of research based information significantly delays developing effective management strategies to address the herbicide resistance problem. The Committee encourages **NIFA**, in conjunction with **ARS** and land-grant institutions, to conduct research that will more comprehensively address herbicide resistance. Research may include: identification of herbicide resistant weed populations or those most likely to develop resistance, characterization of mechanisms of resistance, and development of innovative weed management strategies to overcome current resistance problems and delay or prevent future ones. In addition, effective and widespread dissemination of results to farmers, foresters, and rights of way land managers through extension and outreach will be critical to the success of this endeavor*."

The Senate Ag Approps Committee also has directives for the **NRCS** addressing a variety of weed science related issues including promoting the adoption of cover crops, addressing the threats posed by invasive plant species, and herbicide resistance. Specifically: "***Herbicide Resistance-*** *The Committee is concerned that pigweed has seriously endangered conservation tillage and has increased herbicide costs by more than 70 percent for some crops. In an effort to address herbicide-resistant weeds and associated environmental concerns, agricultural advisors and producers have become increasingly more aggressive with conservation planning and practice implementation to solve this issue. The Committee directs **NRCS** to ensure agency staff, partners, and producers are aware of new and interim conservation practice standards and conservation activity plans to address herbicide-resistant weeds, such as pigweed, and that financial assistance through certain conservation programs is available to assist producers in their efforts to control these weeds*."

The House Ag Appropriations committee has similar directives to manage invasive weeds and herbicide resistance in its markup language. *"**Cheat Grass Eradication**. —The Committee encourages **ARS** to continue research on cheat grass eradication, control, and the reduction of fuel loads, including late-season grazing techniques, and to work with the **NRCS** on this effort". **Herbicide Resistance**. The Committee reminds **NRCS** of the challenges many producers are facing due to the spread of herbicide-resistant weeds and encourages it to ensure agency staff, partners, and producers are aware of conservation practice standards and conservation activity plans to address herbicide-resistant weeds, and that financial assistance through certain conservation programs is available to assist producers in their efforts to control these weeds. **Invasive Annual Grasses**.—The Secretary is encouraged to consider targeted herbicide treatments of invasive annual grasses and restoration efforts to compliment juniper control efforts on greater sage-grouse habitat on private rangelands.*

## Herbicide Resistance Summit II

The 2nd National Summit on Strategies to Manage Herbicide-Resistant Weeds will be held September 10, 2014 in Washington DC. Everyone is invited and attendance at the Summit is free. However, we kindly ask that you register at http://wssa.net/meeting-registration/ Unlike the planning workshop that was held last fall in Washington DC where there was only room for about 40 stakeholder representatives, the Herbicide Resistance Summit II will be held at the 670 seat National Academy of Sciences auditorium, a beautiful facility located at 2101 Constitution Ave. N.W., Washington DC. I hope to see you there!

## Jill Schroeder Takes USDA-OPMP Weed Science Position

I am excited to announce that I'll have a new neighbor and fellow weed scientist in Washington DC. On July 27, Dr. Jill Schroeder started in her new position at USDA as a Weed Scientist in the Office of Pest Management Policy (OPMP). Dr. Schroeder was a Distinguished Professor of Weed Science at New Mexico

State University and is a Past-President and Fellow of both WSSA and WSWS. She also recently served several years in the role of WSSA-EPA Liaison. Dr. Schroeder fills the position vacated by Dr. Harold Coble who retired in January 2014. Jill's new email is Jill.Schroeder@ars.usda.gov and phone: (202) 720-0066.

The USDA Office of Pest Management Policy (OPMP) was established in September 1997, with the mandate to: 1) Integrate the Department's strategic planning and activities related to pest management; 2) Coordinate the Department's role in the pesticide regulatory process and related interagency affairs, primarily with the Environmental Protection Agency; and 3) Strengthen the Department'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. Dr. Sheryl Kunickis currently serves as the Director of USDA-OPMP.

## Aquatic Plant Research Gets $5 million Boost

On June 10, the president signed into law the Water Resources Reform and Development Act of 2014 (WRRDA). This follows Congressional approval of the conference agreement reached in May by House and Senate negotiators that resolved the differences that occurred over 6 months between each chamber's versions of the water resources reauthorization legislation. Within WRRDA, there is language for aquatic invasive species prevention and management, as well as a review of existing Federal authorities related to responding to invasive species, including aquatic weeds. WRRDA increases the authorization of funding from $15 million to $20 million per year that supports the U.S. Army Corps of Engineers' (ACOE) Aquatic Plant Control Research Program (APCRP), the nation's only federally authorized program for research and development of science-based management strategies for invasive aquatic weeds. WRRDA also authorized $20 million in new annual funding to establish watercraft inspection stations in the Columbia River Basin to be located in the States of Idaho, Montana, Oregon, and Washington at locations with the highest likelihood of preventing the spread of aquatic invasive species at reservoirs operated and maintained by the ACOE.

However, you may be aware that while APCRP was authorized at $15 million per year for the past 20 years, the most they were appropriated was $6 million, and over the last few years we have had to scratch tooth and nail to get $4 million in funding appropriated. The expertise and institutional knowledge encompassed by APCRP is very underrated and often gets overlooked in the $1.6 billion construction account the ACOE oversees. The good news is that there was broad bipartisan support from both chambers on final passage of the WRRDA conference agreement. In addition, WRRDA expanded the scope of research directed to control not just aquatic plant growths, but all aquatic invasive species. Specifically, the authorizing language will now read: "*There is hereby authorized a comprehensive program to provide for prevention, control, and progressive eradication of noxious aquatic plant growths and aquatic invasive species from the navigable waters, tributary streams, connecting channels, and other allied waters of the United States, in the combined interest of navigation, flood control, drainage, agriculture, fish and wildlife conservation, public health, and related purposes, including continued research for development of the most effective and economic control measures, to be administered by the Chief of Engineers, under the direction of the Secretary of the Army, in cooperation with other Federal and State agencies.*".

## NPDES Fix Bill Passes House

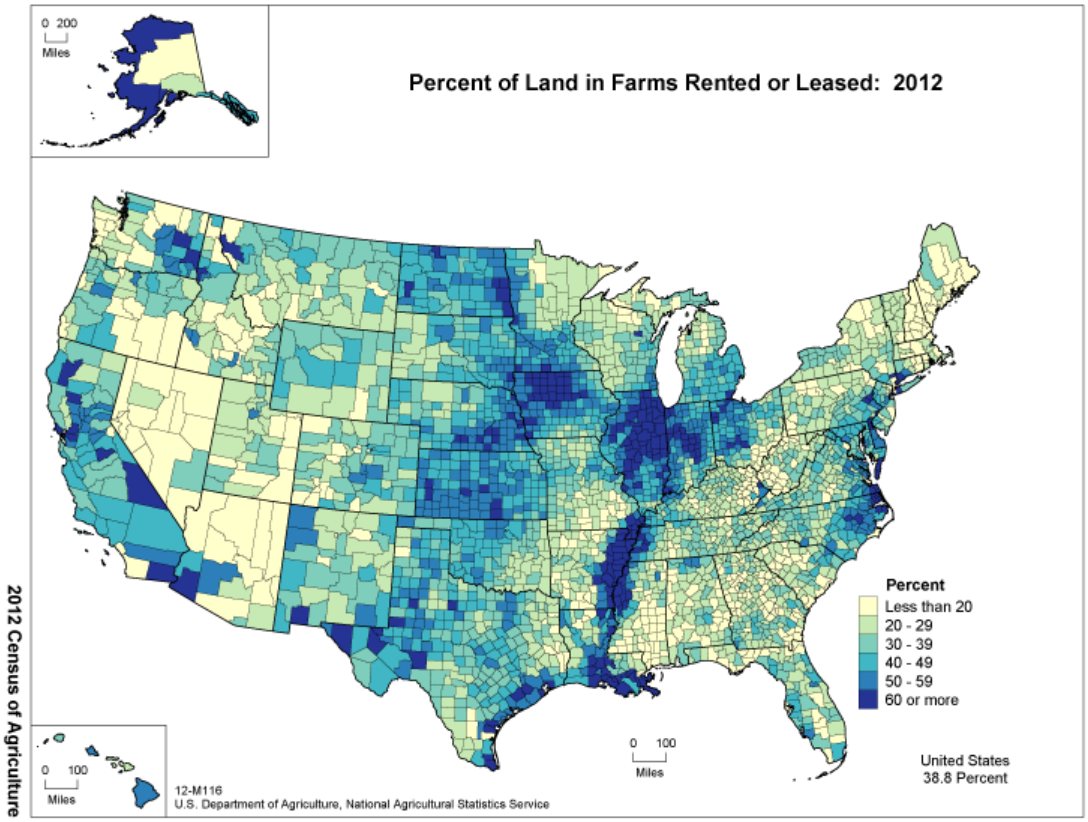
On July 31, the House passed H.R. 935, the Reducing Regulatory Burdens Act of 2014, by a 267-161 vote. The bill clarifies Congressional intent of having the application of pesticides regulated under FIFRA and "fixes" a 2009 Circuit Court ruling that forced EPA to issue additional National Pollutant Discharge Elimination System (NPDES) permits under the Clean Water Act for application of pesticides in, over, or near water. This legislation was passed in the House in the 112$^{th}$ Congress as well, but faces the same problem once again in the Senate where we know a majority of the Senators would support the bill (S. 802 in the Senate), but one or two Senators are being obstructionist. I encourage you to contact the Chair of the Senate Environment and Public Works Committee, Sen. Boxer (CA) and voice your support for S. 802.

## Controversy Abounds on WOTUS

On April 21, the EPA and Army Corp of Engineers jointly published a rule meant to clarify what are Waters Of The United States (WOTUS). The proposed rule would expand Clean Water Act (CWA) jurisdiction to almost all waters in the United States subjecting thousands of streams, ditches, and other "small" waters to federal permitting and citizen lawsuits, impacting how communities and landowners manage their public and private property. The proposed rule states that all streams, as well as all waters and wetlands located in floodplains and riparian corridors, share a connection or "nexus" to downstream, traditionally regulated waters and are therefore subject to default regulation. The proposed definition includes a number of imprecise and broadly-defined terms such as 'adjacent,' 'riparian area' and 'floodplain' that do not clearly delineate which waters are covered. For the first time, 'tributary' is defined and includes bodies of water such as manmade and natural ditches. 'Other waters' also may be subject to the jurisdiction of the CWA on a case-by-case basis if there is a 'significant nexus' to traditional navigable water. The expanded jurisdiction and the imprecision of the terms used by the agencies may result in significant added legal and regulatory costs. Farmers, ranchers, home builders and home owners that conduct activities and projects on lands with WOTUS designation will be directly affected. Permits may be required for removing debris and vegetation from a ditch, applying a pesticide, or building a fence or pond. In addition, landowners will be subject to citizen lawsuits under CWA provisions, challenging their ability to manage their own property. Opponents of the rule say that clarification is not necessary because EPA and the Corps already have authority under the CWA to prosecute illegal dumping. Under section 402 of the CWA, unpermitted discharges of pollutants that reach jurisdictional waters either directly or indirectly are unlawful. EPA is taking comments on the proposed rule from now through Monday, October 20, 2014 and has already received over 3.5 million comments. To submit your comments via the Federal Register, please go to: https://www.federalregister.gov/articles/2014/04/21/2014-07142/definition-of-waters-of-the-united-states-under-the-clean-water-act#p-5

## USDA-NASS Releases 2012 Ag Census

On May 2, USDA's National Agricultural Statistics Service (NASS) released the final results of the 2012 Census of Agriculture, which is the 28th Federal census of agriculture and the 4th conducted by USDA. The census of agriculture provides a detailed picture of U.S. farms and ranches every five years. It is the only source of uniform, comprehensive agricultural data for every State and county or county equivalent.
The USDA Census of Agriculture homepage is: http://www.agcensus.usda.gov/



## USDA-ERS Publishes Pesticide Use Report

The USDA Economic Research Service (ERS) published an 86 page Economic Information Bulletin in May titled "Pesticide Use in U.S. Agriculture: 21 Selected Crops, 1960-2008. The report examines trends in pesticide use in U.S. agriculture from 1960 to 2008, focusing on 21 crops that account for more than 70 percent of pesticide use, and identifies the factors affecting these trends. The report can be found here.

## Pesticide Registrants Can Now Make Legally Valid Product Labels Accessible on the Internet

In April, EPA provided guidance to pesticide registrants for optional participation in web-distributed labeling for pesticide products. EPA believes that voluntary adoption of these recommendations by pesticide registrants will help pesticide users to better understand and comply with pesticide labeling. In addition, EPA believes that web-distributed labeling could allow addition of new uses, modification of existing labeling, and implementation of labeling-based risk mitigation measures more quickly. However, all pesticide products must still be accompanied by a physical copy of EPA-approved labeling. Those physical product labels will not be shortened in any way due to the launch of Web-distributed labeling., but the new process will allow pesticide registrants to include a reference to a website from which pesticide applicators can download enforceable labeling. The pesticide registration notice on Web-distributed labeling is available at http://www.epa.gov/PR_Notices/pr2014-1.pdf

## Foundation for Food Agricultural Research (FFAR) Board Selected

On July 23, USDA Secretary Tom Vilsack announced the creation of FFAR and the appointment of a 15-member board of directors. The new foundation will leverage public and private resources to increase the scientific and technological research, innovation, and partnerships critical to boosting America's agricultural economy. Authorized by Congress as part of the 2014 Farm Bill, the foundation will operate as a non-profit corporation seeking and accepting private donations in order to fund research activities that focus on problems of national and international significance. Congress also provided $200 million for the foundation which must be matched by non-federal funds as the Foundation identifies and approves projects. FFAR's board of directors was chosen to represent the diverse sectors of agriculture. Seven of these board members were selected by the unanimous vote of the board's five ex-officio members from lists of candidates provided by industry, while eight representatives were unanimously elected from a list of candidates provided by the National Academy of Sciences. The 15 FFAR Board Members are:

- Dr. Kathryn Boor - the Ronald P. Lynch Dean of the College of Agriculture and Life Sciences, Cornell University
- Dr. Douglas Buhler (Weed Scientist) - Director of AgBioResearch and Senior Associate Dean for Research for the College of Agriculture and Natural Resources, Michigan State University
- Dr. Nancy Creamer - Distinguished Professor of Sustainable Agriculture and Community Based Food Systems, North Carolina State University
- Dr. Deborah Delmer - Professor Emeritus of Biology, University of California-Davis
- The Honorable Dan Glickman (CHAIR)- former U.S. Secretary of Agriculture, current Executive Director of the Aspen Institute's Congressional Program
- Dr. Robert Horsch - Deputy Director, Bill & Melinda Gates Foundation
- Pamela Johnson - Chairwoman, National Corn Growers Association
- Dr. Mark E. Keenum (VICE CHAIR)- President, Mississippi State University
- Dr. Michael Ladisch - Director of the Laboratory of Renewable Resources Engineering and Distinguished Professor of Agricultural and Biological Engineering, Purdue University
- Dr. Christopher Mallett - Vice President of Research & Development, Cargill, Inc.
- Dr. Pamela Matson - Chester Naramore Dean of the School of Earth Sciences, the Richard and Rhoda Goldman Professor of Environmental Studies and Senior Fellow at the Woods Institute for the Environment, Stanford University
- Dr. Terry McElwain - Associate Director and Professor, Paul G. Allen School for Global Animal Health, and Executive Director, Washington Animal Disease Diagnostic Laboratory, Washington State University
- Dr. Stanley Prusiner - Director of the Institute for Neurodegenerative Diseases and Professor of Neurology, University of California-San Francisco and 1997 Nobel laureate in physiology or medicine

• Dr. Yehia "Mo" Saif - Professor Emeritus, The Ohio State University
• Dr. Barbara Schaal - Dean of the Faculty of Arts & Sciences and Mary-Dell Chilton Distinguished Professor at Washington University in St. Louis.

More detailed biographical information for the FFAR Board of Directors can be found here:
http://www.ars.usda.gov/is/FFARBios2014.pdf

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## Position Vacancy Announcements

Title of Position
Manager University & Contract Research with PSI-Gordon Corporation in the Southeast United States

Type of Position
Full-time

Employer
PSI-Gordon Corporation
1217 W. 1ih Street
Kansas City,MO. 64101

Description of Employer
PSI-Gordon Corporation is a diversified, growing company that is 100% employee owned. We are searching for individuals who share our vision of respect, collaboration, accountability, teamwork and pioneering nature in the way that we conduct business. With headquarters in Kansas City, Missouri the company was founded in 1947 and focuses on both domestic and international markets in three growth areas: Turf and Ornamental Pest Management (professional and consumer markets),Consumer Animal Products, Pegasus Laboratories (ethical veterinary products). If you want to join a company with sustainability in its vision, its business and your future, consider a position at PSI-Gordon Corporation.

Location of Job
Southeast United States

Description of Job location
Territory will include the Southern United States roughly from Virginia to Arizona to Florida.

Salary
TSD

Closing Date
Until position is filled

Date Position will be Available
November 1, 2014

Description of Duties

Summary
PSI-Gordon is seeking a motivated, capable field researcher to join its Pest Management Research Team. The successful candidate will plan and execute field research on turf and landscape ornamental products in efforts to develop and optimize herbicides,insecticides and fungicides for professional and consumer markets.

Under the direction and periodic review of the Vice President Research and Business Development, the Manager University & Contract Research will be primarily responsible for research,development and technical support of PBI- Gordon pest management products.

Primary Responsibilities
- Provide technical support to the Pest Management Sales and Marketing teams and interact with Product Managers to develop strategic initiatives for these market segments. Specifically,support will be provided for making technical recommendations for the turf and landscape ornamental product line based on field data and market considerations.
- Develop PBI-Gordon's existing portfolio of products and new technologies. This will entail designing studies and coordinating the execution of field trials with university researchers, contracted research cooperators and customers in the Territory. A fair amount of time will be spent travelling to research-cooperator locations,attending professional meetings and attending monthly research meetings at PBI-Gordon headquarters in Kansas City.

Areas of Primary Accountability:
- Serves as primary contact for university and contract researchers in the Territory.
- Writes university and contract researcher protocols and submits protocols for review to Manager Field Research and approval by Vice President Research & Business Development.
- Prepares samples {for university and contract researchers) and sends samples and protocols to field researchers {university and contract researchers) for field trials
- Develops and manages outside contractor and university field research budget
- Obtains data from assigned field researchers at the conclusion of studies
- Upon receipt of data, analyzes and interprets data and writes conclusions and next steps
- Maintains the Research Tracking Spreadsheet {MS Access database):
    - Updates progress on all assigned studies and updates on a weekly basis providing comments explaining the progress of each study.
    - Includes information on all fields, including but not limited to when protocols were sent,when materials sent, when study was initiated {materials applied), estimated completion date,actual completion date, date data received and when data is graphed.
- Reports progress of assigned research at least on a weekly basis during Weekly Research Meetings
- Presents summarized data and conclusions to Management, Sales, Product Managers
- Negotiates st udy costs and methodology with contract researchers
- All other duties as may be assigned.

Additional Responsibilities:
- Maintain contacts with cooperators and potential cooperators
- Research information on turf and ornamental developments, products
- Interact with internal departments {such as formulation chemistry, regulatory, sales, marketing) as necessary
- Attend trade shows, association meetings, scientific conferences, supplier events as approved

Description of Qualifications

- Education
  - At least a Masters {Ph.D. preferred) in one or more of the following fields: Agronomy ,Horticulture, Plant Pathology, Entomology with specialization in turf or ornamental horticulture
- Experience
  - Five years agronomic (turf) and/or horticultural field research
- Travel required in this position: 50%
- Specialized knowledge or training:
  - Proficiency in use of software
    - ARM
    - Excel
    - Word
    - Power Point
    - Access
  - Field research methodology
  - Field plot design
  - Working knowledge of pesticides and pesticide formulations
- Other skills:
  - Excellent speaking and writing skills are mandatory
    - There is continuous interaction with marketing, sales and regulatory personnel as well as business managers, cooperators and end users.
    - All will expect organized thoughts, summarized points, thorough analyses and conclusions and good delivery
  - Personal characteristics
    - Organization
    - Initiative
    - Innovation
    - Problem solving
    - Analytical
    - Drive
    - Attention to detail
- Special physical requirements:
  - Must be able and willing to travel by air and auto
  - Must be able and willing to walk research sites (sometimes remote sites}
  - Must be able to normally see and differentiate colors (for rating field plots and viewing data that is color coded}

Whom to send application to:
(Preferred by email)
Ms. Namsan Xayaphet
Human Resources Department
1217 W. 1zth Street
Kansas City,MO 64101
Tel. (816} 421-4070
Fax. (816) 460-3719
Email: nxayaphet@pbigordon.com www.pbigordon.com

What information is to be submitted:

- Resume
- Cover letter