

## About dicamba

- Dicamba works by mimicking auxin, a plant growth hormone, thus disrupting cell division and altering normal growth patterns. It affects all broad-leaf plants.
- Dicamba has been used safely for decades in the Mid-South on grass and forage crops during the cooler months and as a burndown herbicide before planting begins.
- Dicamba is now being promoted by Bayer and BASF as a tool to combat invasive weeds, such as Palmer Amaranth (aka Pigweed), during the growing season because Monsanto/Bayer developed genetically modified cotton and soybean varieties engineered to tolerate this herbicide.
- With the advent of dicamba-tolerant soybean and cotton crops, it's being applied in-season when temperatures are warmer. Once daily high temperatures are above 80 degrees during late May or early June the potential for these dicamba formulations to volatilize becomes a concern.
- Volatility means that a liquid herbicide can convert into a gas several hours after application, then lift and move for miles in all directions to condense on other plants.
- During a temperature inversion, the atmosphere is very stable and vertical air mixing is restricted, which can cause small, suspended droplets of dicamba to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light, variable winds common during inversions.
- A result of herbicide overuse is that weeds evolve resistance. Pigweed already resists glyphosate (Roundup).

## Dangers to agriculture

- New formulations continue to volatilize as long as 72 hours after application and move from the target site in spite of the most label-compliant application efforts.
- Dicamba's volatility is long lived, which means longer exposure for non-tolerant plants and an increase in the chances for movement.
- Dicamba volatilizes both off of the soil and out of plant tissue.
- Soybeans not engineered to resist dicamba are extremely sensitive to low amounts of the herbicide. Application at 1/100,000 of the recommended rate can cause visible damage to soybean without the dicamba-resistant trait.
- Farmers who don't want to use dicamba are being forced to buy Bayer's GMO crops just to defend their livelihood. A lawsuit from farmers is pending claiming Bayer is creating a monopoly.
- Also at risk are grapes, peanuts, tomatoes, watermelons, cantaloupes, peppers, certain trees and many other specialty/organic crops that may be grown near GMO cotton and soybean fields.
- Damage has been documented 220 feet away from a test application site, which is twice the buffer distance on the Environmental Protection Agency labels for dicamba products.
- As of July 20, 2017, an estimated 850,000 to 1 million acres of soybean in Arkansas had displayed symptoms consistent with dicamba injury. Over 1,000 complaints have been filed, most from northeast Arkansas where use is heaviest.
- Curled, damaged or dead leaves on flowering plants, trees and other vegetation are triggering a widespread loss of honeybee forage. AR's largest beekeeper is leaving because his bees can't find enough food.

## Dangers to native plants and wildlife

- Dicamba is 75 to 400 times more dangerous to some plants than the common weed killer glyphosate (Roundup), even at very low doses.
- Dicamba drift onto native plants growing adjacent to farm fields causes significant delays in flowering, as well as reduced flowering, resulting in decreased visitation by honey bees.
- Damage has been documented on oaks, cypress and other trees. Damage occurs on all sides of the tree, indicating volatility, not drift, delivered the herbicide.
- The widespread use of dicamba will put birds at risk in our agricultural landscape. In the Delta, Audubon has designated 420,000 acres across 14 sites as Important Bird Areas. These public and private lands, including the globally important Cache-Lower White Rivers IBA, provide essential habitat for birds of conservation concern. For

example, Pine City Natural Area in Monroe County supports the only population of the endangered Red-cockaded Woodpecker in the Delta. These IBAs also support abundant waterfowl populations that hunters and Arkansas's economy depend on. They support Northern Bobwhite quail populations that Arkansas Game and Fish Commission and Quail Forever are working to restore. Yet they are surrounded by row crops on all sides. In a landscape full of dicamba-resistant soybean and cotton, the build-up of volatile dicamba in the atmosphere could well be enough to damage these state natural areas, wildlife management areas, national wildlife refuges, family farms, and the birds they harbor.

- Monarch butterflies and pollinators must be able to complete their life cycles to sustain healthy populations, and can do this only if there is sufficient high-quality habitat available throughout the growing season. This is important not only for insects, but also for sustaining native vegetation as well as agriculture. A diverse plant and insect community is good for agriculture. Widespread use of dicamba during the growing season is anathema to healthy Monarch and pollinator populations.

#### Other Talking Points

- The science is clear that dicamba's volatility makes it a serious threat for agriculture and the environment if use is extended beyond April 15.
- Spraying beyond the current April 15 cutoff means damage to non-GMO crops and bird habitat will occur days later and miles away from where applied. Harmful effects on non-resistant crops, honeybee production, city trees, and native plants that provide food for birds and pollinators have already been well documented in Arkansas.
- I'm concerned about the effects dicamba will have on public and private lands that harbor the ducks and deer I enjoy hunting OR the birds and butterflies I enjoy watching.
- As a regular customer of farmers' markets, I am concerned dicamba will prevent the local fruits and vegetables I buy from being grown in parts of the state, and hurt the livelihood of those farmers. Specialty crop and organic farmers have a right to farm without being hurt by the herbicide spraying activities of their neighbors.
- It is time to consider safer and more sustainable alternatives to the weed management challenges facing farmers. There are certainly many techniques for managing weeds that involve much less use of herbicides, and which largely avoid the problems with volatility and weed resistance.
- Volatility drift is impossible to track to the source. Without the ability to hold users accountable for damage to off-target plants, there will be less incentive for farmers to adhere to dicamba's strict labeling. This will lead to over-use and more harm to the environment.
- Spraying dicamba on millions of acres is an uncontrolled experiment that puts sensitive areas at unacceptable risk. A one-mile buffer is simply inadequate to protect sensitive areas.
- We don't know what the effects on human health will be from breathing in all that dicamba that could drift onto towns, houses, and yards when millions of acres are sprayed.
- Look holistically and long-term at what is being done and **do what is right. Vote no** on the extension date and effectively ban the in-crop use of Dicamba.

#### Sources

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