

2017 & 2018
Dicamba Use & Related Activities

152nd Meeting
Indiana Pesticide Review Board

November 15, 2017

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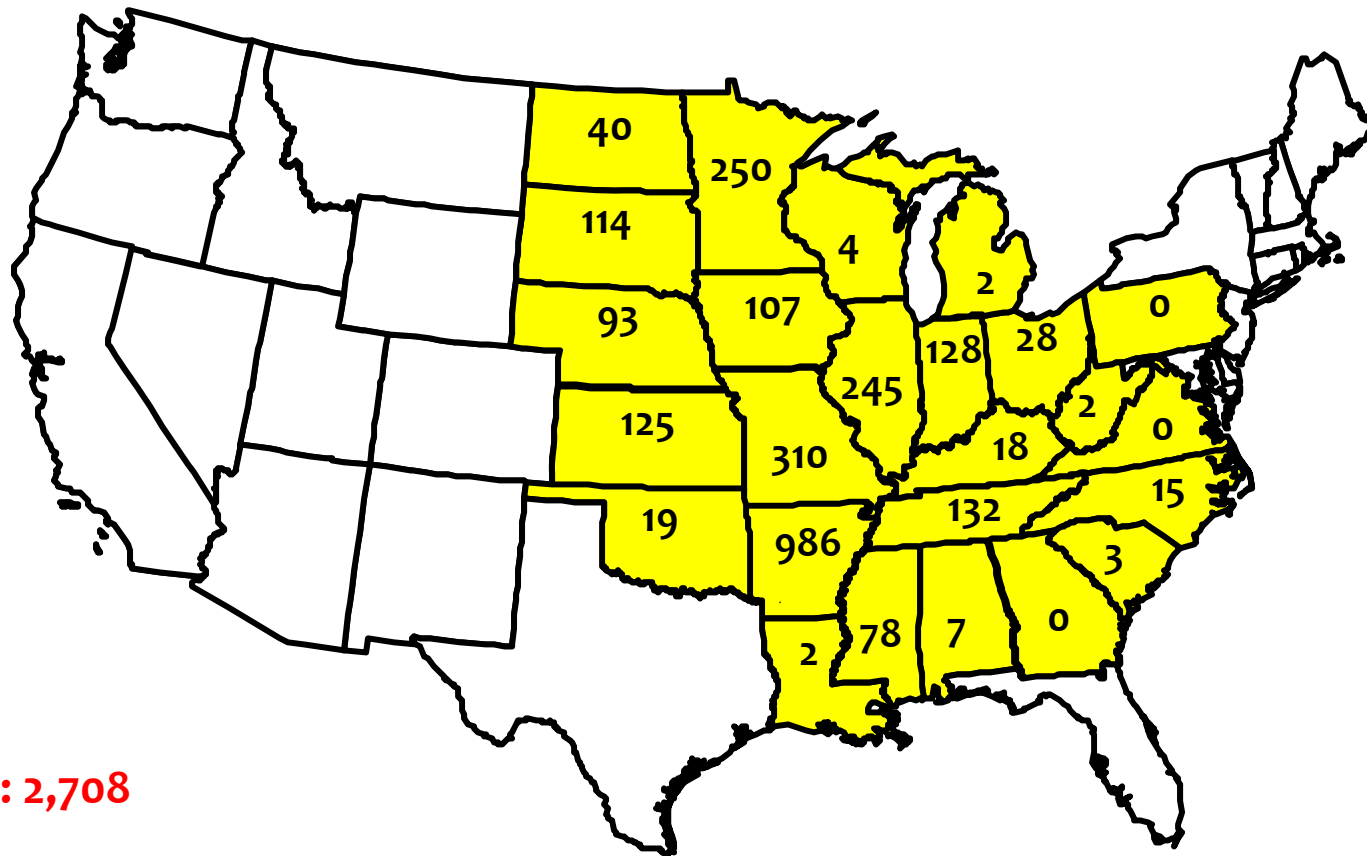
Indiana Dicamba Regulation

- 2007...IPRB began studying new 2,4-D & dicamba tolerant crop technologies & potential for non-target impacts from widespread use.
- 2016...Monsanto introduced DT soybeans into marketplace.
- 2016... Some applicators misused old dicamba formulations resulting in hundreds of off-target damage complaints.
- November 30,2016...IPRB voted to initiate RUP rule making process for all ag use dicamba products (old forms. & new).

Indiana Dicamba Regulation

- Dec. 2016....EPA registered Xtendimax, Engenia, & FeXapan.
- May-July, 2017...dicamba off-target movement complaint #s exploded nationally, including 129 in Indiana.
- Aug. 30, 2017...IPRB voted to make all ag dicamba state RUP.
- Sept. 2017...SLAs & weed scientists submit comments to EPA on potential label fixes to the 2017 problem.
- Oct. 2017...EPA classified new formulations as RUPs.
- Nov. 4, 2017...IPRB final RUP rule for all ag dicamba effective.

Official Dicamba-related Injury Investigations as Reported by State Departments of Agriculture (*as of October 15, 2017)



***Total: 2,708**

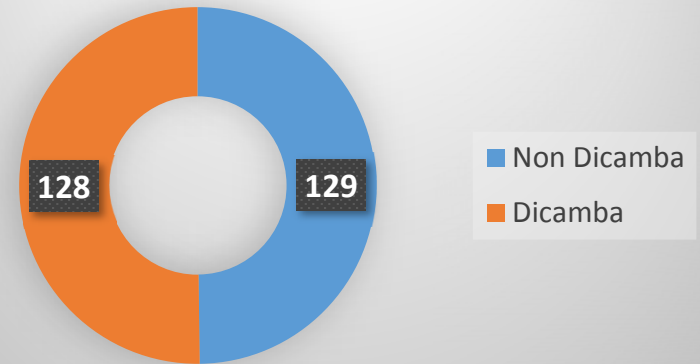
Recent Drift & Dicamba Data for Indiana

| <u>Year</u> | <u>Total Drift</u> | <u>“Dicamba”</u> |
|-------------|--------------------|------------------|
| 2013 | 92 | 3 |
| 2014 | 83 | 5 |
| 2015 | 81 | 8 |
| 2016 | 74 | 3 |
| 2017 | 257 | 129 |

- As of October 27, 2017

2017 Dicamba Crisis

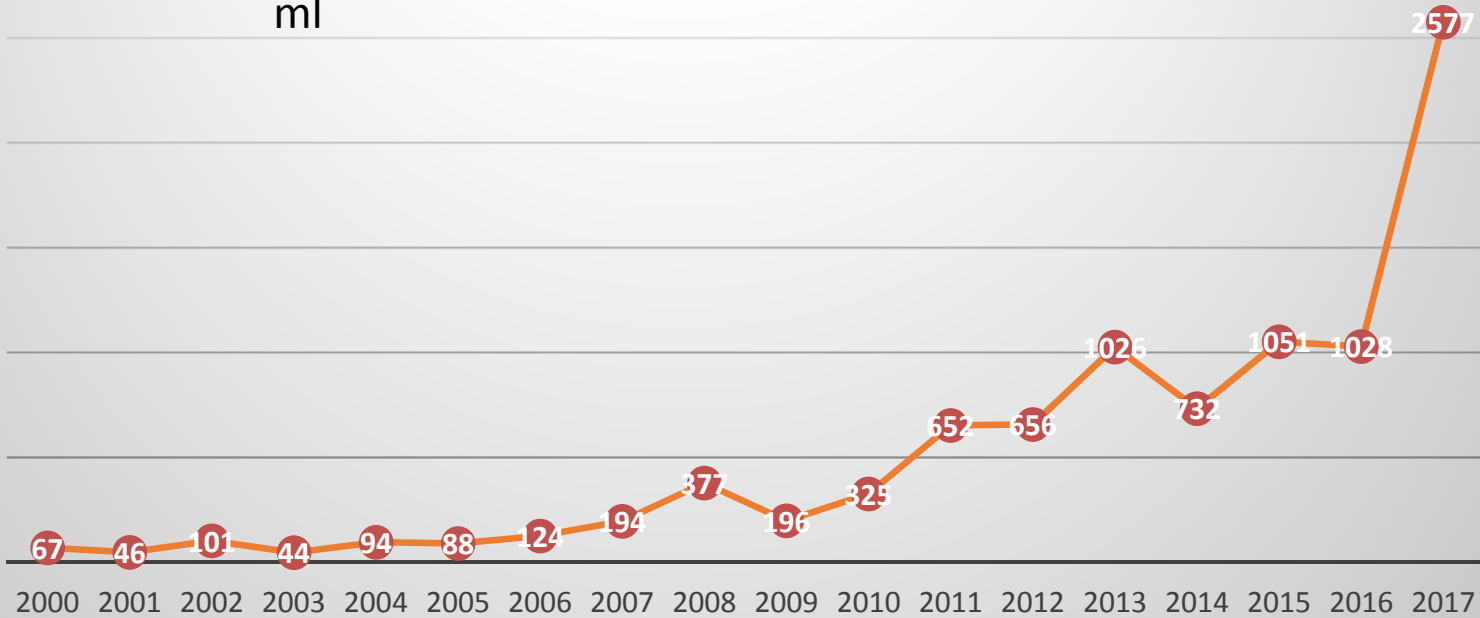
OISC 2017 Drift Cases



OISC Pesticide Residue Lab Total Sample Trend

<http://www.oisc.purdue.edu/pesticide/iprb.html>

Number of Samples



2017 Plant Samples Submitted to PPDL for Dicamba Symptomology Checks
(as of 08/14/17)



2017 Investigation Objectives

- Were symptoms caused by dicamba or something else?
- Who was the source of the dicamba exposure?
- Was new or old formulation dicamba used?
- Was off-target exposure from drift, run-off, sprayer contamination, temperature inversion, volatilization, legal use or “off-label” use?
- If misuse, what parts of the label were violated?

2017 Compliance & Enforcement

- *“The Indiana Pesticide Review Board has urged OISC to apply the most stringent penalties available for violators whose actions might jeopardize the successful introduction of this new much-needed weed management option.”*
- Failure to visit web sites or Drift Watch usually get warnings.

What 2017 Investigations To Date Suggest

- Dicamba is unstable & short-lived in environment.
- 2017 dicamba labels were very difficult to comply with 100% (*threading the needle*).
- Determining particle drift vs. volatility or other off-target movement with scientific certainty is **EXTREMELY** difficult in investigation process.

2017 Investigation Details

- Total drift complaint investigations...257
- Dicamba drift complaint investigations...129
- Dicamba investigations processed to date...15

Applicators Involved

- Certified commercial applicators...5
- Certified private applicators...10
- Non-certified applicator...0

Products Applied

- Engenia...3
- FeXapan...3
- Xtendimax...8
- Glory (old formulation)...1

Target Crop/Site

- Soybean...14

- Corn...1

Off-Target Exposure Crop/Site

- Non-DT soybeans...14
- Ornamentals...1
- Person...1

Route of Off-Target Exposure

- Direct particle drift...3
- Volatilization...0
- Runoff...0
- Blown dust particles...0
- Tank contamination...0
- Unknown or undeterminable...12

Documented Violations

- Total violative cases...15/15
- Wind blowing toward adjacent sensitive crops...9
- Failed to maintain a 110' buffer..2
- Wind less than 3 mph...2
- Wind (or gusts) greater than 15 mph...1
- Rain in forecast within 4 hours (Engenia) or 24 hours...1
- Did not visit Drift Watch...7
- Did not visit registrant web site...5

2018 Label Requirements

- RUP classification of Engenia, FeXapan, & Xtendimax.
- State or registrant-required training for all users.
 - Old formulations...recommended
- State-required training thru CCH & PARP programs.
 - No registrant training
 - No training reciprocity with other states that accept registrant training
- Coordinate with PPP & CES (Industry?)...train-the-trainer.
- Outreach to both applicators & dealers.

Label Required Record Keeping (pre application)

- Name & license # of applicator
- RT, if not certified
- Documentation of dicamba training
- Date visited Drift Watch
- Date surveyed field for sensitive crops
- Date visited web site
- Receipt of dicamba purchase
- Date sprayer cleaned out before adding dicamba

Label Required Record Keeping (application)

- Target field location
- Target crop
- Size of treated field
- All pesticides & EPA Reg. #s applied
- Pre or post emergent application
- Nozzles & pressure
- All adjuvant trade names

Label Required Record Keeping (weather conditions)

- Date of application
- Start & finish times
- Start & finish temperature
- Start & finish wind speeds
- Start & finish wind direction
- Method used to record weather data
- Date sprayer cleaned out after application

Label Drift Prohibitions

“DO NOT allow herbicide to drip, drift, or splash onto desirable vegetation because severe injury or destruction to desirable broadleaf plants could result.”

- Includes drift & application during inversion
- Not volatility, runoff, or on dust particles

No Spray Situations

“**DO NOT** apply when wind is blowing in the direction of neighboring sensitive crops (see list).”

“**DO NOT APPLY** this product when the wind is blowing toward adjacent non-dicamba tolerant susceptible crops; this includes **NON-DICAMBA TOLERANT SOYBEAN AND COTTON** (see list).”

Key Terms Needing Definitions

- **In the direction/toward...**
 - Will include up to 180 degrees of wind direction
- **Neighboring/adjacent...**
 - Will include both immediately adjacent (touching) & separated by county roads, state roads, lanes, drives, less than field width vegetation strips

Buffer Requirements

- “**Maintain a 110 foot buffer** when applying this product from the downwind outer edges of the field, less the distance of any of the adjacent areas specified below.”
- “The applicator **must always maintain** a 110 (or 220) foot downwind buffer between the last treated row and the nearest downwind field edge (in the direction the wind is blowing).”
- ALL applications of these products will require a downwind buffer.
- The real question is whether the buffer is calculated from entirely within the target field, partially within the target field, or entirely from neighboring property?

Buffer Calculations

The buffer must be maintained/calculated from within the target field except when it comes out of the following:

1. Planted ag fields containing corn, DT soybeans, sorghum, proso millet, small grains, & sugar cane.
2. Ag fields prepared for planting.
3. Areas covered by enclosed man-made structures.
4. Roads, paved or gravel surfaces (*not practical if vegetative shoulders*).

Comments or Questions ?

Thank you !

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