

Dicamba Injury Forum

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DICAMBA UPDATE

July 6, 2017

Agriculture.Mo.Gov

2016 DICAMBA COMPLAINTS

- **130 – Total Dicamba complaints for 2016**
- **June 22, 2016 - Received first Dicamba complaint**

2017 DICAMBA COMPLAINTS

- **134 – Dicamba complaints received (as of 1:00 pm 7/6/2017)**
- **June 13, 2017 - Received first Dicamba complaint**

2017 DICAMBA COMPLAINTS

Crops damaged as identified by complainants:

- 59,862 acres of soybeans
- 6,400 tomato plants
- 73 acres of watermelons
- 18 acres of cantaloupes
- 5 acres of a vineyard
- 2 acres of pumpkins
- 24 acres of certified organic vegetables
- Several residential gardens, trees and shrubs



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Industry Response?

- These are “unsubstantiated” claims.
- This is just like the introduction of RR or LL.
- Dicamba is being blamed when it’s really just metolachlor injury.
- “Investigate don’t speculate. Leaf cupping being observed in soybean fields never exposed to dicamba.”
- Injury is cosmetic and not going to cause yield loss.
- Most of the problems are coming from grower vs. retailer applications.
- And a host of others...

In 2017, off-site movement of dicamba has occurred due to:

- Physical drift
- Nighttime spraying
- Tank contamination
- Use of generics
- Improper sprayer set up
- Etc.



In 2017, off-site movement of dicamba has also occurred with:

- Engenia, FeXapan, and XtendiMax
- Daytime spraying
- Proper sprayer set up





At this point does it really matter? What's an acceptable number of damaged acres? What's your threshold for action?

- Depends on your perspective

Personal Observations:

The **majority** of fields I've been in are injured from one end to the other with no discernable difference in soybean symptomology. This suggests problems with off-site movement through volatility.



**Dr. Chen's soybean breeding plots at Fisher Delta Research Center in Portageville.
Similar situations have occurred at research stations in AR, MS, TN.**



Personal Observations:

More of this...



Personal Observations:

People are starting to notice what's happening to the trees.

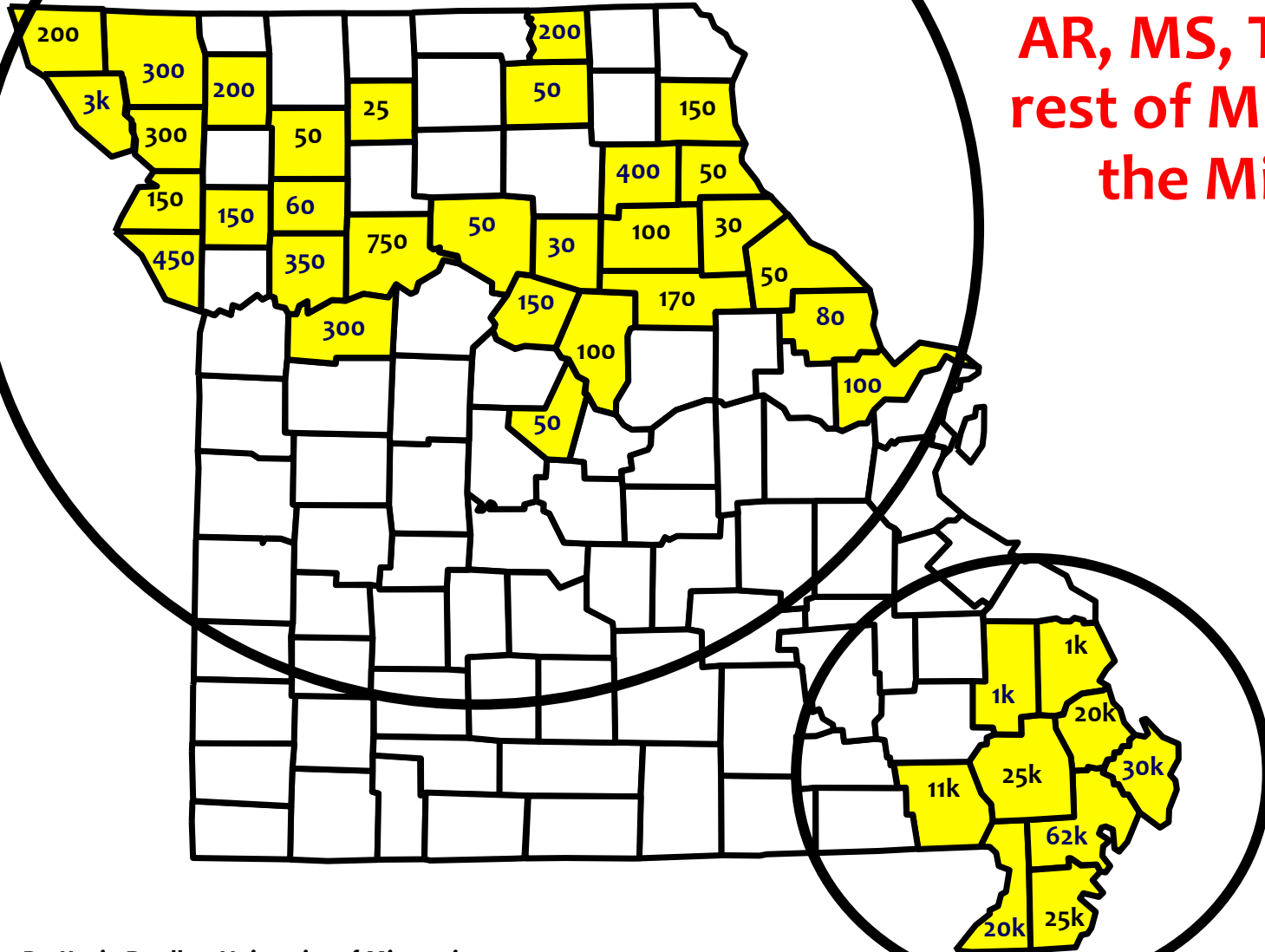


Personal Observations:

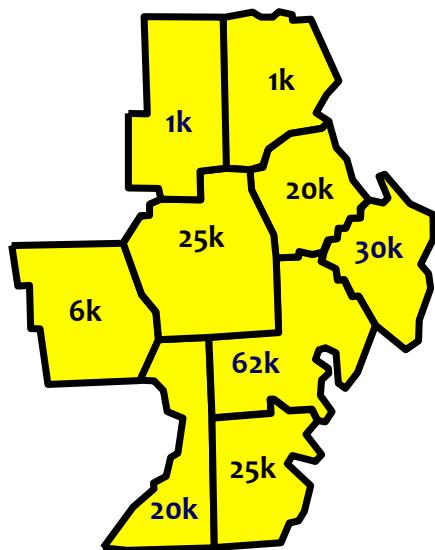
Once again, this issue is hurting our rural communities and neighbor relationships.



So what's the difference between the bootheel (i.e., AR, MS, TN) and the rest of Missouri (i.e., the Midwest)?



So what's the difference between the bootheel (i.e., AR, MS, TN) and the rest of Missouri (i.e., the Midwest)?



300,000 acres cotton

- ~80% Xtend (almost all sprayed w/dicamba)
- How many dicamba applications in-crop?

875,000 acres soybean

- ~65% Xtend (almost all sprayed w/dicamba)
= 306,000 acres non-Xtend soybean
- 195,000 acres estimated to be injured with dicamba= **64% of the total non-Xtend soybean;**
22% of the total soybean grown in the bootheel

We are not close to these percentages in the rest of Missouri (i.e., the Midwest). What will happen if/when we reach these levels?

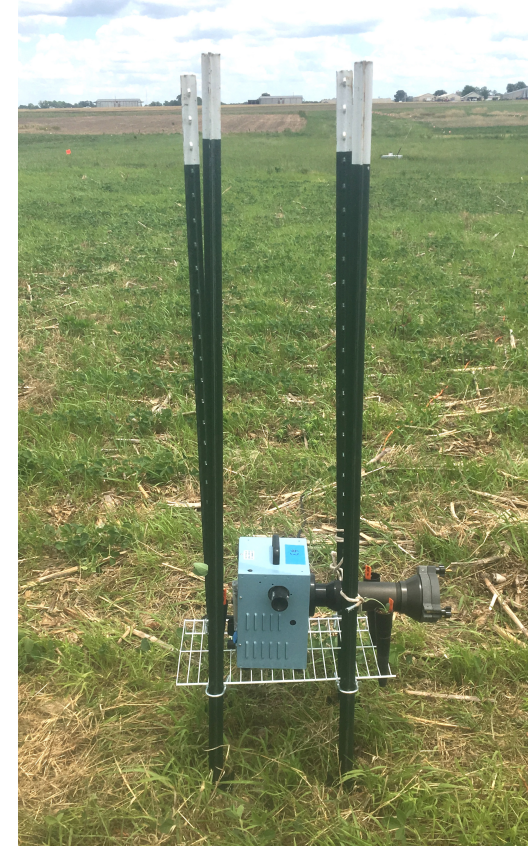
**Can LL, RR, and conventional
soybean co-exist in a world with
Xtend?**



Our Efforts to Understand the Role of Formulations & Temperature Inversions in the Off-site Movement of Dicamba

2 separate experiments running in June, July, August:

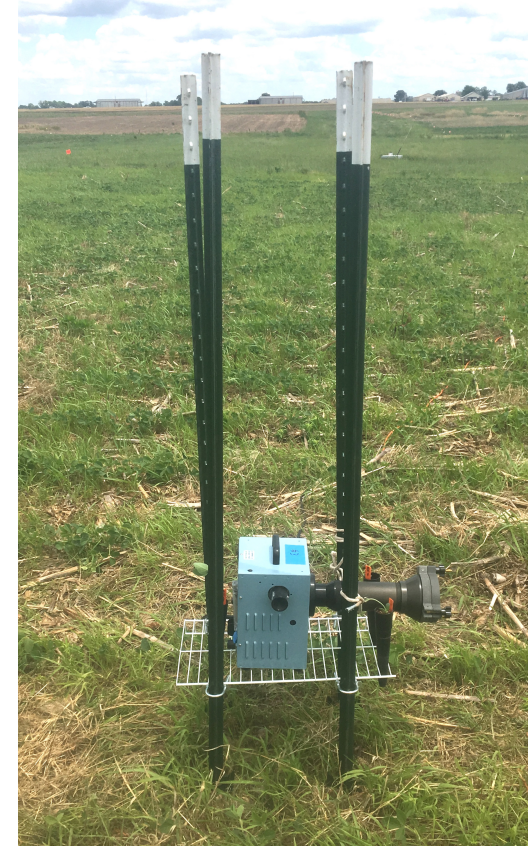
- Experiment 1: Banvel, Engenia, and Xtendimax sprayed in geographically separate areas. Air samples taken and indicator plants placed at regular intervals after treatment
- Experiment 2: Xtendimax sprayed in one area in mid-afternoon, and then once an inversion sets in a separate area during the evening/night. Air samples taken and indicator plants placed at regular intervals after treatment.



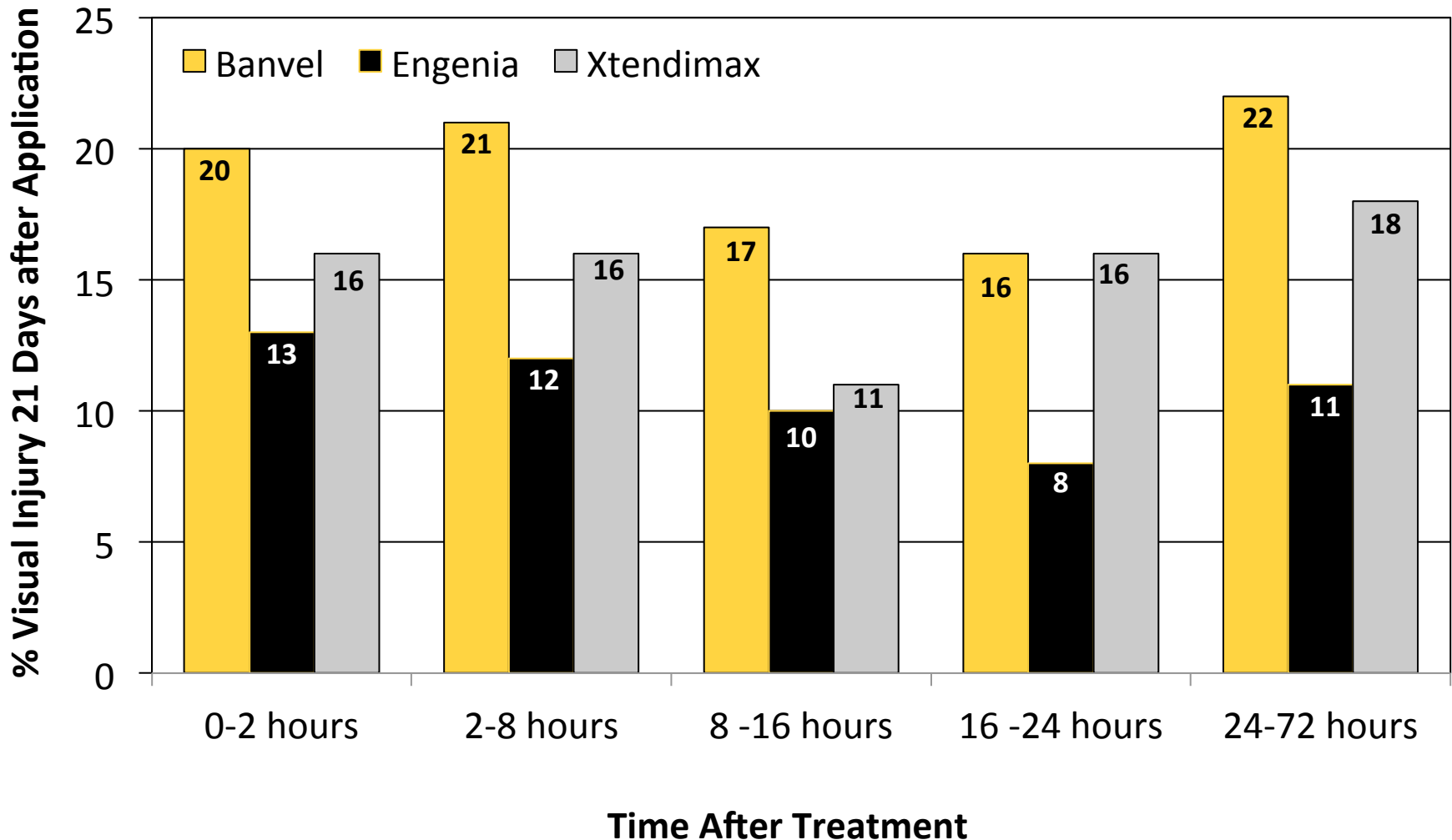
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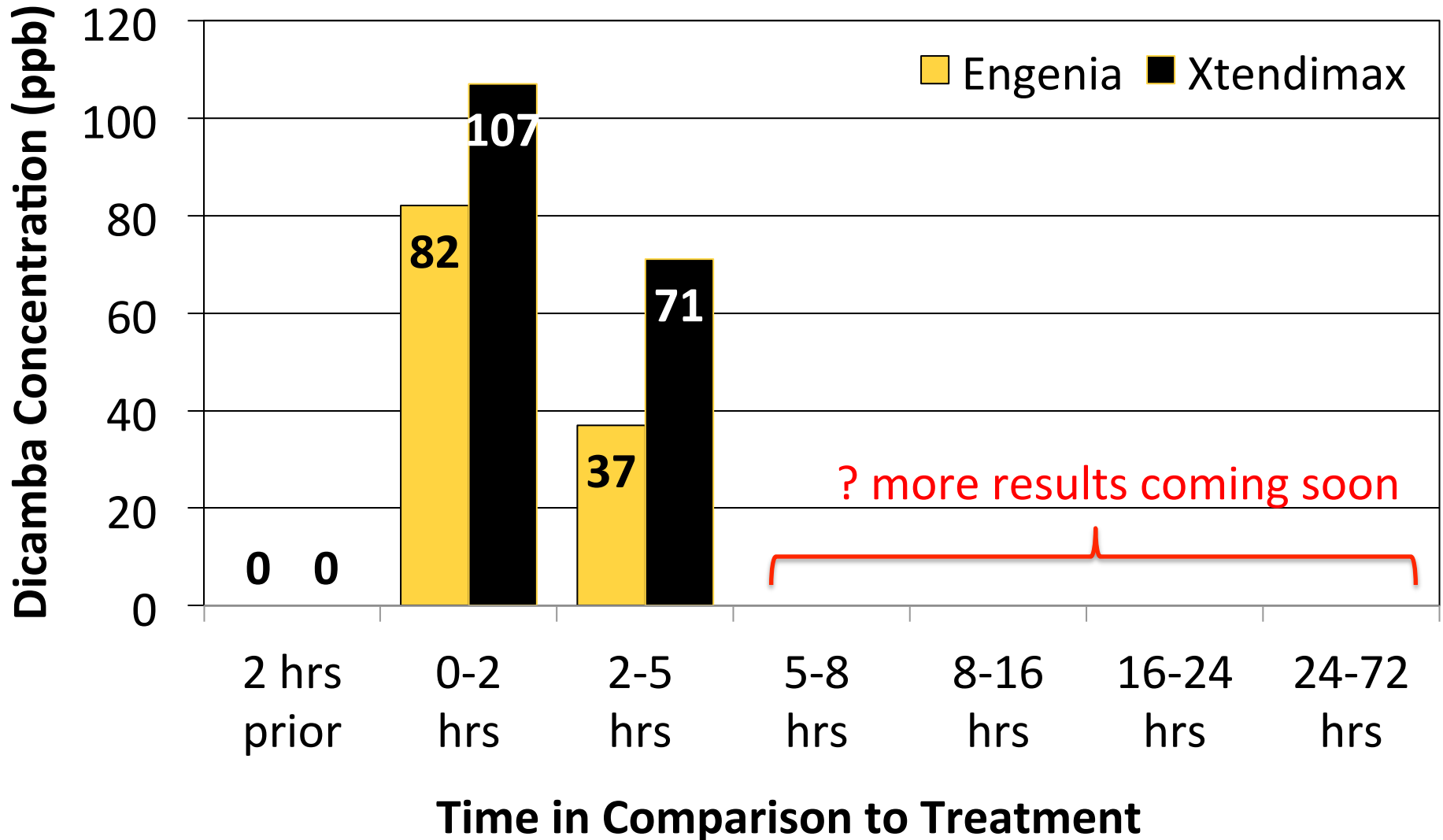
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Evaluation of Soybean “Indicator Plant” Injury Following Application of 3 Dicamba Formulations



Some Preliminary Air Sampling Results with Engenia and XtendiMax



Soybean “Indicator Plant” Response following Application of Banvel



*Photos taken 21 days after application

Soybean “Indicator Plant” Response following Application of Engenia



*Photos taken 21 days after application

Soybean “Indicator Plant” Response following Application of Xtendimax



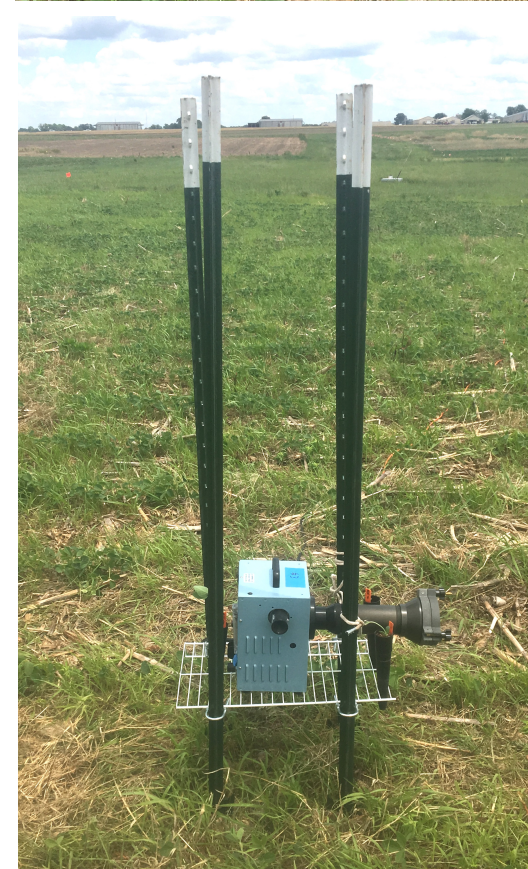
*Photos taken 21 days after application

Our Efforts to Understand the Role of Formulations & Temperature Inversions in the Off-site Movement of Dicamba

Our **very preliminary** results suggest:

Formulations = Will be interesting to see how Engenia and XtendiMax compare to Banvel, but initial results w/ air samples and indicator plants suggest that both can be detected in air after application.

Volatility = Much more to see with the remaining time points and air samples. Indicator plants suggest volatilization is still occurring at least 24 hours after treatment.



A Call to Action

All Companies (seed, chemical):

- This cannot be dismissed as a non-issue. Share your data: complaint #s, amount of product sold/sprayed, # acres planted, etc.

Farmers:

- Communicate with your neighbors about your intentions and theirs.

All Applicators:

- Continue to follow the application parameters of these products the best you can.

MDA, UM Extension, Me

- ???????



Mizzou® Weed science

Email: bradleyke@missouri.edu

Website: weedsience.missouri.edu

App: ID Weeds (free download)

The screenshot shows the Mizzou Weed Science website homepage. The header features the Mizzou logo, the text "WEED SCIENCE", and "Division of Plant Sciences — CAFNR". There are social media icons for Facebook, Twitter, and YouTube, and a search bar. The main content area includes a navigation menu on the left with links to Home, Weed ID Guide, Herbicide Injury, Publications, Slideshows, Videos, Research Results, and Personnel. The central focus is a large image of a Maypop passionflower with a caption: "Maypop passionflower (*Passiflora incarnata*) is an increasing problem weed in a number of Missouri pastures." To the right of the image is a "Fun Facts" section titled "weed science" which states: "Scotch thistle (*Onopordum acanthium*) is said to have helped win a battle. Norsemen came ashore planning to surprise sleeping Scottish forces and removed their boots for a quieter assault. A prickly patch of thistle growing between the two armies is said to have saved the day and became the Scottish national flower." At the bottom, a welcome message reads: "Welcome to the University of Missouri's Weed Science homepage. Here you can find information related to our extension, research, and teaching programs or visit some of our web resources like the Missouri Weed Identification or Herbicide Injury Guides. In our 'Research Results' section, you can search results from our field research by year, herbicide, weed, or crop. Additionally, you can click on our publication section to see all of the publications and newsletter articles we provide as well as to view and/or listen to some of our power point presentations. We welcome your comments and/or suggestions about this site."



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