



**Office of Indiana  
State Chemist**



# Dicamba Update

Indiana Pesticide Review Board Meeting

August 7, 2019

# State Product Registration & Distribution Standards

- The board may collect, analyze, and interpret information on matters relating to the registration and use of pesticides.
- Distribution of misbranded products is illegal.
- Misbranded means product labeling does not contain instructions for use that, if complied with, are adequate for protection of the public.

# Federal & State Use & Application Regulation

Misuse = use in a manner inconsistent with labeling.

- “The label is the law.”
- Assuming users & regulators can determine:
  - which label statements are enforceable &
  - how to prove/document/enforce those statements

# State Use & Application Regulation

- May not allow drift from target site in sufficient quantities to cause harm to non-target site.
- Drift does not include volatility after application.
- Harm includes documented death, illness, stunting, deformation, discoloration & other detrimental effects.

# Label Misuse Violations Can Be Either:

- Violations of label performance standards:
  - It either happened or it didn't.
  - Usually requires physical evidence or adverse effect to confirm.
  - No harm, no foul.
- Violations of label design standards:
  - Proof of violation does not require an adverse effect.
  - Compliance can't guarantee no adverse effect, but it may suggest that.
  - Usually requires applicator coop., honesty, & reporting accuracy to confirm.
- **OISC has historically relied on performance standard violations for drift.**

# OISC Dicamba Response Expenditures

Following are calculations used to estimate the cost to OISC of providing regulatory response and support to the use of dicamba-containing herbicides labeled for post-emergent use on soybeans. It should be noted that the below listed expenditures do not include any societal or program costs that may have occurred during the referenced period as the result of diverting resources from other established pesticide regulatory priorities to dicamba response. OISC resource expenditures included, but may not be limited to, the following:

# OISC Dicamba Response Expenditures

- Off-target movement complaint investigations
- Complaint investigation environmental sample analysis
- Compliance and enforcement action processing
- Product specific compliance and enforcement data collection
- Investigator dicamba response training
- State-specific response policy development
- State-specific investigation procedure development
- State-specific applicator training development
- Applicator training coordination and delivery with CES
- Applicator training monitoring and record keeping
- Label interpretation guidance development
- Outreach and communication with industry
- Outreach and communication with regulatory community and CES weed scientists
- Media response

# OISC Dicamba Response Expenditures

| Year | OISC funds   | EPA funds  | Total compliance | Dicamba effort | Total dicamba cost |
|------|--------------|------------|------------------|----------------|--------------------|
| 2017 | \$ 2,020,614 | \$ 426,000 | \$ 2,446,614     | 50%            | \$ 1,223,307       |
| 2018 | \$ 3,248,599 | \$467,479  | \$ 3,716,078     | 60%            | \$ 2,229,647       |
| 2019 | \$ 2,547,807 |            |                  |                | \$                 |
| 2020 |              |            |                  |                | \$                 |



# 2019 OISC Drift Response Compliance Strategy

- Rely more on dicamba exposure symptomology vs. environmental residue analysis for confirmation of off-target movement.
- Increase monitoring & investigation scrutiny of incidents involving tomatoes, vegetables, grapes, melons, gardens, ornamentals, flowers, trees, & organic crops. (non-soybean)
- Provide a compliance/enforcement **OR** a documentary only investigation response option by OISC to complainants.
- Seek off-target monitoring & reporting assistance from outside sources (IDNR, PPPDL, CES, IDEM, Commodity Groups...) for public property, but limit private property complaint response to individuals with legal standing.

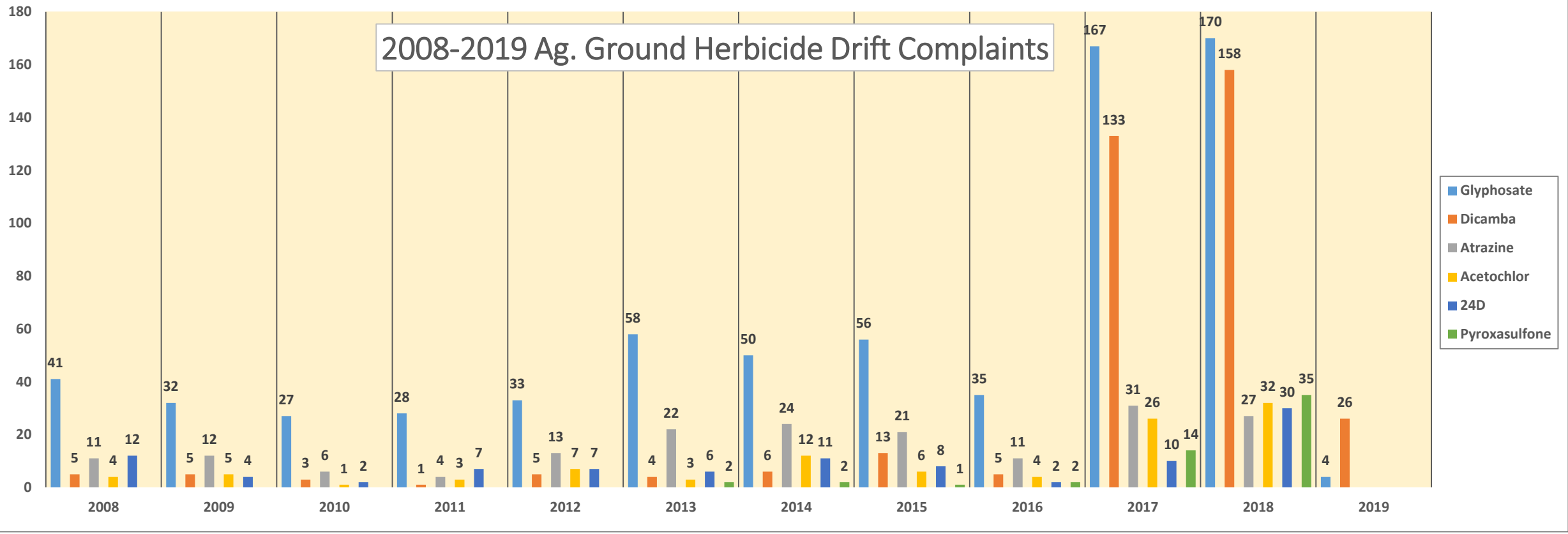
# OISC drift complaints 2017, 2018, 2019 ?

- Ag ground application drift complaints... 231...232...134 (7-30-19)
- Dicamba drift complaints... 133...146...31 (7-30-19)
- Percentage dicamba... 58%...62%...23% (7-30-19)
- 2019 late planting/spray season & larger % DT acres planted?

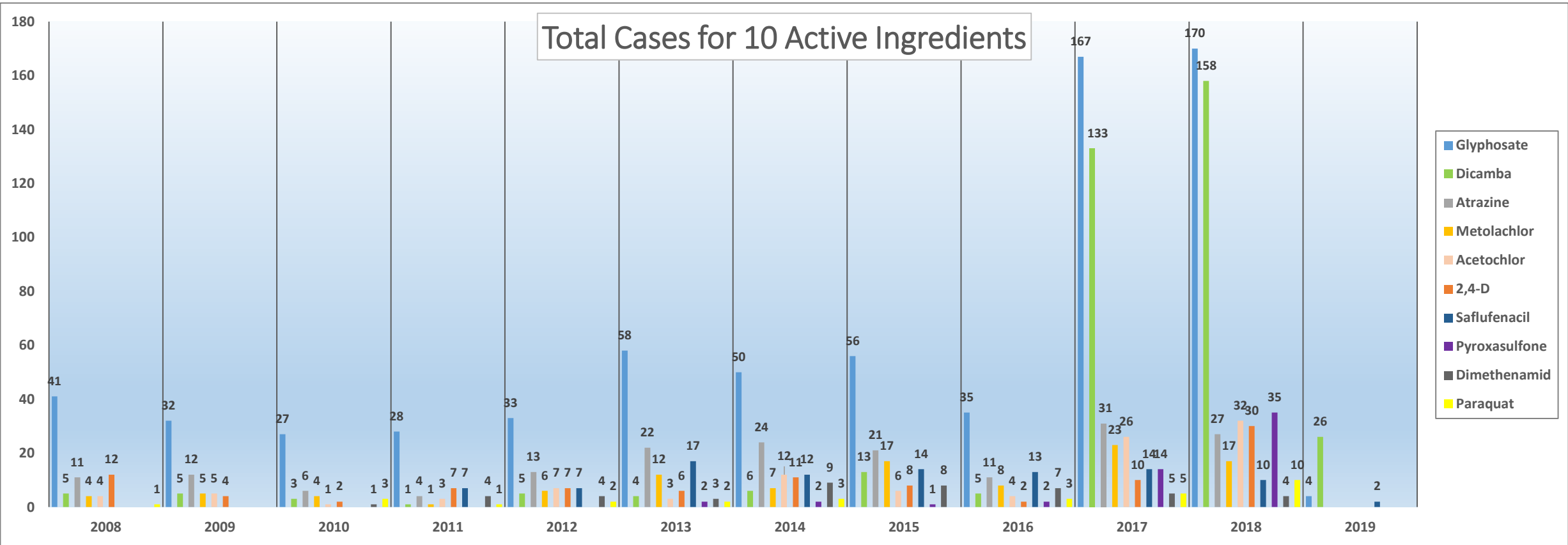
# 2019 Compliance vs. Documentary (7-30-19)

- Total ag drift... 134
- Compliance/enforcement investigation... 121
- Documentary only investigation... 13
- Dicamba compliance/enforcement... 22
- Dicamba documentary only... 11

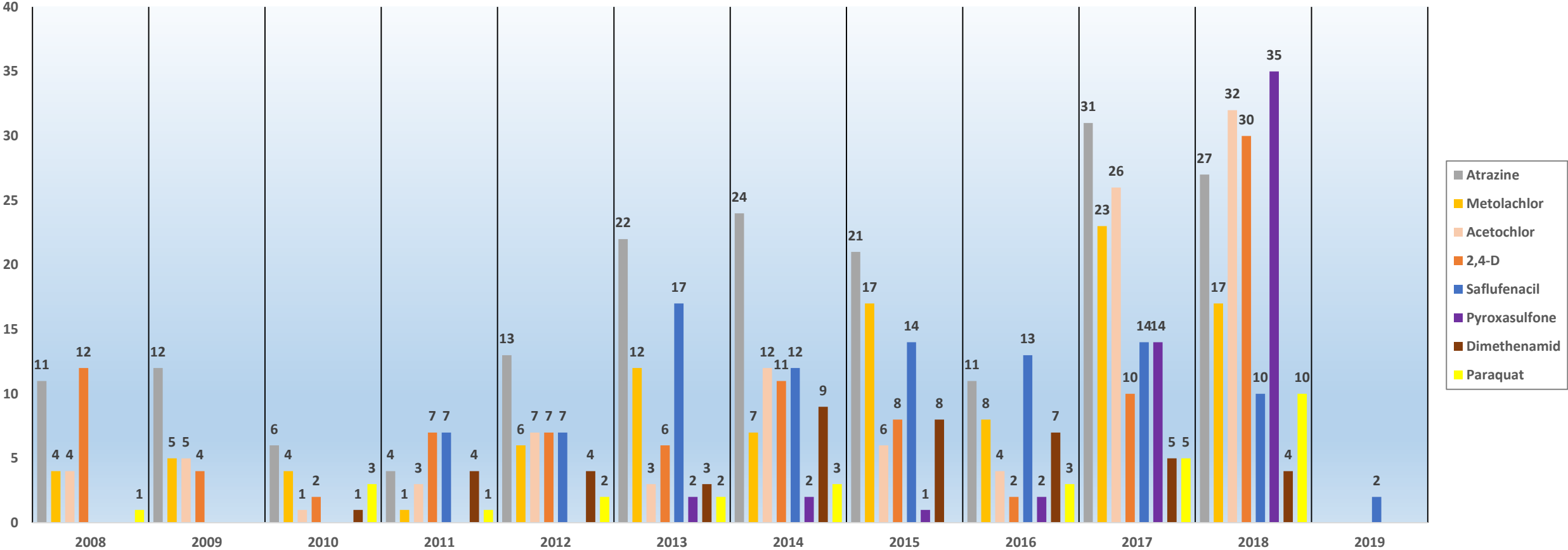
## 2008-2019 Ag. Ground Herbicide Drift Complaints



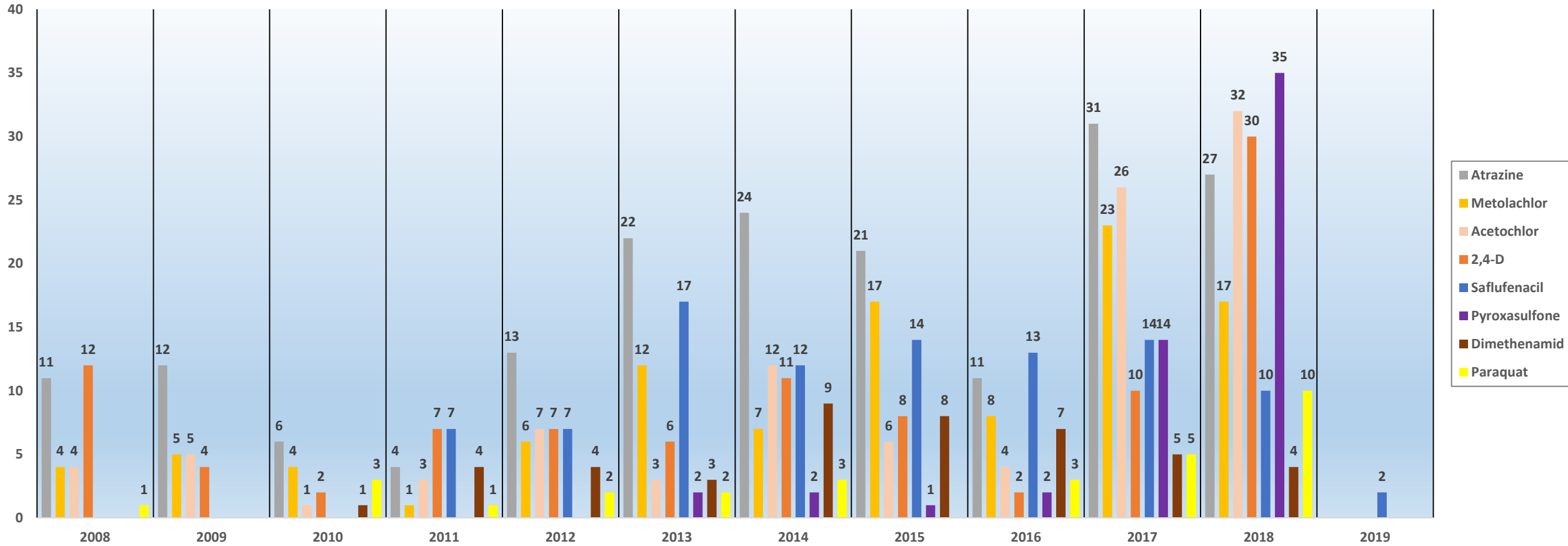
### Total Cases for 10 Active Ingredients



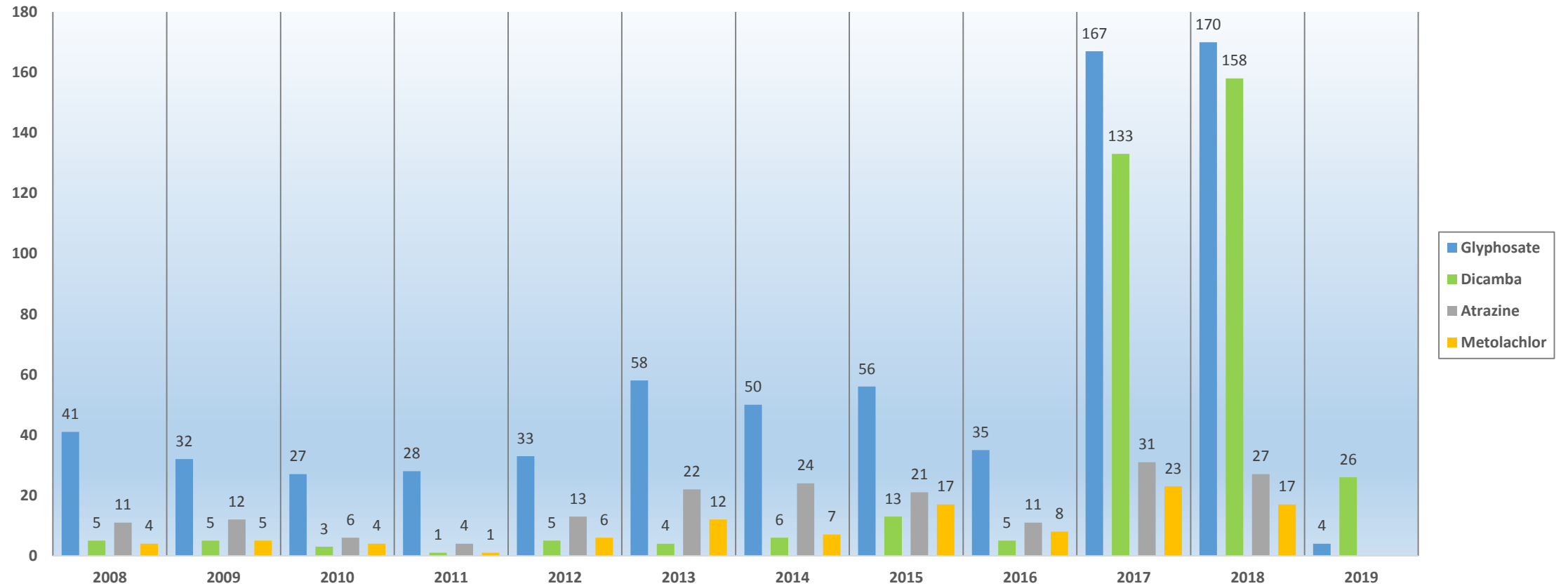
### Total Cases for 8 Active Ingredients (Excluding Dicamba and Glyphosate)



### Total Cases for 8 Active Ingredients (Excluding Dicamba and Glyphosate)



Total Cases by Active Ingredient (Top 4)





# OISC Dicamba Investigations 2017, 2018, 2019

## What is the Site of Off-target Exposure

- Soybeans... 92%...94%...
- Melons... 1%...2%...
- Tomatoes... 1%...0%...
- Grapes... 0%...0%...
- Garden... 2%...1%...
- Ornamentals or trees... 3%...2%...
- Other... 2%...1%...

# OISC Dicamba Investigations 2017, 2018, 2019

## What was the Documented Route of Off-Target Exposure?

- Evidence of off-target exposure... 100%
- Particle drift... 23%...16%...??
- Application during an inversion... ?
- Volatilization... ?
- Undeterminable...77%...84%...?
  - *Insufficient evidence to document particle drift*

# OISC Dicamba Complaint Violations 2017, 2018, 2019

- Evidence of off-target symptomology... **100%...100%...?**
- Total dicamba complaints... **133...141...**
- Documented drift (*performance std.*)... **23%...16%...**
- Documented drift mgmt. violn. (*design std.*) ... **93%...87%...?**
- Total documented violations... **93%...87%...?**
  
- **Drift mgmt. violation  $\neq$  cause of off-target movement**

2019 more dicamba acres, more potential sources, more investigations to conduct



# 2019 Observations to date (7-30-19)

- Many OISC has been successful (so far) at:
  - documenting extremely high rates of violation of drift design standards
  - levying numerous civil penalties
  - revoking some applicator certifications
  
- OISC has been unsuccessful at:
  - documenting large numbers of drift performance standard violations
  - determining with forensic evidence the cause of off-target movement
  - significantly reducing # of incidents through training & enforcement

# 2017 & 2018 Dicamba Investigation Spray Dates

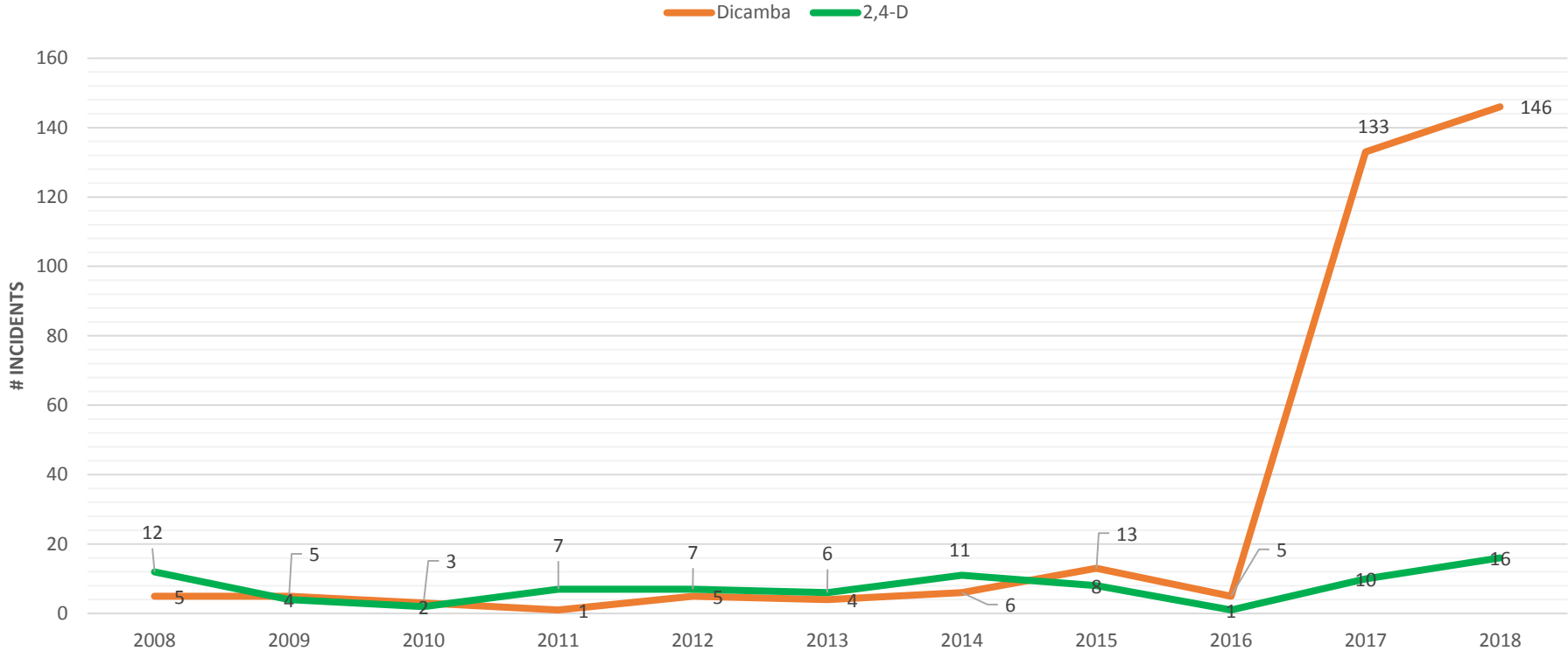
## Application Date

- Before May 1... 2%
- May 1-7... 2%
- May 8-14... 1%
- May 15-21... 2%
- May 22-28... 6%
- May 29-June 4... 10%
- June 5-11... 12%

## Application Date

- June 12-18... 13%
- June 19-25... 9%
- June 26-July 2... 11%
- July 3-9... 10%
- July 10-16... 7%
- July 17-23... 3%
- July 24-30... 1%

# 2019 Measure of Success



# Comments or Questions ?

Thank you !

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