



Academic colleagues,

As we wrap up the application season and approach harvest, this will be the last of my regularly scheduled updates, though I'll share important information with you through emails like this going forward. I appreciate the ongoing communication and collaboration with the academic community this season. Your feedback and contributions to XtendiMax research has been valuable, and we look forward to continuing those partnerships as we prepare for the 2019 season.

Please don't hesitate to reach out to me with questions or to discuss the season and feel free to send me feedback on how useful these updates were this season. I want to ensure these are as helpful as possible. Thanks.

- **Update on XtendiMax Field Trials:** In the last update I shared the first part of our [additional analysis](#) on our XtendiMax® with VaporGrip® Technology Arizona trial, and this week I'd like to share the second portion of those results. This trial followed Good Laboratory Practices (GLP) and measured off-target movement and plant effects to non-dicamba tolerant soybeans under extreme weather conditions and over large acreage representative of a commercial scale application.

Following an approved tank mix application of XtendiMax + Roundup PowerMAX® + Intact™ (required DRA) over-the-top of 27 acres of Roundup Ready 2 Yield® soybeans, we compared visual symptomology and plant heights from tarped and un-tarped areas. These tarps isolated a portion of the non-tolerant soybean crop along the downwind and upwind transects during the application period to minimize exposure to spray drift. Therefore, any symptomology observed under the tarped areas would likely be the result of secondary movement of dicamba such as volatility. This method provided a strong measurement of the relative contribution of volatility and physical drift due to off-target movement.

Within [this new paper](#) my colleague Tom Orr, off-target assessment lead, provides more background regarding the spray drift, volatility, and model validation components of this large-scale study. For example, in order to quantify flux (i.e., the rate of volatility), measures of dicamba concentrations in air and meteorological information (wind speed/direction, temperature) were gathered. Take a look at the paper for more about these methods.

Results from this trial showed that volatility measured over large acres at high temperatures is consistent with volatility measurements at other locations conducted on smaller fields (<10 acres). The air dispersion models used to determine the amount of dicamba moving off-target accurately represent off-target movement of vapor and are a robust tool for determining off-target air concentrations and deposition. These results also confirm previous findings that volatility is not a significant contributor to off-target movement.

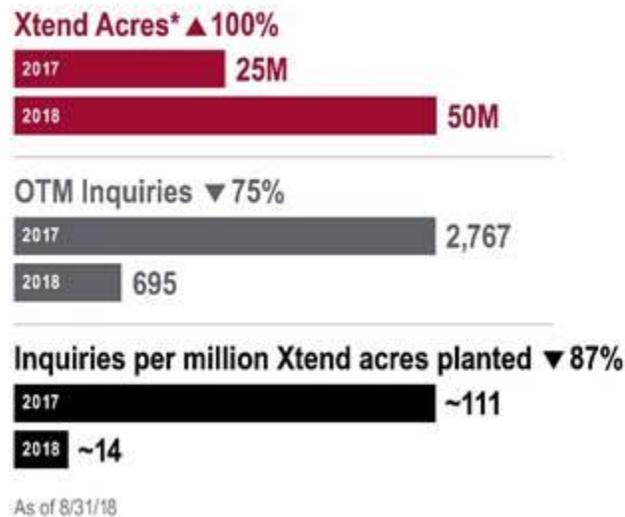
This season we've also conducted additional off-target movement GLP field trials of XtendiMax in various locations to help reaffirm its low-volatility profile across a range of environments. Check out this video from our [North Dakota field trial](#).

- **Dicamba Inquiries¹:** As we wrap up the application season, we've completed evaluations on 95% of the off-target movement inquiries received as of Aug. 31 to our 1-844-RRXTEND call center and have worked through an analysis of those inquiries. We're currently receiving just a handful of inquiries each week, and we expect that number to continue dropping as we approach harvest. Our grower customers are preparing for the end of the

season, and they continue to share that they're pleased with the outstanding weed control and on-target applications they achieved this season.

As of August 31, 2018, we've received roughly 14 off-target movement inquiries per million acres of Xtend soybeans and cotton planted in 2018 (>50M acres total) compared to roughly 111 off-target movement inquiries per million acres of Xtend soybeans and cotton planted in 2017 (>25M acres total). See the chart below for a year-over-year comparison of off-target movement inquiries (based on inquiries we received). Of those OTM inquiries received as of Aug. 31, the majority, 63%, were from non-applicators and 37% were from applicators.

Data Based on Inquiries Received to 1-844-RRXTEND Call Center



*Acreage represents Roundup Ready 2 Xtend soybeans and cotton with XtendFlex Technology

Based on evaluations we completed, we continue to see success in the majority of growers and applicators following label requirements. Within applicator inquiries in particular, we saw an increase in compliance with requirements from 2017 to 2018 for boom height, use of proper nozzles, following the correct ground speed, use of required buffer and following all hygiene and sprayer system cleanout procedures. Training and education worked this season, and for 2019, we'll reinforce the importance of following all label requirements during our training sessions, with specific focuses on increasing awareness of nearby sensitive crops and utilizing only approved tank mixes, among other topics.

Ours is not the only feedback gathered this season. The Association of American Pesticide Control Officials (AAPCO) has collected weekly dicamba-related call figures from state Departments of Agriculture. While we await conclusions from states based on field visits, you can view AAPCO's latest report [here](#).

¹Inquiries are defined as the number of fields for which calls are received to 1-844-RRXTEND from applicators or non-applicators. The inquiry figures are not necessarily equal to the number of calls received since a single call could include one or multiple fields. It is also possible that a field could be counted twice if we receive a call from an applicator and a non-applicator about the same field. Please let me know if you have any questions.

Off-Target Movement Inquiries as of August 31

Inquiries from applicators and non-applicators about potential off-target movement	695
Number of off-target	664

movement inquiries from applicators and non-applicators visited as of August 31	
Number of off-target movement inquiries where upwind symptomology was observed when XtendiMax was applied*	15**
Number of states from which off-target movement inquiries received	24

*As observed from XtendiMax applicators and supported by applicator reported and/or Climate weather data of wind direction at the time of application

**No uniform or field-level symptomology was observed. All observed symptomology was adjacent to application field and exhibited pattern and/or gradient. Upwind was determined by applicator reported information.

As of August 31, we've also received 682 inquiries about weed performance² and 5 inquiries about crop response.

²These inquiries have involved factors like: application on weeds that aren't controlled by the dicamba mode of action; application that occurred too late, once a weed was larger than 4" or in a flowering stage; and application at an incorrect rate. We are following the conditions of the registration process for these weed performance inquiries.

As always, don't hesitate to reach out to me with any questions about these inquiry details or other topics.

Thanks,
Ty

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