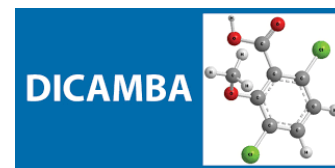


## Dicamba Watch

Updated 9/11/2017

### September 11, 2017

ClassAction, "Morgan & Morgan Files Lawsuit on Behalf of Farmers Impacted by Dicamba," *PR Newswire*, <http://www.prnewswire.com/news-releases/morgan--morgan-files-lawsuit-on-behalf-of-farmers-impacted-by-dicamba-300517368.html>.



The firm Morgan and Morgan filed a lawsuit on September 10th against Monsanto, BASF, and DuPont - the major producers of dicamba in the U.S.. The suit was filed in Illinois on behalf of the owner/operator of a farm in Broughton, IL where hundreds of acres of soybeans and pumpkins were allegedly damaged by dicamba drift. "Farmers across the country relied upon the defendants' assurances that these new formulations of dicamba could be used safely and without harm to others. That simply isn't true, and as a result thousands of farmers are staring down lean harvests and uncertain futures" (Rene Rocha, attorney on the case). They are seeking a permanent injunction against marketing and selling Xtend crops, Xtendimax, Engenia, and Fexapan as well as compensation for losses and legal costs. "The dangers of this herbicide have been understood for decades. Unfortunately, instead of producing safe and effective weed control options, it appears that the defendants are using the threat of harm to eliminate their competition and dictate what crops farmers can and cannot plant."

### September 7, 2017

Tom Polansek, "Monsanto fights to sell Arkansas farmers herbicide linked to crop damage," *Reuters*, <http://www.reuters.com/article/us-usa-pesticide-monsanto/monsanto-fights-to-sell-arkansas-farmers-herbicide-linked-to-crop-damage-idUSKCN1B12RD>.

Monsanto has formally petitioned the state of Arkansas to reject the proposed ban on dicamba spraying after April 15. The task force was set up by Governor Hutchinson following thousands of complaints of crop damage from dicamba use on herbicide-resistant soybeans. Monsanto calls this an "unwarranted and misinformed" as dicamba is specifically designed for spraying in the summer over growing fields to target herbicide-resistant weeds. The company is claiming that the damage will "probably not cause significant yield losses" and called into question the objectivity and motives of key weed scientists who are working on the issue. Monsanto threatened legal action if their petition is not granted.

### September 5, 2017



Tom Polansek and Emily Flitter, "EPA eyes limits for agricultural chemical linked to crop damage," *Reuters*, <http://www.reuters.com/article/us-usa-pesticides-epa-exclusive/exclusive-epa-eyes-limits-for-agricultural-chemical-linked-to-crop-damage-idUSKCN1BG1GT>.

More details on proposed EPA regulatory action ahead of 2018 growing season to address dicamba damage crisis. EPA is considering a cut-off date in spring or early summer for dicamba applications, allowing pre-emergence spraying only. The agency calls the extensive damage of this season unacceptable and warns of "significant changes" to the rules. This will impact Monsanto's bottom line: "If the EPA imposed a April 15 cut-off date for dicamba spraying, that would be catastrophic for Xtend - it invalidates the entire

point of planting it." Article also notes the high cost of dicamba seed as farmers try and decide the benefit of ordering the resistant seed. " Dicamba-tolerant soybeans cost about \$64 a bag, compared with about \$28 a bag for Monsanto's Roundup Ready soybeans and about \$50 a bag for soybeans resistant to Bayer's Liberty herbicide."

#### **August 31, 2017**

Chuck Abbott, "Dicamba is 'tremendous success,' says Monsanto; EPA mulls rule change," *FERN's AG Insider*, <http://cehn-healthykids.org/wp-content/uploads/2017/08/From-FERN.pdf>.

Monsanto claims they will have enough dicamba-resistant seed available for half the U.S. soybean acreage, and chief technology officer Robb Fraley described dicamba as a "tremendous success" for most farmers. EPA, however, is considering changes ahead of the 2018 season. "We don't consider this to be normal growing pains for a new technology," says an EPA official who oversees herbicide regulations. Monsanto again claims the key is "strict adherence to instructions."

#### **August 29, 2017**

Caitlin Dewey, "This miracle weed killer was supposed to save farms. Instead, it's devastating them." *The Washington Post*, [https://www.washingtonpost.com/business/economy/this-miracle-weed-killer-was-supposed-to-save-farms-instead-its-devastating-them/2017/08/29/33a21a56-88e3-11e7-961d-2f373b3977ee\\_story.html?utm\\_term=.1c08cc21570b](https://www.washingtonpost.com/business/economy/this-miracle-weed-killer-was-supposed-to-save-farms-instead-its-devastating-them/2017/08/29/33a21a56-88e3-11e7-961d-2f373b3977ee_story.html?utm_term=.1c08cc21570b).

*Washington Post* story reports on ongoing damage from dicamba. Important points in the article include the potential for drift- "According to a 2004 assessment, dicamba is 75 to 400 times more dangerous to off-target plants than the common weed killer glyphosate, even at very low doses. It is particularly toxic to soybeans — the very crop it was designed to protect — that haven't been modified for resistance." Reports on latest numbers- 3.1 million acres in 16 states. "It's really hard to get a handle on how widespread the damage is," said Bob Hartzler, a professor of agronomy at Iowa State University. "But I've come to the conclusion that [dicamba] is not manageable."

#### **August 14, 2017**

Bryce Gray, "Reported dicamba damage still escalating nationally, according to updated survey," *St Louis Post-Dispatch*, [http://www.stltoday.com/business/local/reported-dicamba-damage-still-escalating-nationally-according-to-updated-survey/article\\_1051b12d-dae5-523b-a935-07ee2e1f1555.html](http://www.stltoday.com/business/local/reported-dicamba-damage-still-escalating-nationally-according-to-updated-survey/article_1051b12d-dae5-523b-a935-07ee2e1f1555.html)

University of Missouri weed scientist Kevin Bradley has updated his dicamba damage numbers, showing that numbers have almost doubled already in just a few weeks to 2,242 complaints and an estimated 3.1 million acres.

#### **August 10, 2017**

Mary Hightower, "Dicamba Drift: Arkansas Researchers Find All Formulations Volatile; 876 Injury Reports," AgFax, <http://agfax.com/2017/08/10/dicamba-drift-arkansas-has-876-injury-complaints-researchers-find-all-formulations-are-volatile/>

The Plant Board reports 876 complaints as of 8/10. An estimated 35% of the state's 3.5 million acres and 300,000 of the 400,000 acres of cotton are planted in dicamba resistant acreage that would be sprayed with the new herbicide formulations. Weed scientists with the state point out that although lab testing

found that the new formulations (Engenia, Xtendimax, and FeXapan™) were less volatile than older dicamba herbicides (i.e. Banvel and Clarity), researchers have found that under realistic, field growing conditions "differences in volatility between older dicamba products such as Clarity and newer ones including Engenia and Xtendimax are not as evident... Soybeans are so sensitive, very, very low levels of volatility can cause injury." (Tom Barber)

#### **August 9, 2017**

Chuck Abbott, "Arkansas Task Force Aims for Long-Term Recommendations on Use of Dicamba," *The Fern*, [https://thefern.org/ag\\_insider/arkansas-task-force-aims-long-term-recommendations-use-dicamba/](https://thefern.org/ag_insider/arkansas-task-force-aims-long-term-recommendations-use-dicamba/)

Arkansas has appointed a 21-member task force to help identify solutions for the dicamba drift damage problem, with almost 900 complaints received this year so far. "The task force will attempt to reach consensus on a set of recommendations for the use of dicamba products in Arkansas as quickly as possible in order to provide certainty for the 2018 growing season," said the state Agriculture Department."

#### **August 8, 2017**

Robert Fraley for Monsanto, "Dicamba Drift: Monsanto Announces Action Plan," AgFax. <http://agfax.com/2017/08/08/dicamba-drift-monsanto-announces-action-plan/>.

Reporting on Monsanto's plan for dealing with dicamba damage: 1) Support farmers with damage symptoms by creating a hotline to call in and report damage and arrange for a time to meet and review with Monsanto experts, 2) Research weather data this growing season to understand how unusual conditions may have played a role, 3) train additional applicators- 50,000 have been trained so far.

#### **August 4, 2017**

Bryce Gray, "Reports of crop damage resurfacing since Missouri dicamba ban lifted," *St Louis Post-Dispatch*, [http://www.stltoday.com/business/local/reports-of-crop-damage-resurfacing-since-missouri-dicamba-ban-lifted/article\\_94d06667-7b23-5a32-9608-ea1720450484.html](http://www.stltoday.com/business/local/reports-of-crop-damage-resurfacing-since-missouri-dicamba-ban-lifted/article_94d06667-7b23-5a32-9608-ea1720450484.html).

Reports that the dicamba ban in Missouri was lifted in Mid-July and farmers had resumed spraying. Damage reports are re-occurring. One farmer quoted in the story compares his Missouri acres where "every acre" is showing damage to his healthy soybean fields in neighboring Arkansas that has a similar dicamba ban in place. Some places showing damage are at least a mile away from any possible source of dicamba. Missouri's ban was in place for less than a week after stricter conditions rules for spraying dicamba were issued targeting wind speed and the time of application. Monsanto is based in Missouri and some questioned the role their political power played in the lifting of the ban.

#### **August 2, 2017**

Bob Hartzler, "Dicamba Off-target Injury Update," Iowa State University Extension: *Integrated Pest Management News*, <https://crops.extension.iastate.edu/cropnews/2017/08/dicamba-target-injury-update>.

Reports on 142 cases of "pesticide misuse" to the Iowa Department of Agriculture and Land Stewardship as of July 20, when in a normal



year the total by this time would be 58-85, 46 were dicamba related. By August 2, there were now 74 dicamba damage complaints. Reports on EPA teleconference with weed scientists, who " reported that many applicators experienced problems while doing everything right." The author's main concern is dicamba volatility: " While Xtendimax and Engenia have reduced volatilization compared to older formulations, the combination of relatively high dicamba rates and applications during high temperatures can result in significant dicamba concentrations leaving treated fields."

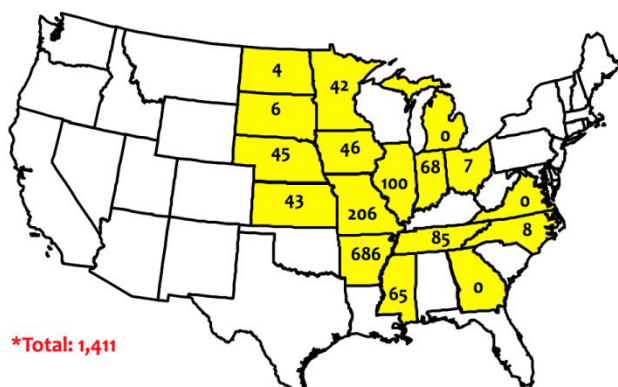
**August 1, 2017,**

Mario Parker, "Pesticide 'Drifting' Wreaks Havoc Across U.S. Crops," *Bloomberg*, <https://www.bloomberg.com/news/articles/2017-08-01/farmers-cry-foul-as-pesticide-wreaks-havoc-across-u-s-crops>.

*Bloomberg* reports on the dicamba damage numbers. Article includes key information from Monsanto about number of acres planted in dicamba-resistant soybeans (20 million) and cotton (5 million) in 2017. This represents about 25% percent of the national soybean crop and about half of the cotton crop, very significant numbers.

**July 25, 2017**

Kevin Bradley, "Ag Industry, Do we have a problem yet?," Integrated Pest and Crop Management, [https://ipm.missouri.edu/IPC/M/2017/7/Ag\\_Industry\\_Do\\_we\\_have\\_a\\_problem\\_yet/](https://ipm.missouri.edu/IPC/M/2017/7/Ag_Industry_Do_we_have_a_problem_yet/).



Article summarizes the total number of dicamba-related drift complaints as 1,411 as of July 19, 2017 as the map to the left shows. Arkansas leads with 686 complaints, while Missouri has over 200.

Estimates of acres damaged are up to 2.5 million. See article for this map. The author asks: "does 1,411 official dicamba-related injury investigations and/or approximately

2.5 million acres of dicamba-injured soybean constitute a problem for U.S. agriculture? ...[M]y answer is an emphatic yes."

**July 25, 2017**

Tiffany Stecker, "Scientists Say They Were Left Out of Pesticide Drift Research," *Bloomberg*, <https://www.bna.com/scientists-say-left-n73014462267/>.

Weed scientists at research institutions who were contracted by Monsanto to measure the effectiveness of the new dicamba formulations claim that they were not allowed to study the volatility of the herbicide and the potential for drift. After the products hit the market, Kevin Bradley with the University of Missouri and Tom Mueller at the University of Tennessee conducted independent research on the new herbicide, and their research about dicamba volatility is cited in the class-action lawsuit filed the previous week in Missouri. The lawsuit " argues that the companies didn't tell farmers that volatility of the dicamba products could develop over several days, carrying the chemical from one field

to the next. Temperature inversions, which trap air in specific locations, can serve as a conduit for dicamba to remain at ground level and eventually travel miles away from a pesticide sprayer's fields, according to the lawsuit." The article reports that damage complaints are up to over 700 in Arkansas and almost 200 in Missouri.

### **July 23, 2017**

Bryce Gray, "Class lawsuit takes aim at dicamba producers, accuses Monsanto reps of condoning illegal spraying," *St. Louis Post-Dispatch*, [http://www.stltoday.com/business/local/class-lawsuit-takes-aim-at-dicamba-producers-accuses-monsanto-reps/article\\_6b6226cf-a566-5877-b6ff-e20423429e4c.html](http://www.stltoday.com/business/local/class-lawsuit-takes-aim-at-dicamba-producers-accuses-monsanto-reps/article_6b6226cf-a566-5877-b6ff-e20423429e4c.html).

This article reports on the class action lawsuit filed July 18th in federal court in Monsanto's home state of Missouri. The lawsuit claims that despite public statements urging farmers to wait for the new, low-volubility dicamba formulations, Monsanto privately assured farmers that off-label use wouldn't be harmful. "This was Monsanto's real plan: publicly appear as if it were complying, while allowing its seed representatives to tell farmers the opposite in person," the suit alleges, based on farmer testimony. "Their sales pitch: assure purchasers that off-label and illegal uses of dicamba would 'be just fine.'" The suit names Monsanto, BASF, DuPont, and Pioneer as the defendants, and the plaintiffs currently include seven farms in Arkansas, though many more are expected to join. In reviewing the 2017 batch of dicamba damage complaints, the article claims that as well as Arkansas and Missouri, "Tennessee, Mississippi, Kansas, Illinois and Indiana" have all seen problems from dicamba use. A University of Tennessee weed management expert is quoted: "Following (the label instructions) as they are now is a Herculean task. Talk about threading the needle — you can't spray when it's too windy. You can't spray under 3 miles per hour. You got to keep the boom down — there are so many things... It looks good on paper, but when a farmer or applicator is trying to actually execute that over thousands of acres covering several counties, it's almost impossible."

### **July 20, 2017**



Mark Steil, "State investigating Monsanto weed killer after farmers' complaints," *MPRnews*, <https://www.mprnews.org/story/2017/07/20/state-investigating-monsanto-weed-killer-after-farmers-complaints>.

Reports on about 2 dozen complaints received by the Minnesota Department of Agriculture about damage from dicamba. The debate continues over what's to blame- farmers spraying improperly or on the wrong weather days, the use of generic formulations that lack the additives to reduce volubility, or Monsanto's product itself. Lab tests are being conducted on the affected crops to determine if dicamba is to blame. Estimates are that thousands of acres of soybeans across MN have been damaged.

### **July 17, 2017**

Andrew Demillo, "Weed Killer Turns Neighbor Against Neighbor in Farm Country," *Associated Press*, [http://hosted.ap.org/dynamic/stories/U/US\\_HERBICIDE\\_DISPUTE?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT&CTIME=2017-07-17-12-53-19](http://hosted.ap.org/dynamic/stories/U/US_HERBICIDE_DISPUTE?SITE=AP&SECTION=HOME&TEMPLATE=DEFAULT&CTIME=2017-07-17-12-53-19).

This AP article sheds light on Mike Wallace, the Arkansas farmer who was shot and killed in October 2016 by the manager of the neighboring farm during a confrontation over damage to Wallace's farm from dicamba drift. Mike's sister said that he "did not want to hurt his neighbor, and he could not understand why people would spray things that would hurt others." The article reports that as of mid July, 630 complaints have been received so far at the Plant Board, far surpassing the 250 or so that or

usually submitted each year. Herbicide manufactures continue to insist the problem is with application error, and not their products. "I've never seen anything like this," quotes one long-time soybean farmer.

### July 12, 2017

"Tennessee Dept. of Agriculture issues new measures for Dicamba," *Winchester Herald Chronicle*, <http://www.heraldchronicle.com/tennessee-dept-of-agriculture-issues-new-measures-for-dicamba/>.

The Tennessee Department of Agriculture responded to increased farmer-to-farmer complaints of damage from dicamba drift by enacting new rules on dicamba use in the state. The rules include requiring special licensing and record keeping for applicators, banning the use of older formulations for the rest of the season, and limiting the timing that it can be applied, and will be effective through October 1, 2017.

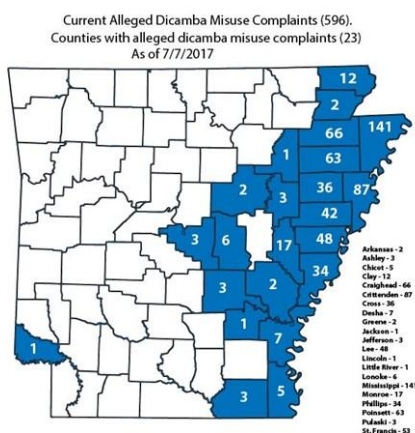
### July 11, 2017

Gil Gullickson, "Why Dicamba-Tolerant Soybean Technology is in Trouble," *Successful Farming*, <http://www.agriculture.com/crops/soybeans/why-dicamba-tolerant-soybean-technology-is-in-trouble>.

This article reports on dicamba drift in Missouri, where damage to date is tallied at 203,045 acres on soybeans, as well as over 6,500 acres of other crops and gardens, including certified organic vegetable farms. The damage appears to be caused both by known problems with how and when dicamba is sprayed, and also by greater than expected damage from legal and correct dicamba spraying of the newest varieties that are supposed to be low volatility: BASF's Engenia, Dupont FeXapan Plus Vapor Grip Technology, and Monsanto's Xtendimax with Vapor Grip Technology. In response the Missouri Department of Agriculture voted on July 7, 2017 to temporarily suspend all sales and applications of dicamba.

### July 10, 2017

Sonja Begemann and Susan Skiles Luke, "Arkansas, Missouri Ban Dicamba," *AgWeb*, <http://www.agweb.com/article/arkansas-missouri-ban-dicamba-naa-agwebcom-editors/>.



areas in Arkansas (excerpt to left) and Missouri.

### July 6, 2017

Sonja Begemann, "Dicamba Damage Watch," *AgPro*, <http://www.agprofessional.com/magazine/dicamba-damage-watch>.

Effective just after midnight on July 11, Arkansas finalizes a 120-day emergency ban on dicamba sales and use. Missouri also banned dicamba the week before, with the intent of re-opening sales once the investigation into complaints of damage from dicamba drift is complete. The Missouri Soybean Association is quoted as saying that more than 200,000 acres of soybeans are affected in the state. In a statement, Monsanto stressed the importance of "following label and local requirements" for their Roundup Ready Xtend Crop System of dicamba-resistant soybeans. The article lists the number of complaints of dicamba damage in Arkansas as "nearly 600," up from the 500 reported on July 6th. See the article link above for maps of the affected



Here we learn more about the symptoms of dicamba damage - cupped and wrinkled soybean leaves - and other culprits that could be the cause such as other herbicide damage, pests such as aphids and various plant diseases. It can take 7 to 21 days for dicamba damage to appear, and it will only be evident on new leaves, not those present when the drift occurs. Percentages as low as 0.06 to 1.9% can cause damage resulting in yield loss.

### **July 6, 2017**

Dan Charles, "Damage From Wayward Weedkiller Keeps Growing," *NPR*, <http://www.npr.org/sections/thesalt/2017/07/06/535669282/damage-from-wayward-weedkiller-keeps-growing>.

*NPR* Morning Edition radio piece reports that dicamba-related complaints in Arkansas are up from 250 at the end of June to 550 by July 6th. Estimates of potential damaged soybeans are up to 2 million acres. The new Monsanto dicamba resistant cotton and soybean is being blamed for this damage from an herbicide that has been in use for over 50 years. As one farmer quoted in the story puts it, "This technology cannot be allowed to exist. It cannot co-exist with other crops." On the other side of the debate, farmers using the GE crops claim that dicamba is working great against the herbicide-resistant Palmer amaranth that is plaguing their fields, and Monsanto's head of crop protection sees all this as "just part of the learning curve."

### **July 6, 2017**

Chris Hickey, "Legislative Panel Delays Decision On Arkansas Dicamba Ban," *NPR*, <http://ualrpublicradio.org/post/legislative-panel-delays-decision-arkansas-dicamba-ban#stream/0>.

Reports that the subcommittee of the Arkansas Legislative Council deferred a decision on whether to ban use and sale of dicamba. Governor Asa Hutchinson referred the decision to the committee following approval of a 120-day emergency ban proposed by the Arkansas Plant Board. The subcommittee did approve an emergency rule to increase fines up to \$25,000 for misuse of dicamba. All this follows the approval in December of BASF's Engenia dicamba-based herbicide. The board will reconvene to continue the debate the following week.

### **July 2, 2017**



Associated Press, "Farm chemical linked to oak damage," *Quad-City Times*, [http://qctimes.com/lifestyles/home-and-garden/farm-chemical-linked-to-oak-damage/article\\_09469a50-b1a4-5758-93f9-eeb4fabd19dd.html](http://qctimes.com/lifestyles/home-and-garden/farm-chemical-linked-to-oak-damage/article_09469a50-b1a4-5758-93f9-eeb4fabd19dd.html).

Reports that almost 1,000 residents of Iowa have contacted the state Department of Natural Resources about damaged leaves on oak trees (photo, right) that looked like insect damage. Research from the University of Illinois in 2004 showed that herbicide drift was likely linked to the condition, known as leaf tatters, due to exposure to chloroacetanilide herbicides like dicamba. Exposure occurs from direct drift but also through atmospheric volatility in areas not close to where the herbicide was applied. White oaks are particularly susceptible, and trees can die if damage to the leaves occurs over multiple years. Complaints of damage are up this year but not yet at record numbers.

### **July 1, 2017**

Stephen Steed, "Governor approves dicamba prohibition in Arkansas," *Northwest Arkansas Democrat Gazette*, <http://www.nwaonline.com/news/2017/jul/01/governor-approves-dicamba-prohibition-2-1/>.

Reports that on June 31, Arkansas Governor Asa Hutchinson submitted a letter that approved the Arkansas Plant Board's proposed 120-emergency ban on dicamba sale and use in the state. He wrote that "the volume of complaints do justify emergency action;" 507 complaints had been received as of June 31st. The proposed ban next goes to a subcommittee of the Arkansas Legislative Council for review, although their approval is not required for the ban to take effect. The article reports that complaints in neighboring states are also up, with 100 in Missouri and 48 in Mississippi as of the end of June.

#### **June 26, 2017**

Chris Bennett, "Arkansas Dicamba Ban Passes, Heads to Governor's Desk," *AgPro*, <http://www.agprofessional.com/resource-centers/crop-protection/arkansas-dicamba-ban-passes-heads-governors-desk>

Report on the vote of the Arkansas plant board on June 23 for a 120-day [emergency ban on dicamba use](#) after 242 complaints of damage from drift were received. The article points out the huge problem of herbicide-resistant Palmer amaranth in Arkansas fields, and the issue of seed availability, estimating that in 2018 70-80% of the seed available will be of the Xtend GE-variety, creating a greater need for dicamba.

#### **June 26, 2017**

Chris Bennett, "Dicamba Drift Reports Rise in Tennessee," *Ag Web*, <https://www.agweb.com/article/dicamba-drift-reports-rise-in-tennessee-naa-chris-bennett/>.

Reports that as of June 26, Tennessee Department of Agriculture has open investigations on 27 dicamba drift complaints, compared to only 3 in the same time period last year.



#### **June 23, 2017**

Dan Charles, "Arkansas Tries To Stop An Epidemic Of Herbicide Damage," *NPR*, <http://www.npr.org/sections/thesalt/2017/06/23/534117683/arkansas-tries-to-stop-an-epidemic-of-herbicide-damage>.

NPR story focusing on the farmer-vs-farmer conflicts arising in Arkansas due to dicamba damage. By press date, 242 complaints had been received by state regulators. On June 23, 2017 the Arkansas Plant Board voted to ban any spraying of dicamba on crops, other than pasture land, for 120 days. The ban would take effect as soon as signed by the governor.

#### **January 4, 2017**



Associated Press, "Arkansas governor approves board's limits on dicamba use," *The Washington Times*, <http://www.washingtontimes.com/news/2017/jan/4/arkansas-governor-approves-boards-limits-on-dicamb>.

Reports that Gov. Hutchinson has approved the Arkansas State Plant Board's proposal to limit when and where dicamba can be sprayed in the upcoming planting season. It includes a requirement for a 1 mile buffer zone before spraying dicamba, except on pasture or rangeland.

### **January 2, 2017**

Charles Benbrook, "Unprecedented Action Maybe Coming in Arkansas to Limit Dicamba Damage from Xtend Crops," *Hygeia Analytics*, <https://hygeia-analytics.com/2017/01/02/unprecedented-action-maybe-coming-in-missouri-to-limit-dicamba-damage-from-xtend-crops/>.

The governor of Arkansas Asa Hutchinson is pondering whether to accept recommendations by the state Plant Board to limit dicamba use in the coming growing season. The debate stems from the advent of dicamba-tolerant GE crops.

### **December 21, 2016**



BASF Press Release, "Engenia herbicide from BASF now registered by EPA," *Farm Industry News*, <http://www.farmindustrynews.com/herbicide/engenia-herbicide-basf-now-registered-epa>.

BASF press release about EPA approval of Engenia herbicide for dicamba-tolerant soybean and cotton. Includes claims of a 70% reduction in volatility.

### **November 8, 2016**

Forrest Laws, "EPA issues highly-restricted label for new dicamba formulation," *Delta FarmPress*, <http://www.deltafarmpress.com/soybeans/epa-issues-highly-restricted-label-new-dicamba-formulation>.

The EPA approves dicamba for use on herbicide-resistant crops. The formulation approved is for use with Monsanto's new Xtendimax with Vapor Grip Technology, which contains additives intended to decrease volatility and reduce drift.

### **November 7, 2016**

Betsy Jibben, "Farmers Waiting for EPA Approval of Dicamba," *AgWeb*, <https://www.agweb.com/article/farmers-waiting-for-epa-approval-of-dicamba-naa-betsy-jibben/>.

A mess was created in 2016 when Monsanto began selling its dicamba-tolerant Xtend soybeans before the herbicide designed to use with the GE seeds was approved by the EPA. Farmers bought the seed

anyway because of its high yield. Some farmers sprayed dicamba anyways, an illegal off-label use, resulting in 40,000 acres of damage from drift in Missouri alone.

### **October 28, 2016**

Marci Manley, "AR Man Shot Dead in Farm Dispute," KARK NBC 4 News Broadcast, posted at [www.arkansasmatters.com](http://www.arkansasmatters.com), <http://www.arkansasmatters.com/news/local-news/ar-man-shot-dead-in-farm-dispute/602816071>.

In a shocking turn of events, farmer-to-farmer conflict over dicamba drift from off-label herbicide use ended in murder when a man was shot during a meeting about damaged crops.

### **August 1, 2016**

Dan Charles, "How Monsanto And Scofflaw Farmers Hurt Soybeans In Arkansas," NPR, <http://www.npr.org/sections/thesalt/2016/08/01/487809643/crime-in-the-fields-how-monsanto-and-scofflaw-farmers-hurt-soybeans-in-arkansas>.



NPR story describes the illegal spraying of dicamba on soybean fields in Arkansas where Monsanto began selling its Xtend dicamba-resistant soybeans before the EPA had approved the new dicamba herbicide formulation for use with the GE seeds. Monsanto said farmers wanted the seed anyway because of higher yields, but many chose to illegally spray older dicamba formulations that were prone to drift.

### **July 7, 2016**

Tom Barber, "Dicamba Drift and Potential Effects on Soybean Yield," *AGWatch Network*, <http://www.agwatchnetwork.com/dicamba-drift-and-potential-effects-on-soybean-yield/>.

Tom Barber, an Extension Weed Scientist at the University of Arkansas, posts a chilling overview of what he has observed in soybean fields in several parts of the state. His piece "Dicamba Drift and Potential Effects on Soybean Yield" contains an ominous warning – "We have observed a 10% [soybean] yield loss from dicamba at rates as low as 1/1024X of the labeled rate" – a very low level of drift and/or movement following volatilization. Barber also warns that low rates of dicamba drift/movement onto soybeans, especially later in the crop's growth cycle (i.e. R3-R5) can result in carryover of dicamba in the seed...triggering problems if the soybeans are used for seed in the next year and increasing dietary exposure levels.