

# PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University  
<http://pested.okstate.edu>



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CHEM

- 1 JUNE TEST HELP SESSIONS
- 2 HERBICIDE RESISTANCE: THE NUMBING NUMBERS FROM THE WEED WARS
- 5 US EPA PESTICIDE APPLICATOR RULE REMAINS IN LIMBO
- 6 ENTOMOLOGISTS STRUGGLE WITH CASES THAT DON'T ACTUALLY INVOLVE BUGS
- 6 BED BUGS SHOW EARLY SIGNS OF RESISTANCE TO PAIR OF INSECTICIDES, RESEARCHERS REPORT
- 7 DEMOCRATS URGE PROBE OF US CHLORPYRIFOS POLICY REVERSE
- 8 2017: DRIFT CONTROL'S MOST IMPORTANT YEAR, SO FAR
- 10 ILLINOIS JUDGE STOPS CONSTRUCTION TO PROTECT ENDANGERED RUSTY PATCH BUMBLEBEE
- 11 CEU MEETINGS
- 12 ONLINE CEU LINKS
- 12 ODAFF TEST SESSION INFORMATION

## JUNE TEST HELP SESSIONS

The OSU Pesticide Safety Education Program will conduct the next test help sessions for 2017 in June. Mark your calendars the workshops will be held June 16<sup>th</sup> in Oklahoma City and June 28<sup>th</sup> in Tulsa.

The Tulsa session will be at the Tulsa County Extension Office at 4116 E. 15<sup>th</sup>. **The Oklahoma City Test help session will at the new Oklahoma County Extension Office 2500 NE 63rd.**

The help sessions will focus on information covered in the core and service tech tests. OSU PSEP will answer any questions over other category tests during this session.

Applicators should acquire and study the manuals before coming to the help session for optimum success. Study manuals can be purchased by using the manual order form available at our website <http://pested.okstate.edu/pdf/order.pdf> or by calling University Mailing at 405-744-5385.

**ODAFF Testing fees are not included in the registration fee and must be paid separately.**

Register online at the Pesticide Safety Education Program (PSEP) website at <http://pested.okstate.edu/html/practical.htm>. Registration forms can also be downloaded from the website.

Registration will start at 8:30 and the program will run from 8:45 am to 12:30 pm at both locations. Testing will begin at 1:30 pm at both locations.

### **NO CEU's will be given for this program!**

More Test Help Workshop dates are scheduled for 2017. Please go to the website below for the 2017 dates.

<http://pested.okstate.edu/html/practical.htm>

## **HERBICIDE RESISTANCE: THE NUMBING NUMBERS FROM THE WEED WARS**

As in any war, the longer the conflict goes on, the higher the numbers associated with this fight grow. This has certainly been the case with the ongoing struggle between ag retailers/grower-customers and herbicide-resistant weeds. According to most weed scientists, the number of herbicide-resistant weeds currently residing in grower fields around the globe has expanded from a handful in the mid-1990s to 238 today, with these being resistant to 26 different kinds of herbicides. In the U.S., virtually every state (with the exception of Nevada) has at least one type of weed resistant to herbicide applications, with several having multiple types present.

And although glyphosate-resistant weeds have received the lion's share of attention from the marketplace, the entire notion of control using crop protection products is under attack. "Glyphosate-resistance is widespread," says Dane Bowers, Herbicide Technical Product Lead for Syngenta. "And this is not limited to just glyphosate. All herbicides are now at risk."

Although the list of herbicide-resistant weeds is a long one, industry insiders point out that some varieties are much more problematic than others. For example, in Missouri — which has one of the highest figures when it comes to herbicide-resistant weed types — waterhemp is the undisputed general of the resistant weed army. "It's a nightmare," says Kevin Bradley, Associate Professor at the

University of Missouri. "We have waterhemp on every acre. Every farmer today in the state makes their farming decisions each year based upon their waterhemp problem."

Making this problem even worse, adds Bradley, is the fact that an estimated 60% to 70% of these weeds now show resistance to multiple herbicides. "As weed scientists, we've looked high and low, and we can't find waterhemp in Missouri that is not resistant to ALS, glyphosate, and PPO herbicides," he says. "And some plants we find now are beginning to show resistance to 2,4-D as well."

In addition to waterhemp, the other key herbicide-resistant weed agriculture is waging all-out war against (and vice versa) is Palmer amaranth. Able to grow 2 to 3 inches per day, quickly reaching a height of up to 8 feet, and producing millions of seeds each season, Palmer amaranth has been shown in research to be able to reduce soybean yields by 79% when present. In corn, this figure can hit 91% in yield losses.

Long a fixture in the Mid-South, Palmer amaranth has quickly spread much further north. Researchers discovered the weed for the first time in South Dakota in 2015 and in Minnesota in early 2017 (where it is suspected to have stowed away in a truck shipment of seed mix). "Palmer amaranth is quickly moving across a larger geography than we've seen with any other resistant weed," says Bradley. "The movement is occurring through equipment, feed, seed, and even waterfowl."

Besides its ability to spread and reproduce, Palmer amaranth also has a well-earned reputation for quickly developing resistance to multiple herbicides. For instance, last October, the University of Missouri identified a population of Palmer amaranth with resistance to both glyphosate and PPO-inhibitors.

To appreciate just how devastating a resistant Palmer amaranth invasion can be to growers, consider this cautionary tale from Dr. Jason Norsworthy, Professor at the University of Arkansas. "In the mid-1990s, growers in Arkansas were seeing widespread ALS resistance in Palmer amaranth," says Norsworthy. "But then, Roundup

Ready crops came along, and by 1999, virtually the entire state had adopted these for their fields. This meant everyone was spraying nothing but glyphosate year-after-year to control weeds.”

By the early 2000s, he says, glyphosate was no longer proving effective as a lone weed control herbicide, so Arkansas growers began employing PPO-inhibitors into the mix. This worked for a few years.

“Then in 2015, the wheels came off the wagon,” says Norsworthy. “That’s when PPO-resistant Palmer amaranth showed up. Now, I have story after story in Arkansas of farmers who are no longer farming and bankrupt because of resistant weeds.” In all, he estimates approximately 25% of growers in the state have stopped farming over the past decade because of resistant weeds.

### **Looking for New Troops**

As grower and weeds gear up the upcoming 2017 campaign, many experts believe that herbicide-resistant weeds will already have the upper hand because of Mother Nature. “This past winter was pretty warm compared with other years,” says Jenny Goodman, Global Product Manager, Corn and Soy for DuPont Crop Protection. “If this provides a longer growing season than normal, the weeds will also have a longer time to sprout and grow, too.”

In recent years, many growers have started moving to alternatives to glyphosate-resistant crops such as the Roundup Ready varieties. For several years now, LibertyLink soybeans which work with glufosinate herbicides have been growing in popularity. For the 2017 season, says David Hollinrake, Vice President of North America Marketing, Crop Science for Bayer CropScience, the company estimates that approximately 15% of the nation’s 86 million soybean acres will be planted with LibertyLink seeds.

In addition to the LibertyLink option, soybean growers will also have one other cropping system to employ in 2017 — dicamba-resistant soybeans. According to Dr. Bryan Young, Weed Scientist at Purdue University, this technology gives growers another control tool for their fields. “There is a

serious challenge controlling weeds post-emergence in soybeans right now,” says Young. “Dicamba should help with this, especially with Palmer amaranth and waterhemp that is glyphosate and PPO resistant.”

This year, several companies including Monsanto and DuPont are formally launching these cropping system, which are resistant to glyphosate, glufosinate, and dicamba herbicides. This is being supported by dicamba herbicide options from Monsanto (XtendiMax with VaporGrip technology), BASF (Engenia), and DuPont (FeXapan plus VaporGrip technology).

“Soybean growers have an urgent need for updated herbicide solutions that help them fight the shifting weed populations they see in their fields,” says Timothy Glenn, President of DuPont Crop Protection. “Competitive weeds and the rapid encroachment of herbicide-resistant weed populations are limiting yield and grower profitability. FeXapan controls herbicide-resistant weeds including kochia, marehail, waterhemp, and Palmer amaranth as part of a complete weed-control program.”

Also beginning to move into the herbicide-resistance weeds battle is the Enlist cropping system from Dow AgroSciences. Engineered to work with the herbicide 2,4-D, Enlist cotton is now being introduced into the U.S. market, according to John Chase, Portfolio Marketing Leader/Enlist Commercial Leader for the company. “And we are still waiting for import approvals from China for Enlist soybeans,” says Chase. “But once we have those, we are ready to move very quickly to get Enlist soybeans into the market as another option for growers to fight against resistant weeds.”

### **Better Use of Existing Troops**

As these new post-emergence herbicide options enter the market, says Bill Johnson, Professor of Weed Science at Purdue University, they should provide better control than glyphosate on glyphosate-resistant populations, but overuse will eventually lead to the same old resistance problems.

“We have to be realistic in our expectation. So if we get into a situation with only two shots of 2,4-D and dicamba postemerge, what’s going to happen three, four, or five years down the road?” asks Johnson. “We’re going to have resistance because we’re basically spraying that weed with one active ingredient. Because of the pricing situation with soybeans, I know that’s what the temptation is going to be, but we want to warn against that.”

Some of the existing herbicide options for soybean growers looking for weed control for preemerge include BroadAxe XC (s-metolachlor+sulfentrazone) and Boundary 6.5 EC (s-metola-chlor+metribuzin) from Syngenta and Marvel (fluthiacet-methyl+fomesafen) from FMC Corp. In early 2017, Nufarm introduced Panther Pro (flumioxazin), which can be used in fall or spring burndown programs.

Also newer for soybeans is Zone herbicide (sulfentrazone+chlorimuron ethyl) from Helm Agro US. According to Jan Stechmann, President of the company, Zone offers long-lasting residual control of annual broadleaf weeds “and excellent residual control when tank-mixed with burndown herbicides such as glyphosate, paraquat, glufosinate, and 2,4-D LVE.”

In addition, Valent U.S.A. Corp. recently launched its new Valor EZ herbicide (flumioxazin). According to Dawn Refsell, Manager, Field Development, Midwest Commercial Unit for the company, Valor EZ is a liquid formulation for easier tank mixing and can be used as a residual partner on Roundup Ready Xtend crops. “Valor EZ can provide protection against a broad spectrum of weeds, including waterhemp and Palmer amaranth, for four to six weeks,” says Refsell.

For corn growers, herbicides that offer multiple modes of action are becoming more of the norm. In the past year, products such as Acuron (atrazine+mesotrone+s-metolachlor+bicyclopyrone)/Auc--ron Flexi (mesotrone+s-metola-chlor+bicyclopyrone) from Syngenta and Resicore (acetochlor+clopyralid+mesotrione) from Dow AgroSciences have grown in popularity. “Corn growers are looking for ways to keep the weeds in

their fields off-balance by using more modes of action,” says Lyndsie Kaehler, Corn Herbicide Product Manager for Dow. “Resicore delivers three different modes of action and is particularly good at controlling troublesome weeds such as marehail and waterhemp.”

### Using Other Combat Methods

Experts say that agriculture must do all it can to keep trying to combat the spread of herbicide-resistant weeds. The potential losses to growers are staggering. According to a recent study from the Weed Science Society of America (WSSA), corn and soybean growers in the U.S. and Canada would lose approximately \$43 billion in revenue annually if they lost all their abilities to control weed infestations in their crop fields. The study was conducted over a seven-year period and found that if all weed control practices were eliminated, the average yield loss for corn would be 52% and 49.5% for soybeans.

“It’s an astonishing number and indicates the significant threat weeds present to crop production,” says Dr. Anita Dille of Kansas State University and Chair of the WSSA Weed Loss Committee. “It also drives home the importance of taking steps to mitigate the development of herbicide resistance. When a single herbicide is used repeatedly to the exclusion of other controls, weeds can become resistant and can grow unchecked.”

For this reason, some agronomists are recommending growers consider non-herbicide methods to try to combat resistant weeds. For example, the use of wider row spacing or tillage can keep weed seeds from sprouting.

Then there is the use of cover crops. According to researchers, cover crop residue can create an unfavorable environment for weeds by reducing the light and moisture available for germinating their seeds. In one study, preemergence herbicides were also added to an integrated program using cover crops and it found that Palmer amaranth population density and seed production were significantly reduced compared with using a glyphosate-only program.

“Our study shows that farmers diversifying their weed management program can reduce both the prevalence of resistant weeds and the size of the soil seedbank,” says Dr. Nicholas Korres from the University of Kansas. “This can help extend the useful life of the herbicides they rely on for weed control.” (CropLife April 2, 2017)

<http://www.croplife.com/crop-inputs/herbicide-resistance-the-numbing-numbers-from-the-weed-wars/>

## **US EPA PESTICIDE APPLICATOR RULE REMAINS IN LIMBO**

US President Donald Trump's administration has again delayed implementation of the EPA's new agrochemical applicator rule and could still opt to scrap the controversial regulation.

Administration officials say that they have not had time to fully review the rule, which was finalised in December and is directed at applicators of restricted-use pesticides. The new rule raises age and competency requirements and imposes stricter standards for certification, training and supervision. The EPA says that the changes would reduce the likelihood of harm from pesticide misapplications and ensure consistent enforcement across all 50 states.

But the regulation has drawn the ire of stakeholders who contend that the changes are unnecessary. State officials last year raised concerns about the costs of implementation and called for the Agency to abandon its revisions to the rule.

The rule was one of 30 EPA regulations put on hold in January by the Trump administration. The White House directive called for a 60-day delay so that officials could review each rule and determine its fate.

Late last month, the White House said that it needed more time to complete its review. "Given the length of the confirmation process for the EPA Administrator and the fact that the Agency lacks Senate-confirmed officials elsewhere, the new administration has not had the time contemplated by the January 20th memo for this review," the White House said..

But the problem may be one of the administration's own making. The Senate confirmed EPA Administrator Scott Pruitt on February 17th but the White House has yet to submit nominations for other key Agency positions, including the director of the Office of Pesticide Programs.

The administration said that it was deferring the effective date for the regulation until May 22nd and defended its decision to do so without taking public comment. Such a move would be "impractical," according to the White House, as the EPA has been faced "with circumstances beyond its control".

"It is difficult to predict when the appropriate officials might assume their responsibilities," the White House added. "Furthermore, allowing [the rule] to go into effect without first deciding whether to undertake a substantive review may create public confusion." (Pesticide & Chemical Policy/AGROW, April 10, 2017)

## **ENTOMOLOGISTS STRUGGLE WITH CASES THAT DON'T ACTUALLY INVOLVE BUGS**

Patients with delusory parasitosis are increasingly turning to entomologists. Gale Ridge of the Connecticut Agricultural Experiment Station was profiled in the Boston Globe for her work with these individuals.

The article noted that delusory parasitosis poses a challenge even for the best-trained physician. You might know that the best treatment is an antipsychotic, but getting patients to accept that prescription or to see the proper specialist can be nearly impossible: The patients believe that the proper medication is not an antipsychotic but an antiparasitic, that the correct expert is not a psychiatrist but an insect specialist.

So they seek out entomologists. As the article stated, Ridge sees as many as 200 of these cases a year. She isn't the only one with this unintentional expertise. A whole network of entomologists — at universities, research stations, and even at natural history museums — is all too familiar with these requests.

Also interviewed in the article was University of Georgia entomologist Nancy Hinkle. Fifteen years ago, Hinkle got maybe one delusory parasitosis call a week; now she gets one a day. Hinkle noted, “Every state has somebody like Gale or me,” said Nancy Hinkle, a professor of veterinary entomology at the University of Georgia, in Athens. She estimates that these inquiries take up about 20 percent of her time. “I tend to stay a couple of hours every day to deal with the invisible bugs.” (PCT Online, April 25, 2017)

<http://www.pctonline.com/article/entomologists-delusory-parasitosis-ridge/>

## **BED BUGS SHOW EARLY SIGNS OF RESISTANCE TO PAIR OF INSECTICIDES, RESEARCHERS REPORT**

As reported by Entomology Today, new research from Purdue University shows early signs of resistance developing among bed bugs to two commonly used insecticides.

In a study published this week in the Journal of Economic Entomology, researchers at Purdue University found significantly reduced susceptibility to chlorfenapyr among three out of 10 bed bug populations collected in the field, and they found reduced susceptibility to bifenthrin among five of the populations.

The common bed bug (*Cimex lectularius*) already shows significant resistance to deltamethrin and some other pyrethroid-class insecticides, which is viewed as a main cause of its resurgence as an urban pest. In fact, 68 percent of pest management professionals identify bed bugs as the most difficult pest to control, according to a 2015 Bugs Without Borders survey of pest management professionals conducted by the National Pest Management Association and the University of Kentucky. Little research had yet been done, however, to examine potential resistance to bifenthrin (also a pyrethroid) or chlorfenapyr, a pyrrole-class insecticide, which led the Purdue researchers to investigate.

“In the past, bed bugs have repeatedly shown the ability to develop resistance to products overly relied upon for their control. The findings of the current study also show similar trends in regard to chlorfenapyr and bifenthrin resistance development in bed bugs,” says Ameya D. Gondhalekar, Ph.D., research assistant professor at Purdue’s Center for Urban and Industrial Pest Management. “With these findings in mind and from an insecticide resistance management perspective, both bifenthrin and

chlorfenapyr should be integrated with other methods used for bed bug elimination in order to preserve their efficacy in the long term.”

They tested 10 populations of bed bugs that were collected and contributed by pest management professionals and university researchers in Indiana, New Jersey, Ohio, Tennessee, Virginia, and Washington, DC, measuring the percent of bed bugs killed within seven days of exposure to the insecticides. Generally, populations in which more than 25 percent of the bed bugs survived were deemed to have reduced susceptibility to the insecticide based on statistical analysis performed in comparison to the susceptible laboratory population. (PCT Online April 13, 2017)

<http://www.pctonline.com/article/bed-bug-insecticide-resistance-purdue-research/>

## **DEMOCRATS URGE PROBE OF US CHLORPYRIFOS POLICY REVERSE**

Democrats in the US Congress have asked the EPA's Inspector General (IG) to investigate the Trump administration's decision not to revoke food tolerances for the insecticide, chlorpyrifos.

The decision to abandon a 2016 proposal to effectively ban the insecticide "ignored the EPA's own scientific conclusions and ... appears to be inconsistent with the legal standard for EPA decisions on banning hazardous pesticides", according to Senator Elizabeth Warren, a Massachusetts Democrat, and Representative Frank Pallone, a Democrat from New Jersey.

The two lawmakers say that the controversy warrants a formal investigation into the "rationale" behind the decision, which was one of the first official acts by EPA Administrator Scott Pruitt after his confirmation in March.

At issue is the EPA's response to a petition filed by the Natural Resources Defense Council (NRDC) and Pesticide Action Network (PAN) in 2007 that called for tolerance revocation based on evidence of human health risks from chlorpyrifos. US farmers annually use an estimated 5-6 million pounds (2,268-2,722 tonnes) of the insecticide on some 50 crops, including almonds, apples, citrus fruit, maize and strawberries. The petition cited concerns about neurological harm to children.

After years of legal wrangling, the EPA in October 2015 concluded that aggregate exposures from food and drinking water warranted a ban under the Federal Food, Drug and Cosmetic Act (FFDCA). The Agency issued its official proposal to revoke tolerances last November after publishing an updated analysis of the human health risks from the insecticide along with its final assessment of exposures from drinking water.

Critics — including the USDA, CropLife America, the National State Departments of Agriculture and the Grocery Manufacturers Association — questioned the EPA's scientific review, arguing that the Agency was overstating the potential exposures and risks from chlorpyrifos.

Under an order from the US Court of Appeals for the Ninth Circuit to act by March 31st, Mr Pruitt heeded those concerns and formally denied the petition on March 29th.

Ms Warren and Mr Pallone contend that the decision is "difficult" to understand. "It appears not to be based on EPA's existing recent scientific findings about the risk, or any new information that contradicts the findings about the health and safety risks of chlorpyrifos," the lawmakers wrote in an April 28th letter to EPA IG Arthur Elkins. "It does not appear to be consistent with the law, which requires that pesticide products cannot be used unless 'there is reasonable certainty that no harm will result from the aggregate exposure to the pesticide chemical residue.'"

The letter asks Mr Elkins to clarify how Mr Pruitt reached his decision, including if he communicated with the pesticide industry about the issue. The two lawmakers also want the IG to detail why Mr Pruitt

reversed "an Agency decision that had been years in the making" and to determine if the EPA Administrator complied with legal standards under the FFDCA and federal pesticide law. The letter asks for a "prompt and thorough investigation of these issues" and the underlying decision to not revoke chlorpyrifos tolerances.

It is unclear if the IG will take on the investigation, but the NRDC and PAN have also asked the Ninth Circuit to again intervene. The groups argue that the EPA is legally obligated to ban chlorpyrifos. They want the Court to force the EPA to act and to commit to specific deadlines for how it will proceed with tolerance revocation and cancellation of chlorpyrifos registrations.

In an April 29th filing with the Court, the EPA argues that it has fulfilled its legal obligations to formally address the petition. Further action by the Ninth Circuit forcing the EPA to revise its decision would run counter to federal administrative law and the Court is not bound to address the "frustrations" of the petitioners, the Agency said.

The arguments in the motion are "thinly veiled attempts to bind the present administration to the policy choices of the prior administration in this matter", the EPA added. "If the Court were to reach the merits and accept such arguments, it would effectively preclude the new administration from taking positions different from past administrations, contrary to the Supreme Court's guidance."

(Pesticide & Chemical Policy/AGROW, May 2, 2017)

## **2017: DRIFT CONTROL'S MOST IMPORTANT YEAR, SO FAR**

This upcoming growing season promises to be slightly different than any that have come before it. In 2017, USDA estimates say that almost as much soybean acres will be planted as corn — 89.5 million acres vs. 90 million acres. And chances are that at least some of these added soybeans acres will feature seeds/plants that have been engineered to be resistant to the herbicide dicamba — the latest in

the agricultural industry's ongoing effort to combat the more than 200 weeds in grower fields that have developed resistance to other popular herbicides such as PPO varieties and glyphosate.

As Dr. Mark Hanna, Extension Agricultural Engineer at Iowa State University, points out, this has the potential to fundamentally change how custom applicators can perform their jobs. "The herbicide landscape has changed again," says Hanna. "With resistance issues out there and a wider range of product out there, it's become a much different ballgame to control drift issues than what we've been doing in the past."

Darrin Holder, Agronomist Manager for WinField United, agrees. "Drift issues will be much more prevalent in 2017 and beyond because of all the different cropping systems growers can be using in their fields," says Holder.

### **Old Chemistry, New Issues**

In truth, dicamba isn't a new herbicide. In fact, the product has been in use for better than 50 years as one option for growers to burndown weeds in their fields in the spring before planting occurs. Part of the reason for this caution, say experts, is older forms of dicamba were highly volatile and prone to the risk of physical or vapor drift. Of course, with mostly barren fields likely nearby during these applications, neighboring crop/plant damage historically wasn't much of an issue.

Now, however, as dicamba-resistant crops enter the marketplace, dicamba applications will likely be taking place later in the growing season, increasing the potential for spray drift to take place. Still, as Dave Johnson, Weed Scientist for DuPont Crop Protection, points out, the newer formulations of dicamba such as XtendiMax with VaporGrip Technology from Monsanto, Engenia from BASF, and DuPont's own FeXapan plus VaporGrip Technology tend to employ BAPMA salt in their make-up instead of DMA and DGA as older dicamba options to decrease their volatility by up to



70%. “These new dicamba brands are made to reduce their drift potential,” says Johnson.

In the field, these new dicamba herbicides have been shown to effectively control several types of stubborn, herbicide-resistant weeds such as Palmer amaranth, waterhemp, and marehail, with some research showing 90% to 95% control of PPO/glyphosate types being observed. “Dicamba is a broad spectrum product that offers robust control,” says Dr. Ty Witten, North American Crop Protection Systems Lead for Monsanto. “In addition, it offers soil residue for up to 14 days after application.”

However, the risk of drift nonetheless exists with these products, as some experts such as Dr. Jason Norsworthy, Professor at the University of Arkansas, contend. “With dicamba, the risk of physical drift is greater than vapor drift,” says Norsworthy.

And in his state of Arkansas, such a drift episode involving dicamba turned deadly just last fall. In late October, 55-year old soybean/corn/cotton grower Mike Wallace of Monette, AR, was killed by Allan Curtis Jones, a neighboring grower, when he confronted him alleging that a dicamba application in one of Jones’ fields had drifted and damaged 40% of Wallace’s soybeans.

“That was one of the darkest days of my life, when I got the call that Mike Wallace had been killed over dicamba drift,” says Norsworthy. “Of course, there have been such incidents involving possible dicamba drift since then, so this is obviously an emotionally charged issue in the grower community.”

### **The Label is Law**

Virtually everyone within the agricultural community agrees that to prevent spray drift issues from cropping up using these new dicamba products, custom applicators will have to pay extra attention to the label requirements for use. “The label is the law, I’ve often told people in this

industry, but that’s never been more true than with these products,” says Chris Weed, a representative with KOVA of Ohio and Chairman of the Custom Application Task Force for the Ohio AgriBusiness Association. “If something isn’t listed on the label for use with the dicamba you are applying, and you decide to add it without checking, you’ve violated the label and will be held accountable for the consequences.”

With other herbicide applications, applicators have usually relied on various adjuvants or tank mix products to reduce drift risk. However, according to the label, these new dicamba products cannot be used in conjunction with AMS products, which are popular in areas of the country where “hard” (mineral-laden) water is present. Instead, companies such as WinField United have options such as AG16098 and Class Act Ridion. “AG16098 is an adjuvant that can be used with XtendiMax and Engenia that is designed to keep droplets from getting too small and potentially drift,” says the company’s Holder. “Class Act Ridion, meanwhile, can act as a water conditioner with these products.”

According to the University of Arkansas’ Norsworthy, other recommendations to reduce the potential for spray drift with these dicamba brands include leaving a 110-foot buffer of unsprayed plants between neighboring fields, not applying in wind speeds over 10 mph, and keeping boom heights at 24 inches or less.

The consequences for the industry to not following these instructions to curb spray drift could be severe, he warns. “If you look at the labels on these dicamba products, they are all only being approved for use until November 2018,” says Norsworthy. “I’ve been told by my friends at the EPA that this is because if there are too many drift problems with this technology, the agency wants the option to not renew it for use beyond next year. So my message to you is a simple one — if we don’t use this thing correctly, we will lose this weed control tool forever.” (CropLife, May 1, 2017)

## **ILLINOIS JUDGE STOPS CONSTRUCTION TO PROTECT ENDANGERED RUSTY PATCH BUMBLEBEE**

Local activists in Illinois were handed a victory on Monday when a judge granted a temporary restraining order to shut down a construction project due to the presence of the rusty patch bumblebee, a recently listed endangered species. The group Stop Longmeadow, in reference to the Longmeadow Parkway Bridge Corridor project, filed the lawsuit, Case: 1:16-cv-05435, based on the fact that the rusty patch bumblebee has been found in the Brunner Forest Preserve, which borders 5.6 miles of the corridor project.

Defendants, including the U.S. Department of Transportation, the U.S. Department of the Interior, and the Forest Preserve District of Kane County, argue that the scheduled construction will not affect bumblebee habitat. The court rejected their position; however, siding in the plaintiffs by finding “the balance of harms weighs in favor of the plaintiffs and against the public’s interest in reduced traffic congestions.”

The restraining order was issued by Judge Sharon Coleman in the U.S. District Court for the Northern District of Illinois Eastern Division. Based on the evidence presented by the plaintiff’s motion, Judge Coleman reasoned that “a brief stay to the project is warranted.” She went on to point out that, contrary to the defendant’s argument, the plaintiffs did not delay in seeking relief, given the quick turnaround between the decision by the Fish and Wildlife Service (FWS) to list the bumblebee on March 21, 2017, and the notice by the county released on April 11, 2017, stating that work would begin on the construction project six days later on April 17. The restraining order is in place until April 28, 2017, when plaintiffs are expected to have submitted a motion for preliminary injunction with additional support for their position as well as notified the

federal defendants under the Endangered Species Act (ESA), according to the judge’s order.

“We understand there are no guarantees but those of us fighting it believe it is the right thing to do and we are not giving up hope,” said Jo Ann Fritz, a supporter of the Stop Longmeadow movement. “We are being vigilant and we are determined,” she continued, showcasing the resolve of local protestors to demand the government protect endangered species and their habitat.

According to the motion, plaintiffs argue that, “The Longmeadow Project has significant and permanent ramifications to not only the local population of the bee, but on the nationwide survival of the species itself.” This is likely true as, according to FWS, the rusty patched bumble bee was once widespread across the U.S. and parts of Canada, but declined dramatically in the 1990s. An article published in the Washington Post states that, “The rusty patched bumblebee was so prevalent 20 years ago that pedestrians in Midwestern cities had to shoo them away.” Since then, their populations have dwindled and their overall decline is estimated at 91 percent.

The listing of the rusty patch bumblebee as an endangered species is significant, marking the first bumblebee species, and first bee overall in the continental U.S., to officially be declared endangered by FWS. This is important to groups like Beyond Pesticides because it requires that this bumblebee and the ecosystem in which it lives must be taken into consideration in all EPA allowances of pesticide use.

In October 2016, FWS listed seven species of bees as endangered in Hawaii. In its news release outlining the decision to list, FWS stated, “Causes of the decline in rusty patched bumble bee populations are believed to be loss of habitat; disease and parasites; use of pesticides that directly or indirectly kill the bees; climate change, which can affect the availability of the flowers they depend on; and extremely small population size. Most likely, a combination of these factors has caused the decline in rusty patched bumble bees.” There is substantial research demonstrating that neonicotinoid insecticides, working either individually or synergistically, play a critical role in the ongoing decline of bees and other pollinators.

[illinois-judge-grants-temporary-restraining-order-protect-rusty-patch-bumblebee/](http://illinois-judge-grants-temporary-restraining-order-protect-rusty-patch-bumblebee/)

## CEU Meetings

Date: May 10, 2017

Title: 2017 Professional Applicator Training

Location: Redlands Community College El Reno

OK

Contact: Tammy Ford-Miller (580) 233-9516

Course #: OK-17

[www.oklahomaag.com](http://www.oklahomaag.com)

| CEU's: | Category(s): |
|--------|--------------|
| 4      | 1A           |
| 4      | 10           |

A victory in Illinois would not be the first time a large-scale construction project has come to a halt under the provisions of the ESA. In the 1978 landmark Supreme Court decision *Tennessee Valley Authority v. Hill*, the court sided with environmentalists and upheld an injunction under the ESA that prevented the Tennessee Valley Authority from finishing the Tellico Dam, based on findings the operation of the dam would wipe out snail darter habitat. The snail darter was listed as an endangered species after the Tellico Dam project had begun, and even though the U.S. government continued to provide funding for the project after the listing, according to the court it did not render the project exempt from the ESA. This case set the precedent for the court's willingness to enforce the ESA, a tradition that is mirrored by Judge Coleman's decision in this case to grant a temporary injunction in order to protect the rusty patch bumblebee.

While attacks against ESA listings are likely to become more frequent over the next several years, it is critical that the public is educated on the importance of wild pollinators, both to agricultural productivity and for their intrinsic value. Indeed, there is a strong argument that it would cost more to not protect species like the rusty patch than to allow them to go extinct. A 2016 UN report warning of shortages in global food supplies should pollinator numbers decline any further estimates that pollinators worldwide contribute between \$235 and \$577 billion in agricultural productivity annually.

Help Beyond Pesticides show appreciation for both wild and managed pollinators by taking local action. Get involved at the community level to pass policies that protect imperiled pollinators. Right now, without federal protection, the Rusty Patched Bumblebee needs concerned communities throughout the country to step in and makes changes that give it a fighting chance. Use our resources and educational materials, including our BEE Protective doorknob hangers to get the word out. And be sure follow Beyond Pesticides' ongoing series celebrating unsung wild pollinator heroes through the Polli-NATION campaign.

(Beyond Pesticides, April 19, 2017)

<http://beyondpesticides.org/dailynewsblog/2017/04/>

## ODAFF Approved Online CEU Course Links

PestED.com

<https://www.pested.com/>

CEU School

<http://www.ceuschool.org/>

Technical Learning College

<http://www.abctlc.com/>

Green Applicator Training

<http://www.greenapplicator.com/training.asp>

All Star Pro Training

[www.allstarce.com](http://www.allstarce.com)

Wood Destroying Organism Inspection Course

[www.nachi.org/wdocourse.htm](http://www.nachi.org/wdocourse.htm)

CTN Educational Services Inc

[http://ctnedu.com/oklahoma\\_applicator\\_enroll.html](http://ctnedu.com/oklahoma_applicator_enroll.html)

Pest Network

<http://www.pestnetwork.com/>

Univar USA

<http://www.pestweb.com/>

Southwest Farm Press Spray Drift Mgmt

<http://www.pentonag.com/nationalsdm>

SW Farm Press Weed Resistance Mgmt in Cotton

<http://www.pentonag.com/CottonWRM>

Western Farm Press ABC's of MRLs

<http://www.pentonag.com/mrl>

Western Farm Press Biopesticides Effective Use in Pest Management Programs

<http://www.pentonag.com/biopesticides>

Western Farm Press Principles & Efficient Chemigation

<http://www.pentonag.com/Valmont>

For more information and an updated list of CEU meetings, click on this

link:<http://www.oda.state.ok.us/cps-ceuhome1.htm>

## ODAFF Test Information

Pesticide applicator test sessions dates and locations for May/June are as follows:

| May |       | June |          |
|-----|-------|------|----------|
| 4   | Enid  | 6    | Goodwell |
| 8   | OKC   | 6    | OKC      |
| 11  | Tulsa | 8    | Tulsa    |
| 22  | OKC   | 19   | OKC      |
| 25  | Tulsa | 22   | Tulsa    |
|     |       |      |          |
|     |       |      |          |
|     |       |      |          |
|     |       |      |          |

Altus: SW Research & Extension Center  
16721 US HWY 283

Atoka: KIAMICHI TECH CENTER 1301  
W Liberty Rd, Seminar Center

Enid: Garfield County Extension Office,  
316 E. Oxford.

Goodwell: Okla. Panhandle Research &  
Extension Center, Rt. 1 Box 86M

Hobart: Kiowa County Extension Center  
Courthouse Annex, 302 N. Lincoln

Lawton: Great Plains Coliseum,  
920 S. Sheridan Road.

McAlester: Kiamichi Tech Center on  
Highway 270 W of HWY 69

OKC: Arcadia Conservation Education  
Building 7201 E 33<sup>rd</sup> St. Edmond  
OK (**New Location**)

Tulsa: NE Campus of Tulsa Community  
College, (Apache & Harvard)  
Large Auditorium

**Pesticide Safety  
Education Program**