



Independent Expert

David Shaw*Giles Distinguished Professor of Weed Science at Mississippi State University*

Dr. David Shaw is Past-President of the Weed Science Society of America, chair of WSSA's S-71 Herbicide Resistance Education Committee and Vice President for Research and Economic Development at Mississippi State University. His past roles include chairing the task force developing the USDA-APHIS report on Herbicide Resistance Best Management Practices and Recommendations and chairing the Council for Agricultural Science and Technology task force on Impacts of Herbicide Resistant Weeds on Tillage Systems. Currently, Dr. Shaw is leading an effort to develop a comprehensive suite of educational materials on resistance management based on sound scientific principles.

From This Expert

Recently Answered Questions

Studies & Articles

Q:

Do GMOs contaminate the soil?

Posted On: Thursday, 8/01/2013 9:35 am

Answered By: David Shaw, Giles Distinguished Professor of Weed Science at Mississippi State University, Friday, 1/03/2014 6:24 pm

A:

The short answer is no—there is no impact of GM crops on soil. More specifically, this can be viewed from three perspectives: 1. The genetically modified crops themselves break down in exactly the same manner as non-GM crops. The genetic composition is organic in nature and is quickly broken down by the soil microbial community. The genes themselves are no different than the genes for flowering characteristics, seed production or chlorophyll synthesis; they are simply DNA and all...

[Continue Reading](#)

From: Wainwright, Heather
Sent: Friday, August 30, 2013 2:50 PM
To: suzanne.thompson@monsanto.com;tlneed@monsanto.com
Cc: Hathcock, Beth;Hood, Tina
Subject: Address for MSU Plant & Soil Sciences

Dear Suzanne and Teri,

Thank you for handling the several recent Service Order payments and unrestricted gifts for our faculty. We appreciate Monsanto's support of their research and Mississippi State University.

In order to ensure a safe and more expedient delivery of these funds (recent checks have been misdirected from the mail to other departments and/or centers), the Department of Plant & Soil Sciences (PSS) respectfully requests a change of address ONLY for the payments/gifts intended for our faculty members.

If possible, please send any future payments to PSS faculty to the following address:

Mississippi State University
Department of Plant and Soil Sciences
PO Box 9555
Mississippi State, MS 39762

PSS Faculty who have received support from Monsanto:

Service Orders

Dr. Darrin Dodds
Dr. Brien Henry
Dr. Trent Irby
Dr. Dan Reynolds

Unrestricted Gifts

Dr. John Byrd
Dr. Darrin Dodds
Dr. Trent Irby
Dr. Dan Reynolds
Dr. David Shaw

If you have any questions or need additional information, please do not hesitate to contact me.

Thanks, again, for the generous support of the research and faculty at MSU.

Best regards,
Heather

Heather Wainwright
Contracts & Grants Specialist
Plant & Soil Sciences
<http://www.pss.msstate.edu>

Pest Management Science

Research Article

Benchmark study on glyphosate-resistant cropping systems in the United States. Part 5: Effects of glyphosate-based weed management programs on farm-level profitability[†]

Jason W Weirich^{1,†}, David R Shaw¹,
Micheal DK Owen², Philip M Dixon²,
Stephen C Weller³, Bryan G Young⁴,
Robert G Wilson⁵ and David L Jordan⁶

Article first published online: 2 MAY 2011

DOI: 10.1002/ps.2177

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Issue



Pest Management Science
Volume 67, Issue 7, pages
781–784, July 2011



Additional Information (Show All)

[How to Cite](#) | [Author Information](#) | [Publication History](#)

[†] This research was funded by Monsanto Company.

From: Jachetta, John <jjjachetta@dow.com>
Sent: Tuesday, January 17, 2012 5:27 PM
To: Shaw, David
Subject: It's Showtime for the enlist comments!!!
Attachments: Enlist Public Comment Communication.pdf; Comments on weed resistance 7.pdf

Hi David,

Looks like it's Showtime for the enlist comments!!!

The current deadline for comments to be submitted into the docket is Feb 27th – so it would be perfect if you were able to submit your comments by Feb 21-26th to ensure they received without processing issues. If an extension occurs, I'll notify you, but this is the working plan.

I cannot stress enough how important your effort is to the success of the Enlist comment periods. We really appreciate your contribution in helping to bring this technology forward.

I've included two items:

1. My cover letter which introduces and includes "how to submit" instructions: (*Enlist Public Comment Communication – attached*)
2. Guidance for key topics to comment on and what you may consider including in your comments – if you wanted to add comments on the reduced probability of resistance to both modes of action in Enlist, that would be great too. *These are your comments, so it's important to cover what you think is important!*

As we approach the submission date, it would be great if you could confirm for me that your comments were submitted. Also, I'll be at the SWSS for a few days and then, of course, at the WSSA meeting and we can talk a bit more about this if you've got any questions.

I really appreciate your help with this, quality comments do take a bit of time to develop and I know very well how busy you are,; but this is important and they will listen to you.

Kind Regards,

John

John J. Jachetta, Ph.D.
Regulatory Sciences and Government Affairs Leader
Dow AgroSciences L.L.C.

Phone: (317) 337-4686
Fax: (317) 337-4649
E-mail: jjjachetta@dow.com

Suggestions on providing comments to the United States Department of Agriculture (USDA) public docket on Dow AgroSciences' petition for a determination of non-regulated status for Enlist™ corn and the associated plant pest risk assessment and environmental assessment (EA)

Individual comments should be independent with regards to both content and style. The following are intended only as general guidance for your consideration. Information about particular subject areas that are of interest to the agency regarding the Enlist™ Weed Control System about which you may be especially qualified to provide comments to the agency are discussed, along with some format suggestions that have proven to be useful when submitting comments to the Agency.

As you prepare your comments and any supporting documentation, please remember all comments submitted to this docket are considered public information.

Topics of important interest to the Agency:

1. Weed resistance and weed resistance management – the issue.
 - The scope of glyphosate resistance and hard-to-control weeds. What is the level of the challenge and do you see it increasing, decreasing or remaining the same?
 - High level aspects of weed management and herbicide management as part of an integrated management system. Specifically the value of mixtures to provide multiple modes of action and how this can be a tool in the program
 - Your thoughts on the value of 2,4-D as one of the herbicide tools.
 - 2,4-D mode of action and how it relates to resistance management
 - Based on what we have seen historically, can it be an effective tool when used as part of an integrated weed resistance

Subject and format points to consider for inclusion in your comments:

- *The length of your letter will depend on what information you believe will be helpful to the agency. Remember that they are looking for credible, substantive comments. One paragraph opinion comments usually cannot cover the topic(s) adequately. Comments from 2-5 pages + any attached studies or articles are typical for quality comments*
- *Write on your letterhead if possible*
- *Introductory address for USDA*

Regulatory Analysis and Development
PPD, APHIS
Station 3A-03.8
4700 River Road Unit 118
Riverdale, MD 20737-1238

Docket ID APHIS-2010-0103

1. Reference the name of the docket and docket number
2. Introduce yourself: Describe your background and qualifications relevant to commenting on weed resistance management, Enlist Weed Control System™ with Colex-D Technology™ or 2,4-D. Such as:
 - Your professional experience and current position
 - Number of years working in your field of expertise
 - Relevant research work or programs you have been involved with
 - Degrees and any other relevant professional accreditations
 - Participation in and any offices held in professional organizations, advisory boards, etc.
3. Share a concise, overall conclusion or summary statement regarding what the science says on the particular issue based on your evaluation, experience and interpretation. Especially useful to the Agency will be your thoughts on:
 - State of the research for addressing the issues How the research relates to the real-world
 - How the research relates to use of the Enlist Weed Control system.
4. Discuss the key results or conclusions of the most important scientific research on this topic. Consider including:
 - Statement of what was done in the study
 - Key results
 - Summation statement
 - Concise compilation of key data if it adds value to the understanding of results
 - How these results relate to real-world situations
 - How the particular study relates to other research on the topic such as:
 - Supports conclusions of other studies
 - Further refines understanding or conclusion
 - Offers new interpretation or result
 - If you are referring to a published article (scientific or even popular) or have any articles you feel would be useful to the Agency, you should include them as an attachment with your comment. Although a copy of the article is always easiest for the Agency and ensures they include it the record, if you cannot provide the article, include a full reference citation.
5. Especially useful to the Agency is references to newer studies or studies which may be in progress which may not have been considered in their review. Remember the docket is public, but even if you are able to generalize what you are finding in your new or ongoing research that can be useful.
6. The Agency will often be faced with conflicting studies or research opinions, so your thoughts on studies or claims that you feel are not scientifically valid or not relevant to real world conditions, would help provide perspective.

7. Any additional personal observations and real-world insights you may have made during your own research or experiences
8. Re-statement of your expert opinion or conclusion specifically regarding the decision the Agency is considering
9. Close using your signature (original or scanned signature if possible)

TMEnlist, Enlist Duo, and Colex-D Technology are trademarks of Dow AgroSciences LLC. Components of the Enlist Weed Control System have not yet received regulatory approvals; approvals are pending. The information presented is not an offer for sale. Enlist Duo is not yet registered for sale or use as part of the Enlist Weed Control System. Always read and follow label directions. ©2012 Dow AgroSciences LLC

Additional information:

Also, if you are interested in reading the APHIS Environmental Assessment, you can access and printout a copy of all the materials from www.regulations.gov using that same docket number (click on listing of documents entitled “Dow AgroScience LLC; Availability of Petition, Plant Pest Risk Assessment, and Environmental Assessment for Determination of Nonregulated Status of Corn Genetically Engineered for Herbicide Tolerance” on the left hand-side of that page).

To assist you if there are particular aspects of interest to you, below is some general guidance of which sections of the EA may be applicable

- Weed Resistance: Sections 2.2.2.3, 4.2.2,
- Value of no- and minimum tillage Sections 2.2.2.1, 2.3, 2.4.4, 2.7, 4.2.2, 4.3, 4.4
- Auxin or 2,4-D resistance potential – potential for superweeds: Sections 4.4.2, 4.4.4,
- Practical aspects of Enlist system (ease of use, value to growers, etc): Sections 4.1, 4.2.2, 4.3.2, 4.3.3, 4.4.4, 4.7,
- Use of 2,4-D / lbs applied: Sections 2.6, 4.2.2, 4.4.2
- Co-existence:
 - With non-GMOs: Sections 2.2.5, 4.2.5, 4.3.3, 4.4.5
 - With organics : Sections 2.2.4, 4.2.4, 4.3.3, 4.4.5
 - With sensitive crops: Sections 4.3.3,
- 2,4-D: Sections 5.5

From: Shaw, David
Sent: Monday, February 20, 2012 11:08 AM
To: Jachetta, John
Subject: Enlist Letter
Attachments: EPA Letter Enlist.docx

John,

Here's what I have so far. Take a look and give me feedback.

David



Office of the Vice President for Research and Economic Development

Regulatory Analysis and Development
PPD, APHIS
Station 3A-03.8
4700 River Road Unit 118
Riverdale, MD 20737-1238

Docket ID APHIS-2010-0103

By way of introduction, I am currently the Vice President for Research and Economic Development at Mississippi State University. I have been a faculty member at MSU for over 26 years, rising to the rank of Giles Distinguished Professor of Weed Science. I have taught a number of weed science courses, have conducted extensive research in weed management, and have advised over 60 graduate students in weed science. I am the past president of the Weed Science Society of America, and currently serve as chair of the WSSA special task force on herbicide resistance education. This task force has just completed a report commissioned by APHIS, entitled "*Reducing the Risks of Herbicide Resistance: Best Management Practices and Recommendations*". It has been accepted and soon will soon be published as a special issue in the journal Weed Science. The report is the foundation for the National Herbicide Resistance Summit, hosted by the National Research Council and sponsored by a number of agencies and farmer commodity organizations. I am serving on the planning committee for the Summit, and will be speaking on best management practices for herbicide resistance management. Recently I was also the lead author on a special issue paper sponsored by the Council for Agricultural Science and Technology entitled "*Herbicide-resistant Weeds Threaten Soil Conservation Gains: Finding a Balance Between Soil and Farm Sustainability*". I am attaching both of these publications as addenda to this letter.

Herbicide resistance is the most pressing issue facing production agriculture today. In particular, glyphosate-resistant weeds have become a national and even global issue, with nearly thirty species worldwide confirmed having this resistance. Within my own state, a survey was conducted last year and found that every crop producing county in Mississippi has incidences of glyphosate-resistant weeds. Of particular concern are species such as Palmer amaranth, common waterhemp, and horseweed. These weeds produce hundreds of thousands of seed, and are aggressive competitors with agronomic crops. Concerns among industry, academia, and grower organizations have led to the reports and meetings mentioned above, and have even led to congressional testimony on management approaches.

In response to these concerns, the Weed Science Society of America has developed the aforementioned report to USDA/APHIS on Best Management Practices, impediments to adoptions of these practices, and recommendations for overcoming these obstacles. Best Management Practices (BMPs) to prevent resistance development and mitigate it when present include (from the WSSA report):

- 1. Understand the biology of the weeds present.**
- 2. Use a diversified approach to weed management focused on preventing weed seed production and reducing the number of weed seeds in the soil seedbank.**
- 3. Plant into weed-free fields and then keep fields as weed free as possible.**
- 4. Plant weed-free crop seed.**
- 5. Scout fields routinely.**
- 6. Use multiple herbicide mechanisms of action that are effective against the most troublesome or herbicide-resistance-prone weeds.**
- 7. Apply the labeled herbicide rate at recommended weed sizes.**
- 8. Emphasize cultural practices that suppress weeds by utilizing crop competitiveness.**
- 9. Use mechanical and biological management practices where appropriate.**
- 10. Prevent field-to-field and within-field movement of weed seed or vegetative propagules.**
- 11. Manage weed seed at harvest and post-harvest to prevent a buildup of the weed seedbank.**
- 12. Prevent an influx of weeds into the field by managing field borders.**

A critical element of these BMPs is the availability of herbicides with diverse mechanisms of action (MOA). This is where the Enlist technology fills a critical role. Enlist technology brings a new MOA to these production systems at a time when herbicide resistance, particularly to glyphosate, is at or approaching a crisis level. Growers must be given as many tools as possible if they are to prevent resistance from developing, and mitigate resistance when it has developed. The use of alternating MOAs or mixtures of them is an essential element.

The herbicide 2,4-D will be an invaluable asset in proactively preventing or mitigating herbicide resistance. Its MOA is different than any used in cotton and soybean. It has also proven to be less susceptible to resistance development than many other herbicide MOAs. It is also particularly effective on many of the species that have exhibited resistance to glyphosate, so will be a valuable tool in managing the resistance that we are now dealing with.

Our experience is that with overuse of any herbicide technology leads to selection pressure for development of resistance to that technology. WSSA is strongly promoting sound resistance management principles, in which integrated weed management approaches are adopted at all levels. The Enlist technology will not be an exclusive answer to resistance development, but will be an extremely important tool in the development of comprehensive, science-based approaches to resistance management.

Sincerely,



David R. Shaw, Vice President for Research and Economic Development
and Giles Distinguished Professor of Weed Science

From: Shaw, David
Sent: Monday, February 20, 2012 3:43 PM
To: Jachetta, John
Subject: RE: Enlist Letter

You are buttering me up for something now.....

:)

>>> "Jachetta, John" <jjjachetta@dow.com> 2/20/2012 2:33 PM >>>

David,

This is just perfect! It both reinforces the acute nature of the need and that multiple modes-of-action and new tools are critical to the management of this problem; I thought that you hit the target dead-center!

In fact, it's so perfect that I'm wondering if you would consider cc'ing Tom Vilsack, Secretary of the USDA? If that works for you, I'll dig up the contact information.

Thanks!

John

*John J. Jachetta, Ph.D.
Regulatory Sciences and Government Affairs Leader
Dow AgroSciences LLC*

From: David Shaw [<mailto:DShaw@research.msstate.edu>]
Sent: Monday, February 20, 2012 11:08 AM
To: Jachetta, John
Subject: Enlist Letter

John,

Here's what I have so far. Take a look and give me feedback.

David

From: Shaw, David
Sent: Wednesday, February 29, 2012 9:35 AM
To: jjjachetta@dow.com
Subject: Re: emails for David Shaw

I'd be happy to. I would like some guidance on how to explain why it is being sent.

>>> "Jachetta, John" <jjjachetta@dow.com> 2/29/2012 8:30:51 AM >>>
Hi David

Like I mentioned yesterday, the guys at home really liked your comments to the Enlist docket! They've asked me if you'd be willing to also send your comments to this whole list of folks below. It's OK to say no to some or all of this list if you want, it's a long list!

Kind Regards,

John

*John J. Jachetta, Ph.D.
Regulatory Sciences and Government Affairs Leader
Dow AgroSciences LLC*

From: Oliver, George (GR)
Sent: Tuesday, February 28, 2012 8:24 AM
To: Jachetta, John
Subject: emails for David Shaw

John,
David Shaw's comments to the docket were excellent. Do you think he would be willing to send them to the following (identified by Constance and Brad)

Secretary Tom Vilsack - agsec@usda.gov
Deputy Under Secretary Rebecca Blue - rebecca.blue@osec.usda.gov
Administrator Gregory Parham - gregory.1.parham@aphis.usda.gov
Deputy Administrator Michael Gregoire - Michael.C.Gregoire@aphis.usda.gov

From: Shaw, David
Sent: Monday, July 30, 2012 5:00 PM
To: MILLS, ANTHONY (AG/1000)
Subject: Re: Public Comment Period - Dicamba Support
Attachments: IMAGE.jpeg

Got it. I'll be happy to write a letter for this.

David

>>> "MILLS, ANTHONY (AG/1000)" <anthony.mills@monsanto.com> 7/30/2012 3:53 PM >>>
David,

Sorry I missed your call. Hope things are going well for you and your family.

Thanks for agreeing to write a support letter for Dicamba. The attached flyer has the details including the docket number and website for submitting online if you choose to do so.

I know you will write about several of the benefits associated with Dicamba technology but we would like you to specifically mention the following in your letter:

Sustainability: RR2 Xtend soybean system will enable implementation of weed resistance mgmt practices to delay/prevent resistance to glyphosate, dicamba and important soybean herbicides

Low potential for resistance to develop to dicamba or the evolution of weeds with multiple resistance (add references to support low potential for auxin). Dicamba used in a herbicide program with glyphosate and soil residuals

If you have questions let me know. Thanks again for your support.

Anthony

Anthony Mills, Ph.D.
Technology Development Representative
anthonyv.mills@monsanto.com
(662) 719-5258 - cell
(901) 854-9998 - FAX



Pending Regulatory Approval

*APPLICATION REQUIREMENTS

New System & Labels Will Increase Application Accuracy
Compared to Older Products and Uses

Product Examples

Roundup Xtend, XtendiMax

New Low Volatility Formulation

YES

Nozzle (Droplet)

Coarse - Ultra Coarse

Wind Speed

10 mph or less

Boom Height

20" above canopy

Buffer

Maintain the
required label buffer to
protect sensitive areas

Drift Reduction Agent

Should be used

Gallons Per Acre

At least 10 gpa

Tank Clean Out

Triple rinse

Ground Speed

Less than 15 mph

Sensitive Crop Registries

DriftWatch and others

Weed Timing

Spray < 4" weeds

Weed Resistant Management

Use residual herbicides
visit RoundupReadyPLUS.com

****Monsanto will not authorize the use of any herbicide product containing the active ingredients in final form dimethylamine salt (DMA) of dicamba and/or dicamba acid in the Roundup Ready Xtend Crop System.**

Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Commercial product(s) has been approved for import into key export markets with functioning regulatory systems. Any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Biotechnology Industry Organization.

Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. Monsanto's dicamba tolerant soybean product is currently in Phase IV of Monsanto's R&D pipeline. Dicamba formulations and premixes discussed herein are in various phases of development in Monsanto's R&D pipeline. Dicamba is not currently registered for over the top use on soybeans. It is a violation of federal law to use a pesticide in a manner inconsistent with its label.

Roundup Technology® includes Monsanto's glyphosate-based herbicide technologies.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Roundup® brand agricultural herbicides will kill crops that are not tolerant to glyphosate. Genuity and Design®, Genuity Icons, Genuity®, Monsanto and Vine Design®, Roundup Ready 2 Yield®, Roundup ReadyPLUS™, Roundup Ready®, Roundup Technology®, Roundup WeatherMAX®, and Roundup® are trademarks of Monsanto Technology LLC. All other trademarks are the property of their respective owners. ©2012 Monsanto Company.

***Anticipated application requirements pending final label approval. This information is current as of July 2012.**

July 2012

Pending Regulatory Approval

ROUNDUP READY® XTEND
CROP SYSTEM

*APPLICATION REQUIREMENTS



Designed to provide more consistent, flexible control of weeds, especially tough-to-manage and glyphosate-resistant weeds, to maximize crop yield potential. This advanced system from Roundup Ready PLUS™ Weed Management Solutions coming soon, pending regulatory approval.

Designed to:

- ▶ Xtend your control of resistant and tough weeds with a dual-mode-of-action herbicide
- ▶ Xtend your yield potential with the Roundup Ready 2 Xtend soybean trait
- ▶ Xtend your application and planting flexibility with this innovative system
- ▶ Broaden weed control with Roundup Xtend for Roundup Ready Xtend crops
- ▶ Xtend your window for post applications and realize enhanced residual benefits

LOW VOLATILITY FORMULATIONS COMING SOON FROM MONSANTO:

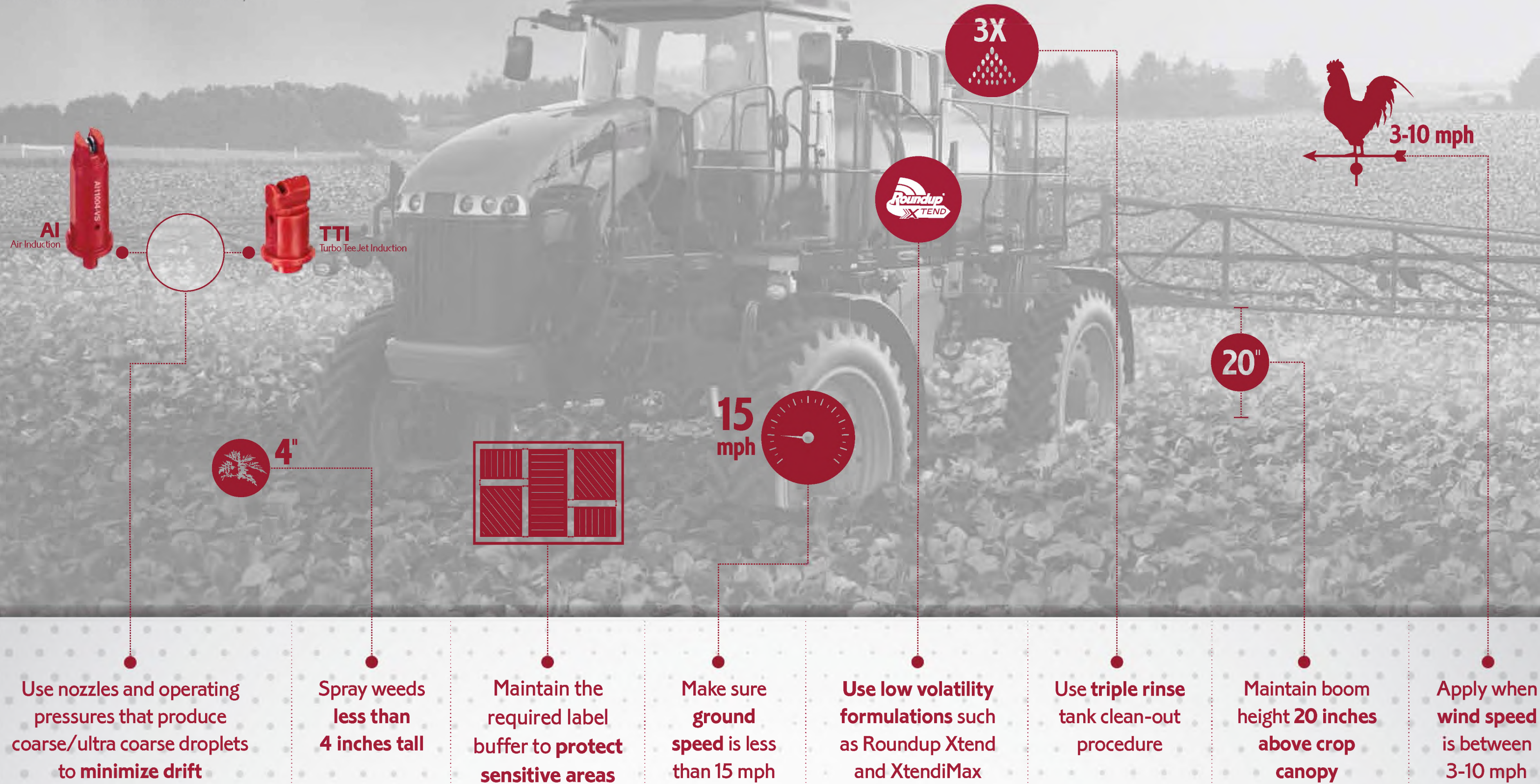
Roundup® Xtend

XtendiMax™

***Anticipated application requirements pending final label approval. This information is current as of July 2012.**

“Applicators have the tools & responsibility to manage drift. The Roundup Ready® Xtend Crop System is developed around application methods proven to increase on target application.”

Dr. Robert E. Wolf, Application Technology Specialist, Consultant and Professor Emeritus at Kansas State University



Always read and follow label directions
Pending Regulatory Approval

SUPPORT FARMERS' CHOICE TO ACCESS NEW TECHNOLOGIES

WEIGH IN ON ROUNDUP READY® 2 XTEND SOYBEANS

WEIGH IN WITH THE
USDA

YOUR INPUT MATTERS

SEE PAGE 2 FOR INSTRUCTIONS
ON HOW TO BE HEARD.



YOUR ACTION IS NEEDED

As a member of the U.S. agricultural community, it is very important that you weigh in with the U.S. Department of Agriculture (USDA) on giving farmers the choice to plant soybeans developed to tolerate dicamba.

When commercialized, the dicamba tolerance trait will be combined with Roundup Ready 2 Yield® to form Roundup Ready® 2 Xtend Soybeans. This technology is designed to provide greater flexibility, simplicity and crop safety in controlling tough weeds and maximize yield opportunity.

The USDA is now accepting public comments on Monsanto's petition to deregulate dicamba-tolerant soybeans (event MON87708). These comments will help determine if farmers will have the choice to use this new technology that meets an important need in weed control options for soybean farmers.

IT'S CRITICAL FOR YOU TO BE HEARD

- Farmers should have the choice to use safe and valuable new agricultural technologies to increase yields and keep their farms profitable.
- Farmers need multiple mode-of-action weed management tools. Dicamba tolerance would be a valuable addition to the existing soybean weed control options to maximize yield potential.
- Dicamba has been used in crops for many decades in the U.S. and continues to be effective on major broadleaf weeds.
- The availability of new and effective soybean production tools is vital to maintaining the health of sectors beyond the farm, including the U.S. soybean processing and feed industries and the growing U.S. soybean export markets.
- Farmers have proven they are able to use different application techniques and equipment for different types of pesticides to ensure proper performance of the product as well as on target application. These include, but are not limited to, application techniques, equipment settings, nozzle selection and consideration of environmental conditions during application, such as wind speed.
- It is important that USDA follow through on its commitment to U.S. farmers to conduct timely, science-based reviews of new technologies, such as dicamba-tolerant soybeans. This is necessary to support innovation and access to technology that keeps U.S. agriculture productive, sustainable and globally competitive.

MONSANTO



SUBMIT YOUR COMMENT

YOUR INPUT MATTERS



The USDA considers public input in the decision-making process. Supportive letters are important to be sure regulators understand the various perspectives from rural America and agricultural industries. We also anticipate these comments will play a valuable role in countering the campaigns waged by groups and individuals who are in vocal opposition to biotech. Letters should be unique as the USDA counts multiple form letters as a single comment. You can review Monsanto's petition to USDA to deregulate soybeans (event MON87708) at http://www.aphis.usda.gov/brs/aphisdocs/10_18801p.pdf.



ONLINE INSTRUCTIONS

- You can develop an online comment at: www.roundupreadyplus.com/supportdicamba
- Complete the form provided on the Submit a Comment page: <http://www.regulations.gov/#!submitComment;D=APHIS-2012-0047-0001>
- You can type in your comment, but you are limited to 2,000 characters.
- If you have a longer comment, you can attach it as a file.
- Be sure to preview your comment for accuracy.
- Once you have completed the form, typed or attached your comment, and reviewed it, you are ready to submit your comment.

MAILING INSTRUCTIONS

- Submit your comment on your farm, organization or company letterhead.
- Be sure to state the docket number in the subject line – Docket No. APHIS-2012-0047.
- Please mail your letter before September 3, 2012 to be sure it arrives in time to be considered.
- The deadline for all comments to be received by USDA is September 11, 2012.
- Mail your letter to:
Docket No. APHIS—2012—0047
Regulatory Analysis and Development
PPD, APHIS, Station 3A—03.8
4700 River Road Unit 118
Riverdale, MD 20737-1238

BE SURE TO INCLUDE:

- Your name.
- Your city, state and country.
- A date within the public comment period – between July 13 and September 11, 2012 (or September 3, if mailing the comment).
- Please state that your comment refers to Docket No. APHIS-2012-0047.
- Sample comment:

“I support full deregulation of dicamba-tolerant soybeans because they will....”

Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. This product has not yet been approved for import into key export markets with functioning regulatory systems and is not available for sale. Once available, any crop or material produced from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where import is not permitted. At such time as the product is for sale, growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Biotechnology Industry Organization.

Commercialization is dependent on multiple factors, including successful conclusion of the regulatory process. The information presented herein is provided for educational purposes only, and is not and shall not be construed as an offer to sell, or a recommendation to use, any unregistered pesticide for any purpose whatsoever. It is a violation of federal law to promote or offer to sell an unregistered pesticide.

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS. Roundup Ready® crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Roundup® brand agricultural herbicides will kill crops that are not tolerant to glyphosate. Tank mixtures: The applicable labeling for each product must be in the possession of the user at the time of application. Follow applicable use instructions, including application rates, precautions and restrictions of each product used in the tank mixture. Monsanto has not tested all tank mix product formulations for compatibility or performance other than specifically listed by brand name. Always predetermine the compatibility of tank mixtures by mixing small proportional quantities in advance. Genuity and Design®, Genuity Icons, Roundup Ready 2 Yield®, Roundup Ready PLUS™, Roundup Ready®, and Roundup® are trademarks of Monsanto Technology LLC. Banvel® and Clarity® are trademarks of BASF Corporation. All other trademarks are the property of their respective owners.

From: MD <MDSwarn@dow.com>
Sent: Tuesday, August 14, 2012 1:29 PM
To: Shaw, David; Jachetta, John
Subject: RE: Enlist Soybean Comments

Mr. Shaw,

Thank you for your Comment Letter regarding Enlist 2,4-D Tolerant Soybeans. Your comments have been submitted to the USDA on your behalf. And as John and I mentioned previously, your letter was very well written and we at Dow AgroSciences appreciate you taking time to prepare it.

Kindest Regards,

Michele D. Swarn

Sr. Office Professional
Global Biotech RSGA
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

317-337-4383 (Business)
317-337-4649 (Fax)
✉ mdswarn@dow.com

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From: David Shaw [<mailto:DShaw@research.msstate.edu>]
Sent: Tuesday, August 14, 2012 12:31 PM
To: Jachetta, John; Swarn, Michele (MD)
Subject: RE: Enlist Soybean Comments

Thanks, Michele. I appreciate your assistance.

David

David R. Shaw, Vice President
Research and Economic Development
Mississippi State University
617 Allen Hall
Mississippi State, MS 39762
662/325-3570
Fax: 662/325-8028
dshaw@research.msstate.edu

>>> "Swarn, Michele (MD)" <MDSwarn@dow.com> 8/14/2012 9:54 AM >>>

John,

I will submit comments for Mr. Shaw to both dockets on his behalf. And yes, I agree it was a great letter!

Michele D. Swarn

Sr. Office Professional
Global Biotech RSGA
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

317-337-4383 (Business)
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From: Jachetta, John
Sent: Tuesday, August 14, 2012 10:46 AM
To: David Shaw (dshaw@research.msstate.edu)
Cc: Swarn, Michele (MD)
Subject: RE: Enlist Soybean Comments

Hi David,

Just a quick question... did you submit your letter to the docket already or did you want us to submit it on your behalf? This was a really great letter!

Thanks again!

John

*John J. Jachetta, Ph.D.
Regulatory Sciences and Government Affairs Leader
Dow AgroSciences LLC*

From: Jachetta, John
Sent: Tuesday, August 14, 2012 10:30 AM
To: 'David Shaw'; Swarn, Michele (MD)
Subject: RE: Enlist Soybean Comments

Hi David

A very well crafted strong-and-to-the point letter! Thanks David, great job just as I expected!

You remain my hero!

Kind Regards,

John

*John J. Jachetta, Ph.D.
Regulatory Sciences and Government Affairs Leader
Dow AgroSciences LLC*

From: David Shaw [<mailto:DShaw@research.msstate.edu>]
Sent: Monday, August 13, 2012 7:35 PM
To: Swarn, Michele (MD)
Cc: Jachetta, John; David Shaw
Subject: Enlist Soybean Comments

Attached is my letter for submission to EPA as comments on the Enlist soybean technology.

Best regards,

David

David R. Shaw, Vice President
Research and Economic Development
Mississippi State University
617 Allen Hall

From: AG/1000 <john.k.soteres@monsanto.com>
Sent: Friday, May 24, 2013 4:08 PM
To: Shaw, David
Subject: Dicamba EIS
Attachments: Dicamba EIS_Academic Group Letter.docx

David, thanks so much for agreeing to work on this. It is certainly important to Monsanto that dicamba tolerant crops be approved as quickly as possible but I truly believe it also critically important to crop production in this country.

Attached is a really rough beginnings of a letter. The underlined parts are the key concepts I wanted to include. I wanted to get this out to you now since you are leaving in the morning.

Have a safe trip and talk to you when you get back.

John

From: AG/1000 <john.k.soteres@monsanto.com>
Sent: Tuesday, May 28, 2013 10:33 AM
To: _mdowen@iastate.edu_
Cc: Shaw, David
Subject: Dicamba EIS
Attachments: Dicamba EIS_Academic Group Letter.docx

Mike, do you have time for a call this afternoon? I would like to ask your help in organizing a letter to be submitted during the dicamba EIS comment period. I talked to David S. about this last Friday before he left for India and would like to discuss the same with you. With David I discussed the possibility of getting a statement from WSSA and asking his help in facilitating a letter signed by multiple academics speaking to some of the key points that those opposed to dicamba, 2,4D or any other biotech derived herbicide tolerant technology have raised. I wanted to ask you and David to help with the latter. Getting something from WSSA would be more general than the group letter I envision. I also recognize that the WSSA angle is very much a long shot.

Attached are my thoughts on issues that could be covered in a group letter. If you are at all interested and feel comfortable helping with this let's discuss which of these points could and which should not be included in such a letter. This letter, of course, would be written in the words you and David feel comfortable with. I provide prose since it is the easiest way for me to provide my thoughts on which issues would be most important to cover with USDA. Right now USDA hears a lot from the anti's but not as much from others. They are also well organized.

Well, would you have some time to talk about this? I am open any time between 1 and 3 PM and again from 4 to 5 PM.

Thanks,
John

To: USDA APHIS

From: (15-25 leading weed scientists or WSSA)

We the undersigned offer the following comments regarding the de-regulation of dicamba tolerant soybean and cotton and the associated use of dicamba in a diversified weed management program.

Using the tools of biotechnology to transform a crop which allows the safe use of a herbicide normally lethal to the crop is an important technology to provided new weed management tools to farmers in order to most effectively manage weeds for the purposes of optimizing yields and economics, mitigate the potential for herbicide resistance ,and to preserve environmental benefits that herbicides offer in the form of facilitating the use of conservation tillage practices. The evolution and spread of weed populations resistant to one or more herbicides used in soybeans and cotton is a significant threat to future productivity in these crops and to the continued growth of conservation tillage practices. We are managing the situation today for glyphosate resistant weeds but in so doing significant selection pressure is being put on certain chemistries (i.e. PPO, HPPD and glufosinate) that are effective against the key broadleaf species with widespread resistance to glyphosate and ALS chemistries (i.e. *Amarathus* spp., and *Conyza* spp.). We need more herbicide options to manage these species and to preserve the utility of the remaining options. The ability to safely use dicamba in both soybeans and cotton, in part, fills this need. Dicamba is effective on the subject weeds, provides complementary postemergence activity to glyphosate on all key broadleaf weeds, adds to the consistency of residual control of other residual herbicides that would be used in the system and will have an excellent safety profile due to the inserted gene. The ability to use dicamba as part of a diversified weed management programs is not just a nice to have but rather is a must have. There are no new modes of action on the horizon and we must have more options for which biotechnology can provide options that fill critical holes. There is also a timing component that USDA must consider. For dicamba to be most effective in filling this critical need, we need it without any undue delay and, indeed, would ask that it's review be expedited. We can't afford to wait for resistance to evolve and further spread to our existing herbicide options before offering this tool to farmers. Delayed launch of dicamba could decrease the options and thus the ability for farmers to combine dicamba with other herbicides in way to deliver multiple modes of action effective on key targeted weeds. This would negatively impact the ability to mitigate potential evolution of resistance to dicamba.

The myriad of factors driving the evolution of herbicide resistant weeds in crop production make its management incredibly complex. Weed resistance management is a function of managing the practices and the herbicides available for weed management in a particular crop. As such it is not a plant biotechnology issue. Likewise, weed management is ultimately the responsibility of farmers and farm advisors and require that the weed science community, including industry, academics, crop commodity groups and others who reach out to farmers, implement robust and effective stewardship programs espousing the basic principles of good weed management and encouraging adoption of these practices. By so doing resistance to our herbicide resources and new options such as dicamba will be minimized. Also it should be noted that resistance to dicamba represents no more a threat to ag production than resistance to other critical herbicides and the likelihood that it will be used in a manner consistent with

best management practices is good. Research indicates that dicamba best fits in a fully diversified program and such a program is particularly important when glyphosate resistant palmer pigweed and waterhemp are the targets. Stacking dicamba tolerance with that of glyphosate, glufosinate, and other herbicide tolerant traits will further facilitate the use of dicamba in a diversified program. Stacking herbicide traits does not in itself promote the evolution of resistance to more than one herbicides since just as for individual herbicides the evolution of resistance is a function of how the herbicides are used rather than a function of the selectivity of the crop to multiple herbicides.

The ability of farmers to use dicamba in diversified weed management programs in soybeans and cotton is not expected to significantly change current farming practices. It will provide a valuable new postemergence option that will allow farmers to most effectively manage their weeds in conservation tillage practices even in the presence of glyphosate resistant populations. Farmers have clearly shown a preference for postemergence weed control in conservation tillage systems and dicamba be an important part of this system.

In closing we urge USDA to expedite the necessary reviews leading to final approval of dicamba tolerant soybeans and cotton. In the area of weed management we must have new herbicides or new/expanded uses of existing herbicides in order to mitigate resistance and thus to meet our current and future crop production needs. Dicamba is not the only answer to the issues we face but it is an important one.

From: AG/1000 <john.k.soteres@monsanto.com>
Sent: Thursday, May 30, 2013 8:17 AM
To: Shaw, David;Owen, Micheal D [AGRON]
Subject: dicamba EIS

Would you guys have 15 to 30 minutes on Wednesday June 5th for a call to discuss the current situation around a possible WSSA response and the possibility of still organizing a group letter during the present USDA comment period. I am open to any time that would work for you.

I want to thank you both of helping on this. It is certainly important to Monsanto but also to further development of new herbicide options and the speed with which these options become available.

John

From: AG/1000 <john.k.soteres@monsanto.com>
Sent: Thursday, June 06, 2013 3:30 PM
To: Owen, Micheal D [AGRON]
Cc: Shaw, David
Subject: Dicamba EIS
Attachments: Freese letter to EPA 2012.pdf; Jaffe Letter-to-EPA-Feb-4.pdf; food and water watch 0320.pdf; J Egan Penn State DTS USDA.pdf; Mortensen et al. 2012. Navigating a critical juncture for sustainable weed management(2).pdf

Mike, attached are 5 significant public letters/papers presented by those opposed to dicamba (auxin) tolerant crops. I highlighted sections in each and summarize some of the main points in each as follows. There are a few other negative letters but they do not deal specifically with herbicide use/resistance.

I hope this helps your efforts. I look forward to hearing your perspective after reviewing this material. Also, as you continue to develop your outline please keep in mind there are a few issues specific to USDA's Notice that I included as suggested topics, i.e. impact of use of dicamba on current farming practices.

John

Food and Water Watch letter to APHIS, Sept 11, 2012

- Urged USDA to conduct EIS
- "Herbicide resistant crops will continue to spur weed resistance." In short HT crops are the problem.
- "Approving the crops in the USDA pipeline..... will only worsen this problem."
- In general, it appears their argument is that these new herbicide approvals are "not sustainable solutions to the problem of resistant weeds"....

Egan letter to USDA, 2012

- Urged USDA to conduct EIS
- Dicamba crops will lead to overuse of dicamba and outbreak of auxin resistant weeds.
- Urge delay in deregulation until policy for regulation and management of herbicide resistance has been developed.
- Use of DT soybeans "will thwart the evolution of sustainable integrated weed management systems".
- Use of DT crops will "encourage simple, non-integrated weed management systems...".

Freese letter to EPA, 2013

- "HR crops systems promote more rapid evolution of resistant weeds than do other (non-HR crop) uses of the pertinent herbicides."
- "It is highly doubtful whether any voluntary stewardship plan for DT cotton would be effective in forestalling weed resistance to dicamba."
- In general, Freese 's approach was to dispute all Monsanto claims.
- Calls for mandatory weed resistance plans.
- HR crops do not drive increased use of conservation tillage systems
- Monsanto and Dow are falsely hyping auxin tolerant crops as solutions

Jaffe Letter to EPA, 2012

- Overall, Jaffe argued for mandated regulations
- Without EPA involvement farmers are not likely to carry out integrated weed management

Mortensen et al, paper published 2012

- Argues that multiple resistance is likely with stacked HT crops.
- Argues for regulatory mandated herbicide use restrictions.

From: Shaw, David
Sent: Friday, June 21, 2013 2:21 AM
To: john.k.soteres@monsanto.com
Cc: mdowen@iastate.edu; rhonda.m.mannion@monsanto.com
Subject: Re: USDA Virtual meetings on dicamba/2,4-D EIS

John,

I will call in to the first one.

David R. Shaw
Vice President for Research and Economic Development
Mississippi State University
662-325-3570
dshaw@research.msstate.edu

On Jun 20, 2013, at 2:56 PM, "SOTERES, JOHN K (AG/1000)" <john.k.soteres@monsanto.com> wrote:

David/Mike, another ask for help....

USDA is setting up two virtual meetings to solicit verbal input on the dicamba and 2,4 D EISs. Our Regulatory Affairs and Government Affairs groups feel it is important that USDA hear from folks like you on the key issues since there is a high probability that many negative voices will be heard during these calls. Your voice not only count from the standpoint of presenting scientifically based viewpoints but also to a degree from a numbers standpoint. We feel that Vilsack and his management team are paying as much attention to the optics of this as to the technical issues / merits. In a way this boils down to a numbers game which means we can't just sit back and let the opposition dominate the conversation. Thus another request for help.

Would one or both of you be available for one of these calls and offer comments along the lines of the talking points I had sent earlier (or ones you feel comfortable making)?

I summarize the main points to consider offering as follows; (1) importance of dicamba and, in general, biotech solutions (single trait and stacked) to address the growing needs relative to herbicide resistance in the US, (2) the need for USDA to act expeditiously to provide these tools for managing resistance, (3) resistance is not a plant biotech issue but rather a herbicide issues, and (4) need for dicamba to preserve the gains made in expanding use of conservation tillage. In addition to these, that we had previously discussed, please also consider offering points about the risk of resistance to dicamba. Possible talking points here could include; (1) because of the activity of dicamba it will most often be used in weed management systems that include other herbicides (residual and postemergence) that have complementary and overlapping activity, (2) past history indicates that probability for presence of resistance alleles in most weed species is low and (3) the combination of these two factors suggests that the risk of resistance is low without implying that the risk is non existence.

I hate to keep asking for your time on this stuff but it is important to not only these technologies but to an overall effort to educate USDA on the issues. Call in information is provided by Rhonda below. If you

don't feel comfortable doing this or have conflicts please let me know. Either way I / we appreciate your involvement in other ways.

Thanks for your consideration of this.

John

From: MANNION, RHONDA M [AG/1000]
Sent: Wednesday, June 19, 2013 4:58 PM
To: SOTERES, JOHN K [AG/1000]
Subject: USDA Virtual meetings on dicamba/2,4-D EIS

John,

The information on the virtual meetings for the Dicamba/2,4-D NOI can be found using the below link. There are two meetings options to choose from:

June 26 7-9pm ET
June 27 4-6 pm ET

APHIS has only done one other virtual meeting, cold tolerant eucalyptus, and the virtual meeting was held open only for an hour due to lack of activity. Plus I believe they do a query at the beginning on who wishes to comment so need to be on the call at the start.

You can register directly through the website, it's very easy. It requires you to download Microsoft Office Live meeting but it is free.

<http://www.aphisvirtualmeetings.com/participate.html>

Rhonda

Biotech Regulatory Affairs Manager
Monsanto Company
Telephone: 314-694-8785
Mobile: 314-452-0475

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From: AG/1000 <john.k.soteres@monsanto.com>
Sent: Wednesday, June 26, 2013 9:20 PM
To: Shaw, David
Cc: mdowen@iastate.edu
Subject: RE: Dicamba EIS call

So pretty much a non-event. I think I owe you a really good steak for this one. Mike, I bet you can't wait for tomorrow's call. Well, at least it will be a really short call.

Thanks David,
John

From: David Shaw [<mailto:DSHaw@research.msstate.edu>]
Sent: Wednesday, June 26, 2013 8:08 PM
To: SOTERES, JOHN K [AG/1000]
Cc: mdowen@iastate.edu
Subject: Re: Dicamba EIS call

Interesting, somewhat. Two people spoke before I did, and both were growers. The first read a prepared statement that he obviously didn't write. The second was on the board for the soybean association. Both were strongly in favor of the technology. I was the third speaker. After a long period of silence the first speaker came back on and said a few more things. After listening to music for another 30 minutes I got off.

David R. Shaw
Vice President for Research and Economic Development
Mississippi State University
662-325-3570
dshaw@research.msstate.edu

On Jun 26, 2013, at 7:38 PM, "SOTERES, JOHN K (AG/1000)" <john.k.soteres@monsanto.com> wrote:

David, how did the USDA call go tonight. I could not call in. Anything interesting?

Thanks again for doing this.

John

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From: SACHS, ERIC S (AG/1000) <eric.s.sachs@monsanto.com>
Sent time: 08/08/2013 12:06:46 AM
Prabhu Pengali (pip39@cornell.edu) <pip39@cornell.edu>; Nicholas Kalaitzandonakes (KalaitzandonakesN@missouri.edu)
To: <KalaitzandonakesN@missouri.edu>; David Shaw (DSHaw@research.msstate.edu) <DSHaw@research.msstate.edu>; Roger Beachy
<rbeachy@biology2.wustl.edu>; Jume, Celestous <celestous_juma@harvard.edu>; Carl E. Pray <pray@AESOP.Rutgers.edu>; Phillips, Peter
<peter.phillips@usask.ca>; Folta, Kevin M.; Tony Shelton <ams5@cornell.edu>
Cc: SACHS, ERIC S (AG/1000) <eric.s.sachs@monsanto.com>; Beth Anne Mumford <bethannem@cmebuildtrust.com>
Subject: Invitation to Author a Policy Brief in the Series "Perspectives on Science Matters"

All,

As some of you know based on initial contacts, I have started an important project to produce a series of short policy briefs on important topics in the agricultural biotechnology arena called "Perspectives on Science Matters." Based on initial feedback, I decided to reach out to all of you collectively. I understand and appreciate that you need me to be completely transparent and I am keenly aware that your independence and reputations must be protected. I hope after reviewing this message you will support the vision and agree to author one of the briefs. Prospective authors and topics are listed below.

Individually and collectively the topics were selected because of their influence on public policy, GM crop regulation and consumer acceptance. The specific goal is to frame some of the important issues facing biotechnology with reasoned thoughtful messages in a way that helps thought leaders and influencers to better appreciate the growing body of knowledge available on the safety and benefits of GM crops. The broader goal is to elevate the public dialogue and public policy discussion from its current over-emphasis on perceived risks toward a broader understanding of the societal benefits of GM crops and needed improvement in policies that are unnecessarily limiting innovation in the biotechnology arena.

I am convinced that this initiative to publish and promote seven policy briefs on agricultural biotechnology will spark new opportunities for outreach and engagement with policy makers and consumers. The key to success is participation by all of you - recognized experts and leaders with the knowledge, reputation and communication experience needed to communicate authoritatively to the target groups. You represent an elite group whose credibility will be strengthened by working together. Naturally, if you would like to add a co-author that is entirely up to you and welcome.

To ensure that the policy briefs have the greatest impact, the American Council for Science & Health is partnering with CMA Consulting to drive the project. The completed policy briefs will be offered on the ACSH web site. The series of briefs as envisioned will facilitate policy maker engagement and serve as a basis for supplemental knowledge mobilization to a range of audiences. Both ACSH and CMA have expertise to leverage experts, knowledge and key messages to serve the project goals. CMA Consulting will manage the process of producing the policy briefs. This is an important element because Monsanto wants the authors to communicate freely without involvement by Monsanto. As the process develops, CMA and ACSH will coordinate web site posting and promotion. CMA and ACSH also will merchandize the policy briefs, including development of media-specific materials, such as op-eds, blog postings, speaking engagements, events, webinars, etc.

The briefs will cover a range of important topics and themes. Some background is included below but this is only a suggestion. As the author, you will know how to best approach the topic and are free to do so in your own way.

• Meeting World Challenges

Carl Pray and Prabhu Pengali

Background: Explore the ways in which the use of GM crops and foods can help to address many of the world's most pressing challenges and improve the global standard of living today and for future generations. Specifically, discuss how GM technology helps address key policy concerns, such as shrinking agricultural resources (land, water), food security, food affordability and environmental sustainability. In addition, provide an overview of the challenges inherent in farming and how GM technology addresses these challenges by providing farmers with beneficial tools for on-farm management.

- **Stifling Innovation**

Peter Phillips

Background: Discuss how over burdensome regulation of GM crops and food stifles the innovation and technological advancements important for helping support global food security and improve overall quality of life. Consider the limitations to innovation and advancements in GM technology that results from a regulatory process that dismisses positive scientific conclusions and assumes molecular modification techniques carry a higher risk than other techniques used to generate new crop varieties.

- **Holding Activists Accountable**

Kevin Folta

Background: Demonstrate how activist's messages and tactics regarding Genetically Modified (GM) crops and plant biotechnology undermine worldwide efforts to ensure a safe, nutritious, plentiful and affordable food supply using responsible and sustainable agricultural practices. Provide examples of activist campaigns that spread false information that goes unchallenged and results in further erosion of the public's confidence in agricultural innovation. Detail how the impact of these efforts if not challenged ultimately would limit consumer choice, increase food prices, decrease farmer viability, and undermine global food security.

- **GM Crop Safety**

Roger Beachy

Background: Address consumer and policy-maker concerns that GM crops and foods are not adequately tested for safety compared to other crop and food products approved for human consumption. Explain early GM crop evaluation, event selection, equivalence characterization and product safety assessment through each step of development and regulatory assessment; and detail how this comprehensive process meets the same stringent scientific and regulatory standards developed for other crop and food products.

- **Consequences of Rejecting GM Crops**

Calestous Juma

Background: Explore the issues and consequences within both developed and developing countries that lead to rejection of or barriers to adoption of GM crop and food technology at the farmer, consumer and regulatory level. Understand the combination of issues; including consumer and political resistance, food safety and public health fears, concerns about biodiversity and biological safety, restrictive regulation, and lack of information (or existence of misinformation) about intellectual property rights that create barriers to GM acceptance. Detail the consequences, including impacts on yield, household income, food security and social impacts, as well as on pesticide use, health risks from pesticide exposure and on biodiversity that result.

- **Sustainable Crop Systems**

Tony Shelton and David Shaw

Background: Detail how GM crop technology provides farmers with safe, efficient and effective tools to manage crop pests (insects/weeds/disease), delivers environmental benefits, increases yields and improves productivity. Specifically discuss the use of GM crops containing herbicide tolerant (HT) and insect resistance (IR) traits and the risk versus benefit of their use. In addition, detail how educational outreach and a focus on responsible use can address public concerns about plant resistance and the environmental/eco-system impacts of GM crop technology.

- **Responsible Choice**

?

Background: Explore the competing issues inherent in crop production used for food versus crop production used for fuel and highlight the role GM crop technology can play in ensuring we can adequately increase production and balance our needs for food, feed, fiber and fuel.

Your role would be to write a short brief aimed at a broad audience, including academics, opinion leaders, policy-makers, regulators and other influencers. Each brief should be about 4-6 pages in length and include key themes and messages related to the specific topic, recommendations, and a call to action. The briefs will serve as the foundation for further outreach and engagement to extended audiences and the broader public via supplemental media platforms, including allied organizations web sites, blogs and social media. Be assured that nothing will ever be distributed under your authorship unless you have approved the contents and use in its entirety.

I have copied Beth Anne Mumford of CMA (www.cmabuildtrust.com) because she and her colleagues that have been working on this initiative. Please feel free to contact Beth Anne if you continue to have questions. Of course you can contact me as well but I need to step aside so that I don't compromise the project.

This will be an important project and is designed to lead to increased engagement on critical topics that are barriers to broader use and acceptance of GM crops globally. You are the best possible messengers and I hope you will make time to participate.

Warm Regards,

Eric

Eric Sachs
Regulatory Policy & Scientific Affairs
Desk: (314) 694-1709
Mobile: (314) 637-7650
Eric.S.Sachs@monsanto.com

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From: David Shaw <DShaw@research.msstate.edu>
Sent time: 08/09/2013 10:59:21 PM
Prabhu Pengali (plp39@cornell.edu) <plp39@cornell.edu>; Nicholas Kalaitzandonakes(KalaitzandonakesN@missouri.edu)
To: <KalaitzandonakesN@missouri.edu>; Carl E. Pray <pray@AESOP.Rutgers.edu>; Roger Beachy <rbeachy@biology2.wustl.edu>; Tony Shelton
<ams5@cornell.edu>; Calestous' Juma <calestous_juma@harvard.edu>; ERIC S (AG/1000) SACHS <eric.s.sachs@monsanto.com>; Folta, Kevin
M.; Peter' Phillips <peter.phillips@usask.ca>
Cc: Beth Anne Mumford <bethannem@cinabuildstrust.com>
Subject: Re: Invitation to Author a Policy Brief in the Series "Perspectives on Science Matters"

Thanks for organizing this, Eric. I'm definitely interested.

David

David R. Shaw
Vice President for Research
and Economic Development
Mississippi State University
Box 6343
Mississippi State, MS 39762
662/325-3570
FAX: 662/325-8028
dshaw@research.msstate.edu

>>> "SACHS, ERIC S (AG/1000)" <eric.s.sachs@monsanto.com> 8/7/2013 11:06 PM >>>

All,

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Individually and collectively the topics were selected because of their influence on public policy, GM crop regulation and consumer acceptance. The specific goal is to frame some of the important issues facing biotechnology with reasoned thoughtful messages in a way that helps thought leaders and influencers to better appreciate the growing body of knowledge available on the safety and benefits of GM crops. The broader goal is to elevate the public dialogue and public policy discussion from its current over-emphasis on perceived risks toward a broader understanding of the societal benefits of GM crops and needed improvement in policies that are unnecessarily limiting innovation in the biotechnology arena.

I am convinced that this initiative to publish and promote seven policy briefs on agricultural biotechnology will spark new opportunities for outreach and engagement with policy makers and consumers. The key to success is participation by all of you - recognized experts and leaders with the knowledge, reputation and communication experience needed to communicate authoritatively to the target groups. You represent an elite group whose credibility will be strengthened by working together. Naturally, if you would like to add a co-author that is entirely up to you and welcome.

To ensure that the policy briefs have the greatest impact, the American Council for Science & Health is partnering with CMA Consulting to drive the project. The completed policy briefs will be offered on the ACSH web site. The series of briefs as envisioned will facilitate policy maker engagement and serve as a basis for supplemental knowledge mobilization to a range of audiences. Both ACSH and CMA have expertise to leverage experts, knowledge and key messages to serve the project goals. CMA Consulting will manage the process of producing the policy briefs. This is an important element because Monsanto wants

— GMO — BEYOND THE SCIENCE

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Anthony Shelton & David Shaw | December 2, 2014 | Cornell University Mississippi State University



Genetic Literacy Project Special Report: GMO: Beyond the Science

Jon Entine | December 2, 2014 | Genetic Literacy Project

From: Shaw, David
Sent: Monday, June 15, 2015 12:40 PM
To: Walton, Larry (L)
Subject: RE: USDA Comment Period for Enlist Cotton Traits
Attachments: EPA Letter Dicamba 2015.docx

Well, duh. Sorry about that – working on it with one thought in mind, meaning the other! Here's the revised letter. Do you want me to submit or do you want to?

David

David R. Shaw, Vice President
Research and Economic Development
Mississippi State University
3001 Lee Hall
Mississippi State, MS 39762
662/325-3570
Fax: 662/325-8028
dshaw@research.msstate.edu

From: Walton, Larry (L) [<mailto:LWalton@dow.com>]
Sent: Sunday, June 14, 2015 6:33 AM
To: Shaw, David
Subject: RE: USDA Comment Period for Enlist Cotton Traits

Thanks so much for your letter David. One comment that I do have is to switch dicamba to 2,4-D tolerant (Enlist cotton traits) soybeans and cotton. You mention dicamba a few times in paragraphs under BMP. Since this is a comment period for Enlist Traits, this would be very beneficial.

Thanks again David.

From: Shaw, David [<mailto:DShaw@research.msstate.edu>]
Sent: Saturday, June 13, 2015 1:29 PM
To: Walton, Larry (L)
Cc: Shaw, David
Subject: RE: USDA Comment Period for Enlist Cotton Traits

Larry,

Take a look at the attached and let me know what you think.

David

David R. Shaw, Vice President
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Mississippi State University

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Fax: 662/325-8028
dshaw@research.msstate.edu

From: Walton, Larry (L) [<mailto:LWalton@dow.com>]
Sent: Thursday, June 11, 2015 5:14 AM
To: Shaw, David
Subject: USDA Comment Period for Enlist Cotton Traits

Hi David, First let me ask you if are planning on attending the MAIC this year? We have an all star line of speakers in including our own President of MSU, Mark Keenum! We also have Meredith Laws from EPA who will be speaking also in addition to several more that I will not mention at this time. We have worked extremely hard to make the MAIC "bigger and better" each year. In addition, we are providing some very good scholarship funding through our endowment funds for some top MSU grad and undergraduate students. Please try to make it if you can and bring your family.

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Attached to this e-mail you will find the PDF of the information published in the Federal Register. I have also attached a word document that will provide guidance on submitting comments with step by step instruction. If you have any questions, please do not hesitate to give me a call.

Best Regards,

Larry Walton
Dow AgroSciences
662-213-4872

From: Shaw, David
Sent: Tuesday, June 16, 2015 12:20 PM
To: Walton, Larry (L)
Subject: Re: Your Comment Submitted on Regulations.gov (ID: APHIS-2013-0113-0196)

I will very much look forward to the stories from this year's adventure....

David R. Shaw
Vice President for Research and Economic Development
Mississippi State University
662-325-3570
dshaw@research.msstate.edu

On Jun 16, 2015, at 11:18 AM, Walton, Larry (L) <LWalton@dow.com> wrote:

Will do David, During the tour the past 4 to 8 years I have observed 2 that actually fell in the flooded rice paddy, one that got overheated, one that stepped on a small alligator, one that a cottonmouth snake struck at him and hit his rice boot, and one female that lost a very expensive wedding ring! I should have to purchase a ticket for this tour because it is so much fun!!!!

From: Shaw, David [<mailto:DShaw@research.msstate.edu>]
Sent: Tuesday, June 16, 2015 11:12 AM
To: Walton, Larry (L)
Subject: RE: Your Comment Submitted on Regulations.gov (ID: APHIS-2013-0113-0196)

You HAVE to send me a picture of Darla in amongst the mud and snakes!



David R. Shaw, Vice President
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Fax: 662/325-8028
dshaw@research.msstate.edu

From: Walton, Larry (L) [<mailto:LWalton@dow.com>]
Sent: Tuesday, June 16, 2015 10:55 AM
To: Shaw, David
Subject: RE: Your Comment Submitted on Regulations.gov (ID: APHIS-2013-0113-0196)

Thanks so much David, I can't thank you enough. I hope to see you soon. On a side note, I will see "ole" Huffy wife next week Darla on our annual rice weed tour. Can't wait to see her and those "Indy" folks in the rice fields fighting snakes and mosquitoes. I will have my camera ready to take a few photos. It's always fun to see this group and I think it will be Darla's 1st official rice tour.

Take care David,

From: Shaw, David [<mailto:DShaw@research.msstate.edu>]
Sent: Tuesday, June 16, 2015 10:33 AM
To: Walton, Larry (L)
Subject: Fwd: Your Comment Submitted on Regulations.gov (ID: APHIS-2013-0113-0196)

Done!

David R. Shaw
Vice President for Research and Economic Development
Mississippi State University
662-325-3570
dshaw@research.msstate.edu

Begin forwarded message:

From: Regulations.gov <no-reply@regulations.gov>
Date: June 16, 2015 at 10:32:02 AM CDT
To: <dshaw@research.msstate.edu>
Subject: Your Comment Submitted on Regulations.gov (ID: APHIS-2013-0113-0196)



Please do not reply to this message. This email is from a notification only address that cannot accept incoming email.

Your comment was submitted successfully!

Comment Tracking Number: 1jz-8jgf-4apw

Your comment may be viewable on Regulations.gov once the agency has reviewed it. This process is dependent on agency public submission policies/procedures and processing times. Use your tracking number to find out the status of your comment.

Agency: Animal and Plant Health Inspection Service (APHIS)

Document Type: Nonrulemaking

Title: Environmental Assessments; Availability, etc.: Dow AgroSciences LLC; Cotton Genetically Engineered for Resistance to 2,4-D and Glufosinate

Document ID: APHIS-2013-0113-0196

Comment:

Please see attached letter.

Uploaded File(s):

- EPA Letter 24-D 2015.pdf

This information will appear on [Regulations.gov](http://www.regulations.gov):

First Name: David

Last Name: Shaw

City: Mississippi State

Country: United States

State or Province: MS

This information will not appear on [Regulations.gov](http://www.regulations.gov):

Mailing Address: 3001 Lee Hall, Mississippi State University

ZIP/Postal Code: 39762

Email Address: dshaw@research.msstate.edu

**For further information about the [Regulations.gov](http://www.regulations.gov) commenting process,
please visit <http://www.regulations.gov/#!faq>.**

From: Shaw, David
Sent: Saturday, June 13, 2015 2:29 PM
To: Walton, Larry (L)
Cc: Shaw, David
Subject: RE: USDA Comment Period for Enlist Cotton Traits
Attachments: EPA Letter Dicamba 2015.docx

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662-213-4872

From: [Walton, Larry \(L\)](#)
To: [Shaw, David](#)
Subject: RE: USDA Comment Period for Enlist Cotton Traits
Date: Monday, June 15, 2015 1:38:16 PM

Looks great David, please go ahead and submit and I would appreciate.

Thanks again and travel safely

From: Shaw, David [<mailto:DSshaw@research.msstate.edu>]
Sent: Monday, June 15, 2015 11:40 AM
To: Walton, Larry (L)
Subject: RE: USDA Comment Period for Enlist Cotton Traits

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