

## Farmer vs farmer: After tens of thousands of acres of crop damage, what are we to make of the ‘dicamba debacle’?

**O**n the evening of October 27, 2016, in a small town in East Arkansas, on the Missouri line, a farmer by the name of Mike Wallace called a neighbor for help in solving a problem. Wallace wanted to get to the bottom of where damage to forty percent of his soybean crop had come from.

Wallace farmed 5,000 acres of corn, soybeans, and cotton in Craighead County and his soybeans had been ravaged by drifting herbicide that was causing problems through much of the soybean belt. He’d twice filed complaints with the Arkansas State Plant Board, the state agency that oversees claims of crop damage to no avail and [had reached out to Allan Curtis Jones](#), 26, of Arbyrd, Missouri, a farmhand at a neighboring farm that Wallace suspected was the source of the drifting dicamba that had taken him out at the knees.

**[Editor’s note: This is the first segment of a four-part series on the “Dicamba Debacle.” Read [part two](#), [part three](#) and [part four](#).]**

cover story can be found here  
Allan Curtis Jones

When they met that night on a county road to discuss the matter, Jones had brought along his cousin ... and a gun. The discussion turned into a fight that ended after Wallace was shot and killed. Jones’s attorney argued that he “[shot Wallace in self-defense after Wallace charged at him looking like a “wild man.”](#) In December 2017, Jones was [convicted](#) of second-degree murder and sentenced to 24 years in prison. In the wake of the tragedy, Wallace’s family began working towards a state-wide ban on the herbicide dicamba.

### How farmers see the ‘debacle’?

The year before, 55 miles away in the Missouri bootheel, [Bader Farms said it suffered](#) damage from dicamba drift to some 7,000 peach trees. The largest peach farm in Missouri, Bader alleged in court filings that it was hammered as neighboring cotton farms illegally sprayed dicamba on cotton genetically engineered by Monsanto (now part of Bayer’s North American Crop Science Division) to tolerate dicamba. The seeds had been approved by the USDA, but the approval was based on the special low volatility dicamba formulations they were meant to be paired with. That EPA approval did not come through in time. The dicamba that was actually being used had not yet been approved by the EPA.

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The problem became much larger in 2016 when Monsanto released dicamba-tolerant soybeans in addition to the cotton. In 2016, Bader Farms sued Monsanto for not anticipating problems related to releasing the seeds early. According to the St. Louis Post-Dispatch:

In 2015, about 7,000 trees in Bader's orchards were damaged, leading to a loss of \$1.5 million, according to the lawsuit. This year an estimated 30,000 trees are considered a permanent loss, amounting to a financial blow that has yet to fully come into focus.

"Those numbers are still being estimated," said Bev Randles of Randles & Splittgerber, a Kansas City law firm. "The losses will certainly be in the millions."

With insurers unwilling to cover damage from any illegal herbicide use, the future of Bader Farms looks grim. Peach trees take five years to mature and become profitable, meaning that the impact to Bader "is more long-term and farther-reaching," according to Randles. The lawsuit states that Bader expects his financial losses to double next year, and may be out of the peach business entirely by 2019.

The farm's case against Monsanto/Bayer went to trial last week. The company is arguing that Bader's damages were caused by a fungus, rather than dicamba drift. According to a statement [provided](#) to the Midwest Center for Investigative Reporting:

As multiple experts have confirmed and as Bader Farms admits, its peach orchards are suffering from a pervasive soil fungus that kills peach trees. This soil fungus is responsible for destroying much of Missouri's historic commercial peach production and it has unfortunately arrived on Bader Farms. Monsanto and its products are not responsible for the losses sought in this lawsuit; rather, those losses are due to this unrelated fungus and other natural causes.

The new dicamba formulations were approved in November of 2016 and available in 2017, but the mismatch of the availability of dicamba-tolerant soybeans and cotton without legal and proper dicamba formations produced [devastating consequences](#) in the 2015 and 2016 growing seasons. According to a Reuters story:

The resulting rash of illegal spraying (in 2016) damaged 42,000 acres of crops in Missouri, among the hardest hit areas, as well as swaths of crops in nine other states, according to an August 2016 advisory from the U.S. Environmental Protection Agency.

But things didn't improve in 2017 with the arrival of the new formulations from Monsanto and BASF. Also from Reuters:

The damage this year has covered 3.6 million acres in 25 states, according to Kevin Bradley, a University of Missouri weed scientist who has tracked dicamba damage reports and produced estimates cited by the EPA.

As late as 2018, after new protections and training had been put in place there were still an estimate of 1.1 million acres of soybeans injured by dicamba drift.

[dicamba](#)

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## **Timeline: How did we get here?**

Before moving on to an analysis of what the Dicamba debacle means for agriculture and what the policy implications might be, it's important to have a solid grasp of the details of the issue. Does this reflect on industrial agriculture writ large? Solely on the misdeeds of Monsanto and to a lesser degree BASF? How are the regulatory agencies implicated? More than most ag issues I can think of in recent history, the devil is in the details.

For this history, I draw heavily on a [timeline put together by Dr. Andrew Kniss](#) of the University of Wyoming, with his permission. I've added liberally to the timeline.

### **1958**

Dicamba discovered and [first described](#).

### **1967**

Dicamba was [first registered](#) for use under the trade name 'Banvel'. It was widely used over the next 30 years to control broadleaf weed species in grass crops including cereal grains, rangeland, and turfgrass under a variety of trade names and in different formulations.

## 1990

The first case of evolved dicamba resistance in a weed species was documented ([wild mustard, in Canada](#)). Multiple instances of kochia resistant to dicamba were soon also documented in the United States (Montana, North Dakota, Idaho, [in the mid- to late-1990s](#)).

## 1997

Scientists at the University of Nebraska-Lincoln [filed a provisional patent application](#) for inventions that would lead to dicamba-resistant crop technology. Other, similar patents were filed in subsequent years.

## 2005

University of Nebraska-Lincoln signed an [exclusive licensing agreement](#) with Monsanto Co. to develop crops tolerant to dicamba, using UNL's technology.

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## 2007

Initial work showing the ability of a bacterial gene to make broadleaf plants resistant to dicamba was [published in Science](#). ([press release here](#))

## 2012

**March 2012** – At the Commodity Classic, [Monsanto announced](#) its plan to sell the new dicamba-resistant trait in soybean beginning in the 2014 season (this deadline wasn't met).

## 2015

**January 2015** – Dicamba-resistant soybean and cotton were [deregulated by the USDA](#). This decision meant that companies could now legally sell crops that have the dicamba-resistant trait.

**Summer 2015** – A relatively large number of acres of dicamba-resistant soybean seed were sold and planted by growers. However, there were no dicamba formulations yet approved for use in these dicamba-resistant crops. [Widespread complaints of soybean fields injured by illegal applications of dicamba](#) were

received by states and University personnel.

## 2016

**November 2016** – The newer, lower volatility formulations of dicamba were [approved by EPA](#).

## 2017

**Summer 2017** – The first full growing season where growers had access to both the dicamba-resistant soybean seed AND legal formulations of dicamba to be applied to the crop. Widespread complaints of dicamba injured soybean were observed again — university extension personnel estimated damage [occurred on 3.6 million acres of soybean in the US](#).

**September 2017** – Against Monsanto's threats to sue, the [Arkansas Plant Board voted to ban](#) the use of dicamba "on the state's crops from mid-April until November" along with increased fines for farmers who illegally used dicamba.

**October 2017** – EPA, in collaboration with state regulatory agencies, [placed further restrictions on the use of dicamba](#) in an attempt to reduce off-target impacts observed during the 2017 growing season.

NPR ag reporter [Dan Charles reported that](#) the industry had ignored warnings from public university researchers that the new dicamba formulations weren't ready for prime time, and then Monsanto pressured regulators to ignore the data those researchers had presented.

## 2018

**Winter 2017-2018** – EPA-mandated training sessions were conducted. All "[applicators involved in the application of the three products registered for over-the-top use on soybean and/or cotton](#)" were required to complete the training.

**February 2018** – [Dan Charles reported on](#) attempts by Monsanto to undermine the work of the citizen-led Arkansas State Plant Board to create a set of rules that would minimize the damage from drift while allowing Arkansas farmers to use dicamba under well-prescribed conditions. "Monsanto sued the board and each individual member, calling their decision arbitrary, capricious and unlawful. Hundreds of farmers who say they need dicamba to control their weeds signed a petition calling for the board to reconsider."

**Summer 2018** – Widespread complaints of non-dicamba resistant soybean being injured by dicamba were again reported. University personnel estimated that [over 380,000 acres of soybean were damaged as of June 15](#), with acreage estimates likely to rise substantially as the summer progressed.

## 2019

**Spring 2019** – [State regulators petitioned the EPA](#) to continue to allow them to implement more stringent rules on local dicamba use.

The Arkansas State Plant Board [banned the use of dicamba](#) through the spring and summer until November of each year.

**Summer 2019** – Reports of damage to crops due to drift from neighboring farm persisted, with [The Progressive Farmer reporting](#) from farms in Maryland and Arkansas and complaints registered in Illinois, Indiana, and Missouri.

Meanwhile, [reports came in from public and private soybean breeders](#) that their programs were being hurt by the damage caused by dicamba drift.

[The Progressive Farmer further reported](#) that the EPA had stopped soliciting data and input from state regulators in Illinois, Indiana, Iowa, Missouri, and Minnesota even as complaints rose.

The [Arkansas State Supreme Court ruled](#) that the State Plant Board must reconsider Monsanto's objections to earlier prohibitions.

Initial [reports of dicamba-resistant weeds](#) started to trickle in.

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**Part One:** Farmer vs farmer: After tens of thousands of acres of crop damage, what are we to make of the 'dicamba debacle'?

**Part Two:** ['Monsanto on the attack': How an aggressive defense contributed to the 'dicamba debacle'](#)

**Part Three:** [Viewpoint: Dicamba debacle trial forces a reevaluation: Is Monsanto a 'bonafide bad actor'?](#)

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