

# PESTICIDE REPORTS

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



**November, 2020**

**CHEM**

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## FEDERAL CERTIFICATION REQUIRED WHEN MAKING RUP APPLICATIONS TO TRIBAL LAND

Applications of Restricted Use Pesticides (RUP) on Federal Recognized Tribal land requires a federal certification as well as state certification.

This applies to any certification in any category if RUP are used but usually impacts 1A Agricultural Plant and Private Applicators the most often. It is recommended that 1A applicators get this Federal Certification for work in Oklahoma.

These Federal Certifications must be renewed and there is no charge for this certification. Information on getting this Federal certification can be found here <https://www.epa.gov/pesticide-applicator-certification-indian-country/applicator-certification-form-under-epa-plan>. This is also linked on our <http://pested.okstate.edu> web page under the helpful links.

The renewal form can be downloaded at this EPA web site  
[https://www.epa.gov/sites/production/files/2020-02/documents/fed-cert-plan-application-form-and-instructions-2022\\_0.pdf](https://www.epa.gov/sites/production/files/2020-02/documents/fed-cert-plan-application-form-and-instructions-2022_0.pdf)  
 (OSU PSEP)

# EPA PROPOSES NEW SAFETY MEASURES FOR PARAQUAT

Today, EPA is taking the next step in its regulatory review of paraquat dichloride (paraquat), a widely used herbicide.

As outlined in the proposed interim decision for paraquat, the agency is proposing new measures to reduce risks associated with paraquat in order to better protect human health and the environment. These measures include:

- Prohibiting aerial application for all uses and use sites except cotton desiccation;
- Prohibiting pressurized handgun and backpack sprayer application methods on the label;
- Limiting the maximum application rate for alfalfa to one pound of active ingredient per acre;
- Requiring enclosed cabs if area treated in 24-hour period is more than 80 acres;
- Requiring enclosed cabs or PF10 respirators if area treated in 24-hour period is 80 acres or less;
- Requiring a residential area drift buffer and 7-day restricted entry interval (REI) for cotton desiccation;
- Requiring a 48-hour REI for all crops and uses except cotton desiccation; and
- Adding mandatory spray drift management label language.

In addition, EPA is proposing to allow truck drivers who are not certified applicators to transport paraquat when certain conditions are met.

The proposed interim decision for paraquat is now available for public comment for 60 days in docket [EPA-HQ-OPP-2011-0855](#) at [www.regulations.gov](http://www.regulations.gov), closing on December 22, 2020.

## Background

Paraquat is applied annually to control invasive weeds and plants in more than 100 crops—including cotton, corn, and soybeans, and there are presently no direct alternatives to this product. Because all paraquat products are [Restricted Use Products](#), they can only be applied by certified pesticide applicators.

EPA has taken proactive steps, outside of the standard registration review process, to ensure paraquat is used in a manner that is safe and consistent with the label directions. This includes a [safety awareness campaign](#) and [changes to labels and product packaging](#) to stop improper uses, which have led to poisonings and deaths. Additionally, [specialized training for certified applicators who use paraquat](#) was released earlier this year to ensure that the pesticide is used correctly. EPA is continuing to evaluate the effectiveness of these measures as the agency works to complete the required registration review process.

The proposed interim decision (PID) for paraquat is the third step in EPA's four-step process for evaluating a pesticide registration application that EPA conducts at least every 15 years. It is not a denial or an approval of the active ingredient.

In the PID, EPA proposes mitigation measures to reduce the human health and ecological risks identified in the agency's human health and ecological risk assessments (step two). The agency published the draft risk assessments for paraquat in October 2019. The ID is the fourth step in the registration review process. In the ID, EPA finalizes mitigation measures to reduce the human health and ecological risks.

[Additional information on the proposed interim decision for paraquat is available on EPA's website.](#) (EPA October 22, 2020)  
<https://www.epa.gov/pesticides/epa-proposes-new-safety-measures-paraquat>

# EPA FINALIZES IMPROVEMENTS TO PESTICIDE APPLICATION EXCLUSION ZONE REQUIREMENTS

On October 30, 2020, EPA finalized narrow updates to the AEZ provisions under the WPS.

The revised AEZ requirements improve enforceability for state regulators and reduce regulatory burdens for farmers. The final rule maintains the primary WPS protection for farmworkers, handlers, and other individuals in areas where pesticide applications are taking place by prohibiting applicators from using a pesticide in a manner that would result in sprays contacting unprotected individuals either directly or through drift. These revisions are consistent with the Pesticide Registration Improvement Extension Act of 2018 (PRIA 4).

Specifically, EPA made the following changes to the AEZ provisions:

- AEZ requirements are limited to within the boundaries of the agricultural establishment, removing off-farm responsibilities that were proving difficult for state regulators to enforce. No changes were made to the “Do Not Contact” provision that prohibits a handler/applicator and the handler’s employer from applying a pesticide in such a way that it contacts workers or other persons directly or through drift.
- Includes clarifying language that pesticide applications that are suspended due to individuals entering an AEZ may be resumed after those individuals have left the AEZ.
- Allows agricultural employers and handlers to make or resume applications when individuals are in an area subject to an easement, provided that the handler can

ensure that the application will not contact those individuals.

- Allows owners and their immediate family to shelter in place inside closed buildings, housing, or shelters within the AEZ during applications. It also allows handlers to perform applications near closed buildings, housing, or shelters where the owner’s immediate family are sheltering-in-place, provided that the owner has expressly instructed the handlers that only the owner’s immediate family are inside the building or structure and that the application should proceed despite their presence in the AEZ. This will allow farm owners and their immediate family members to decide whether to stay in their homes or other enclosed structures on their property during certain pesticide applications, rather than compelling them to leave even when they feel safe remaining inside.
- Simplifies the criteria for deciding whether pesticide applications are subject to the 25- or 100-foot AEZ.

The final AEZ requirements will go into effect on December 29, 2020.

To view the final rule, please visit docket [EPA-HQ-OPP-2017-0543](#).

## Frequent Questions on AEZ

The videos and documents below provide general guidance to help you comply with the AEZ requirements of the WPS for agricultural pesticides, 40 CFR part 170, as amended in 2015. New guidance on the AEZ will be provided after the final rule becomes effective.

The following video provides a visual representation of an application AEZ. As the airplane moves across the field, or the area in green, the color changes to blue, indicating that the area has been treated and is subject to the

restricted-entry interval (REI) specified on the pesticide product labeling and to the relevant Worker Protection Standard restrictions after applications.

This video provides a visual representation of an AEZ on field borders. To comply with WPS AEZ requirements you must suspend pesticide application if people are present. Then, you must evaluate the situation and conditions and determine if you can resume the application without contacting anyone with the pesticide, either directly or through drift.

[For complete information about the WPS rule requirements, refer to the final WPS rule.](#)

[Find additional information about the WPS.](#)

- [2020 Final AEZ Provisions Frequently Asked Questions](#)
- [2015 Worker Protection Standard Frequently Asked Questions](#)
- [Application Exclusion Zone Question and Answer Fact Sheet](#)

For questions about how to comply with the WPS rule requirements and the 2020 AEZ revisions, contact [Ryne Yarger](#) at (yarger.ryne@epa.gov)

(EPA October 30, 2020)

<https://www.epa.gov/pesticide-worker-safety/worker-protection-standard-application-exclusion-zone>

## **WSDA ENTOMOLOGISTS ERADICATE ASIAN GIANT HORNET NEST**

Washington State Department of Agriculture (WSDA) entomologists successfully eradicated an Asian giant hornet nest by vacuuming the hornets out of the nest Saturday, Oct. 24, just two days

after finding the nest in a tree on private property in Blaine, Wash.

In all, the entomologists with WSDA's Pest Program removed 98 worker hornets. During the early morning extraction, 85 hornets were vacuumed out of the nest and collected another 13 live hornets were collected with a net while observing the nest on Friday.

"The eradication went very smoothly, even though our original plan had to be adapted due to the fact that the nest was in a tree, rather than the ground," managing entomologist Sven Spichiger said. "While this is certainly a morale boost, this is only the start of our work to hopefully prevent the Asian giant hornet from gaining a foothold in the Pacific Northwest. We suspect there may be more nests in Whatcom County."

Saturday's operation began at about 5:30 a.m. with the team donning protective suits and setting up scaffolding around the tree so they could reach the opening of the nest, which was about ten feet high. The team stuffed dense foam padding into a crevice above and below the nest entrance and wrapped the tree with cellophane, leaving just a single opening. This is where the team inserted a vacuum hose to remove the hornets from the nest.

The work proceeded slowly at first, with very few hornets emerging. The team members used a wooden board and some smart whacks against the tree to encourage more hornets to leave the nest. This proved successful. When the hornets stopped coming out of the nest, the team pumped carbon dioxide into the tree to kill or anaesthetize any remaining hornets. They then sealed the tree with spray foam, wrapped it again with cellophane, and finally placed traps nearby to catch any potential survivors or hornets who may have been away during the operation and return to the tree. The work was completed by 9 a.m.

“This weekend’s successful operation is due in large part to the careful planning and hard work of our Pest Program team,” WSDA director Derek Sandison said. “I also want thank the landowners, all those who have reported Asian giant hornet sightings to us, and the citizen scientists who set traps, as well as staff with the U.S. Department of Agriculture, Washington State University, and the University of Washington who have assisted in these efforts.”

“We congratulate the Washington State Department of Agriculture for eradicating this nest,” said Osama El-Lissy, Deputy Administrator of the U.S. Department of Agriculture’s Plant Protection and Quarantine program. “Thanks to their expertise and innovation, this nest is no longer a threat to honey bees in the area. We are also pleased that the radio tags we provided worked so well, allowing state entomologists to tag and track a live Asian giant hornet back to the nest. It’s a strong example of our close cooperation in combatting this pest.”

In the coming week, the WSDA Pest Program intends to cut the tree down and open it to see how big the nest was. The entomologists also want to determine whether the nest had begun to produce new queens or not.

WSDA will continue setting traps through at least November in hopes of catching any more Asian giant hornets still in Whatcom County and potentially locating any other active nests.

The public still has an important role to play in detecting Asian giant hornets in Washington. The nest removed Saturday was found thanks to a report made by a member of the public in September. Every report of an Asian giant hornet leads the agency closer to finding a nest. It remains critical for the public to report every hornet they see each time they see one. Reports of sightings in Washington state can be made online at [agr.wa.gov/hornets](http://agr.wa.gov/hornets), via email at

[hornets@agr.wa.gov](mailto:hornets@agr.wa.gov), or by calling 1-800-443-6684.

WSDA has been actively searching for Asian giant hornet nests since the first hornets were caught earlier this year. The first confirmed detection of an Asian giant hornet in Washington was made in December 2019 and the first hornet trapped in July of this year. Several more were subsequently caught, all in Whatcom County.

Using a network of traps, some set by WSDA staff and hundreds more placed by citizen scientists and other cooperators throughout the state, the entomologists have been diligently tracking sightings of the Asian giant hornet in an ongoing effort to find nests and eliminate them.

Asian giant hornets, an invasive pest not native to the U.S., are the world’s largest hornet and a predator of honey bees and other insects. A small group of Asian giant hornets can kill an entire honey bee hive in a matter of hours.

Visit [agr.wa.gov/hornets](http://agr.wa.gov/hornets) to learn more about Asian giant hornets and the state’s trapping and eradication project

(PCT Online October 29, 2020)

<https://www.pctonline.com/article/washington-entomologists-asian-giant-hornet-nest-eradication/>

## **EPA REGISTERS DICAMBA AGAIN**

EPA Administrator Andrew Wheeler announced the agency’s long-awaited decision approving three dicamba herbicides for use over-the-top of dicamba-tolerant Xtend crops in 2021 and beyond.

On a Tuesday evening press call, Wheeler stated that EPA has granted five-year registrations to two canceled dicamba herbicides -- XtendiMax and Engenia -- as well as a re-registered dicamba



herbicide, Tavium. All three now require a nationwide June 30 cutoff date for use in soybeans and a July 30 cutoff date for use in cotton, regardless of growth stage. The agency also announced it is limiting states' ability to add further restrictions to the federal labels.

Here are some additional details for the new registrations:

- The required downwind buffer is increased from 110 feet to 240 feet, and up to 310 feet in areas where endangered species are located.
- Applicators must use (and document their use of) available pH buffering agents to lower the volatility of dicamba tank mixes.
- The use of hooded sprayers during application may reduce certain buffer requirements.
- Applications will still require the same wind speed, sprayer speed and time-of-day limitations as the 2018 labels.
- States will no longer be permitted to use Section 24(c) of the Federal Insecticide, Fungicide and Rodenticide Act to further restrict the federal label; they must instead work through Section 24(a) of FIFRA to do so, which requires individual state regulatory or lawmaking processes, a senior EPA official stated during Wheeler's press call. Section 24(c) will only be used for expansions of the federal label.

See the full labels for the three herbicides in this EPA docket: <https://beta.regulations.gov/...> A fourth dicamba over-the-top herbicide, FeXapan, was not included in this registration decision.

Wheeler stated that the new label changes should address problems with the original 2018 registrations that were cited in a federal court's opinion vacating three dicamba herbicides -- XtendiMax, Engenia and FeXapan -- on June 3. The court ruled that, in that original registration decision, EPA failed to take into account the

herbicides' risk of adverse effects to the environment, based on Xtend crop acreage, years of dicamba injury complaints and overly complex labels that encouraged noncompliance.

The judges also took EPA to task for ignoring the anti-competitive nature of the 2018 registration, given that some farmers plant Xtend to protect themselves from neighbors' dicamba applications, as well as citing the "social cost" of the herbicides' use, such as strained neighbor relationships and even one murder that occurred over dicamba injury in 2016.

Many of the additional label requirements for dicamba herbicides released Tuesday are not new to the industry.

State pesticide regulators have urged EPA to implement a nationwide cutoff date for dicamba herbicides for the past three years, although they recommended an earlier season date. The Association of American Pesticide Control Officials (AAPCO) first formally recommended this strategy to EPA in 2018 (see story here: <https://www.dtnpf.com/...>) and again in the spring of 2020: <https://www.dtnpf.com/...>.

State pesticide regulators are sure to object to EPA's announcement that Section 24(c) cannot be used to restrict dicamba use, as state legislative rulemaking permitted under Section 24(a) is far more cumbersome and difficult to pass. Numerous states have used Section 24(c) as a fast, year-to-year method of further restricting the past federal dicamba labels, including Indiana, where pesticide regulators credited the state's June 20-cutoff date with reducing dicamba injury reports from a record-high 275 complaints in 2019 to 188 complaints in 2020.

Other states continued to struggle with dicamba damage in 2020, particularly Iowa, which recorded a record-high 215 investigations into auxin injury (potentially dicamba), up from a confirmed 83 dicamba injury cases in the state in 2019, according

to Keely Coppess, communications director for the Iowa Department of Agriculture and Land Stewardship. Missouri state pesticide regulators also saw dicamba injury complaints rise from 98 in 2019 to 120 reports in 2020, according to Sami Jo Freeman, public information officer for the Missouri Department of Agriculture.

The environmental groups that brought the original lawsuit to the Ninth Circuit, which resulted in three dicamba registrations being vacated in June, released condemnations of both the EPA's registration decision and timing, a week before the presidential election.

"Rather than evaluating and addressing the significant costs of dicamba drift as the 9th Circuit told them the law required, it appears EPA has rushed re-approval as a political prop just before the election, sentencing farmers and the environment to another five years (!) of unacceptable damage," George Kimbrell, legal director at the Center for Food Safety, told DTN in an email.

"Given EPA-approved versions of dicamba have already damaged millions of U.S. acres of crops and natural areas, there's no reason to trust that the agency got it right this time," added Nathan Donley, a senior scientist at the Center for Biological Diversity.

Meanwhile, ag industry and commodity groups expressed relief at the registration decision, which had left Xtend crop growers in limbo as they waited to hear if there would be legal dicamba options in 2021.

"The economic damage that would result from not being able to use dicamba herbicides would be tremendous," said Kent Fountain, chairman of the National Cotton Council. "We greatly appreciate EPA's timely issuance of a new five-year label for this critical crop protection product for cotton producers."

The American Soybean Association said it is still reviewing the full details of the registration but is pleased with its initial review. "The American Soybean Association (ASA) appreciates that the Environmental Protection Agency (EPA) has announced it will reregister dicamba for 2021 and future use," the group stated in its news release. "The product is one of many tools integral to the success of soy growers who face different crop production challenges throughout a diverse growing region spanning 30-plus states."

CFS's Kimbrell vowed fresh legal challenges of this new dicamba registration in 2021, guaranteeing that dicamba will remain a hotly contested technology.

"The Center for Food Safety will most certainly challenge these unlawful approvals," he wrote.

(Progressive Farmer, October 27, 2020)

<https://www.dtnpf.com/agriculture/web/ag/crops/article/2020/10/27/epa-approves-three-dicamba-federal>

## **EPA SUED OVER ATRAZINE**

Environmental groups are challenging the Trump administration's approval of atrazine and two related herbicides, propazine and simazine, asking the U.S. Court of Appeals for the Ninth Circuit in San Francisco to set aside the registrations from the EPA's September 2020 decision.

The petition, filed by the Rural Coalition, Pesticide Action Network North America, Beyond Pesticides, Center for Biological Diversity and the Center for Food Safety, alleges EPA violated its duties in the Federal Insecticide, Fungicide, and Rodenticide Act, or FIFRA, in approving the interim registrations.

Atrazine is a herbicide widely used in agriculture across a range of crops, primarily corn but also sugarcane and sorghum, as well as a smaller amount of use in landscape care. The herbicide is under re-registration review by EPA, and in

September, the agency released an interim registration decision approving its continued use.

Environmental groups have lobbied for atrazine to be banned entirely, based on concerns about human health risks and environmental problems, particularly concerning water quality.

"Rather than doing its job of protecting human health and the environment, EPA heeded to political expediency and rushed to reapprove this toxic pesticide," Sylvia Wu, senior attorney for the Center for Food Safety, said in a news statement. Wu represents the petitioners in the lawsuit.

"We are in court to make sure EPA answers for its blatant disregard of the lives of our nation's farmworkers and their children."

In September, the agency announced a number of new requirements in its interim registration for atrazine.

The agency now requires a reduction of the maximum application rate for atrazine and simazine when used on residential turf in order to protect children who crawl or play on treated grass.

EPA added a requirement for irrigation immediately after simazine application to residential turf and required additional personal protective equipment for workers who apply atrazine and simazine.

The agency is finalizing label requirements for all three triazines to include mandatory spray drift control measures, to minimize pesticide drift into non-target areas including bodies of water, as well as updating label directions to slow weed resistance to atrazine.

New label language will prohibit spraying during a temperature inversion, set a 15-mph wind speed restriction for aerial and ground applications, as well as add specific boom and nozzle requirements.

The EPA also proposed ending one of two ongoing atrazine water-monitoring programs started in 2004.

As part of its routine re-registration review of atrazine, EPA has been releasing draft ecological and human health risk assessments for public comment.

EPA will next complete draft biological evaluations for atrazine. The evaluations are expected to be available for public comment this fall.

Those evaluations are the first step in the interagency consultation process to protect listed species and their habitats in the Endangered Species Act. Final endangered species determinations are expected to be completed in 2021..

(Progressive Farmer, November 2, 2020)

<https://www.dtnpf.com/agriculture/web/ag/crops/article/2020/11/02/environmental-groups-allege-epa-law>

## **US EPA TO IMPOSE RISK MITIGATION MEASURES FOR PYRETHROIDS**

The US EPA has decided that label changes and measures to reduce runoff and spray drift are necessary for several pyrethroid insecticides. The Agency has [issued](#) interim registration review decisions for 13 pyrethroid insecticides: bifenthrin, cyfluthrin and beta-cyfluthrin, cyphenothrin, deltamethrin, d-phenothrin, esfenvalerate, fenpropathrin, imiprothrin, permethrin, prallethrin, tau-fluvalinate, tefluthrin and tetramethrin.

Label changes are required for some bifenthrin, cyfluthrin and beta-cyfluthrin, and prallethrin products. Risks to occupational handlers were identified for all three active ingredients. Label statements must explicitly state whether products can be used indoors or outdoors, and must include information on correct disposal.



For cyfluthrin and beta-cyfluthrin, the EPA has decided to prohibit use of granular formulations on insect mounds outdoors. This is in lieu of the respirator requirements previously proposed to protect occupational handlers.

Bifenthrin labels must include a requirement for mixers and loaders to wear chemical-resistant gloves. The review also identified human health risks for residential post-application. This will be addressed with label statements on: application rate clarification for turf; and watering in for turf granular formulations.

For the ecological risk assessment, the Agency assessed the pyrethroids and pyrethrins as a class, rather than by individual ai, to increase efficiency and consistency in assessments and risk mitigation measures. To address potential risks for fish and terrestrial and aquatic invertebrates, measures to reduce spray drift and runoff are necessary for the entire class of pyrethrins and pyrethroids, the EPA says.

The measures will: increase the width for vegetative filter strips that serve to remove residues adhering to soil particles in runoff; decrease the width of the allowable spray for perimeter treatments to outdoor structures; and add new Spanish labelling and disposal statements.

The EPA has also released proposed interim decisions for [gamma-cyhalothrin](#) and [lambda-cyhalothrin](#), which are open for a 60-day public comment period.

The EPA expects to release proposed interim and effective interim registration review decisions for the pyrethrins and the remaining pyrethroids in 2021 and 2022.

(Connect AGRIBUSINESS, October 27, 2020)

## **SUPERGENE IN FIRE ANTS MAY LEAD TO UNDERSTANDING OF DEVELOPMENTAL BEHAVIORS**

A unique study conducted by University of Georgia entomologists led to the discovery of a distinctive supergene in fire ant colonies that determines whether young queen ants will leave their birth colony to start their own new colony or if they will join one with multiple queens. Researchers also found that ants were more aggressive toward queens who don't possess the supergene, causing colony workers to kill them. This critical finding opens the door to new pest control methods that may be more efficient in eradicating problematic fire ant colonies.

"Learning about the way fire ants behave is very important baseline information," said Ken Ross, a longtime professor of entomology at the university. "This information is key to helping us manage pest populations and predict what dissimilarities can happen in their environment."

A supergene is a collection of neighboring genes located on a chromosome that are inherited together due to close genetic linkage. Studying these unique genes is important to understanding the potential causes for differences among the social structure of fire ants, specifically for controlling the species and building upon the existing knowledge base.

Researchers focused on young queen fire ants embarking on nuptial flights. They compared the supergene's impact on the fire ants' two primary types of social structures: monogyne, which is reproduction from queens that form a new nest, and polygyne, reproduction from queens that join an existing nest.

Ross initially worked alongside colleagues in his lab to discover a remarkable example of genetically encoded differences in social organization within the fire ant species *Solenopsis invicta*. The next

step was to understand how these genetic differences result in complex behavioral and physiological variations among ants from single queen colonies versus colonies with multiple queens. Compounding this knowledge helps scientists further understand patterns of development in the species, increasing alternatives to combat invasive populations.

Led by a pair of UGA entomology graduate alumni, Joanie King, who earned her master's degree in 2017, and Samuel Arsenault, who earned his doctoral degree in 2020, the team developed an experimental design that utilized a collection of samples from two fire ant organs — brain and ovarian tissues — and the complete range of social chromosome genotypes and social forms within this fire ant species.

The innovative study incorporated various scientific methods, leading to a collaboration of tools and resources throughout many different areas of the institution.

“UGA was a very supportive environment to conduct this research,” said Brendan Hunt, associate professor of entomology. “We received help preparing samples for RNA-sequencing from Dr. Bob Schmitz’s lab in the Genetics department, performed the sequencing at the Georgia Genomics and Bioinformatics Core, and utilized computational resources from the Georgia Advanced Computing Resource Center to analyze the data.”

These types of student-led projects give young researchers the chance to grow in a hands-on environment with mentorship and guidance from scientists with proven track records in the field.

“The graduate students gained experience that helped them transition to the next stages of their careers,” said Hunt. “Both have gone on to continue their studies of ant genetics.”

After earning their degrees and completing the research at UGA, King began pursuing a doctorate at Texas A&M University to study alongside Edward Vargo, and Arsenault works as a postdoctoral researcher with Harvard University’s Buck Trible Lab.

To read the full published research, check out the [Wiley Online Library digital archive](#). For more information on the UGA department of entomology, visit [ent.uga.edu](http://ent.uga.edu).

(PCT Online, October 22, 2020)

<https://www.pctonline.com/article/supergene-fire-ants-university-georgia/>

## **US NINTH CIRCUIT HEARS MONSANTO’S APPEAL OF \$25 MILLION ROUNDUP VERDICT**

Bayer legacy company Monsanto urged a US appeals court last week to reverse a jury verdict that found exposure to Roundup had caused a California man’s cancer. The company argued that the claim was pre-empted by federal law and contrary to the US EPA’s conclusion that the weedkiller was not carcinogenic.

The district court judge overseeing the case also allowed the jury to hear testimony about causation that was unsubstantiated and did not pass the standard for expert opinion, Monsanto’s attorney Seth Waxman told a three-judge panel of the US Court of Appeals for the Ninth Circuit. “The trial in this case never should have been held,” said Mr. Waxman, a partner with the law firm Wilmer Hale and former US solicitor general.

### **Failure to warn**

The complaint in question involves Edwin Hardeman, a California resident who alleges that exposure to glyphosate caused him to develop

non-Hodgkin's lymphoma (NHL). Mr. Hardeman, who was diagnosed with NHL in 2015, testified that he had frequently sprayed Roundup to kill weeds and poison oak (*Toxicodendron diversilobum*) on his 56-acre (23 ha) property for more than two decades and had applied the herbicide without protective equipment.

In [March 2019](#), a six-member jury convened by the US District Court for Northern District of California handed down a unanimous decision in favor of Mr. Hardeman, concluding that exposure to glyphosate had played a "substantial factor" in causing his cancer and that Monsanto should have warned him of the risk.

The jury hit Monsanto with \$75 million in punitive [damages](#) as well as \$5.2 million in compensatory damages, but US District Judge Vince Chhabria [subsequently cut](#) the punitive damages to \$20 million. Judge Chhabria – who is overseeing thousands of similar complaints – concluded that although Monsanto "deserves to be punished" based on the evidence presented at the trial, the size of the jury's award was "constitutionally impermissible".

### **Pre-emption and gatekeeping**

Mr. Waxman told the panel that the complaint was pre-empted by federal law because the "EPA has repeatedly found that exposure to Roundup and other glyphosate herbicides does not cause cancer in humans".

The EPA's review of the carcinogenicity of glyphosate has "been nothing short of encyclopedic" and, in [August 2019](#), it told registrants that adding a cancer warning would be false and misleading under federal pesticide law, Mr. Waxman said.

The key question is "whether a company is liable for not doing what it cannot do without EPA approval and that the EPA has indicated over and over again it wouldn't approve", Mr. Waxman said.

"That is the text book case for impossibility pre-emption."

Mr. Waxman also took aim at Judge Chhabria's role as the "gatekeeper" for expert testimony, noting that the judge had acknowledged that he had used a more lenient standard than other circuits because of prior Ninth Circuit rulings that meant district courts must be "more tolerant" of borderline expert opinions. During the trial, Mr. Chhabria said that he was skeptical of the expert testimony provided by Mr. Hardeman on causation, calling it "shaky but admissible" and suggesting that it might not have been allowed in another circuit.

US Circuit Judge Ryan Nelson said that he shared concerns about a circuit split on the rules for expert testimony – called the Daubert standard – but did not see Judge Chhabria's view as an abuse of discretion that should be overturned. The Daubert standard is a set of criteria used by a trial judge to assess whether an expert witness's scientific testimony is based on scientifically valid reasoning that can properly be applied to the facts at issue.

"If you take the district court at face value then we have no choice it seems to me ... of affirming the district court," Judge Nelson said. "It is a pretty tight minefield here for you and I'd be interested to hear how you are going to get through that."

Mr. Waxman replied that "at a minimum, this court needs to state quite clearly that it has not diverged from all other circuits in the Daubert standard that is applied."

Legal precedent makes it clear that "the gatekeeping function is a real one and that courts cannot allow irrelevant or unreliable testimony to go to the jury on a theory that well, cross examination can handle this," he told the panel. "It is terribly important for this court to unequivocally disabuse district courts who may think that the

Daubert standard is different here than in other circuits.”

US Circuit Judge Michael Daly Hawkins also questioned if Judge Chhabria had abused his discretion, noting that the “jury could have disregarded” the testimony of pathologist Dennis Weisenburger.

“That is always the case,” Mr. Waxman said, but Dr Weisenburger’s testimony – which suggested that Mr. Hardeman’s cancer was more likely than not caused by exposure to glyphosate – was “so unreliable that it should not have gone to the jury”.

“Glyphosate is the most studied and evaluated pesticide in history,” Mr. Waxman told the panel, adding that Dr Weisenberg also testified that “he could not identify any, not one, peer-reviewed, published article saying that it was generally accepted that glyphosate causes [NHL].”

### **More than glyphosate**

Mr. Hardeman’s attorney – David Wool of Andrus Wagstaff – hit back at Monsanto’s complaints about the expert testimony allowed at the trial, arguing that Judge Chhabria was well within his authority to allow Dr Weisenburger to provide his opinion to the jury.

“We had statistically significant, fully adjusted epidemiology showing an odds ratio of over 2.0 , which Monsanto concedes is sufficient to infer specific causation,” Mr. Wool said, adding that Dr. Weisenberger has been studying the “cause and effect of non-Hodgkin lymphoma vis-à-vis pesticides for more than 30 years”.

Judge Nelson returned to the question of whether the Ninth Circuit had “departed from other circuits” with respect to the Daubert standard.

“Under any articulation of the Daubert standard, our case would pass muster,” Mr. Wool responded.

In response to the issue of pre-emption, Mr Wool argued that the EPA’s approval of Roundup’s label and the 2019 letter regarding cancer warnings did not pre-empt Hardeman’s common law claims under California law.

“This case is not about glyphosate itself,” he said. “This is, and always has been, about Roundup as formulated, which contains an active ingredient of glyphosate along with surfactants that allow glyphosate to stick to and penetrate the surface of plants and make it more toxic when humans are exposed.”

The 2019 EPA letter barring cancer claims on glyphosate products is irrelevant, Mr Wool added.

“The only registration at play is the 1991 one and we can’t conclusively establish that EPA would not have approved an adequate warning had one been proposed by a registrant,” he told the court.

### **Status of complaints**

The fate of the appeal is critically important to Bayer as Mr. Hardeman’s case was the first federal complaint to go to trial. In its request to the Ninth Circuit to strike down the verdict, Bayer noted that the fate of its appeal “has the potential to shape how every subsequent Roundup case is litigated”.

The company is facing some 5,000 additional complaints in federal court as well as thousands in state court. Bayer has moved [to settle](#) the bulk of those lawsuits for some \$11 billion and that settlement is pending before Judge Chhabria. The deal does not include the Hardeman case nor does it two verdicts in California state court that handed plaintiffs huge awards.

### **Dewayne Johnson case**

Last week, the California Supreme Court declined to hear an appeal by Bayer seeking to reverse a \$20.4 million award to former school groundskeeper Dewayne Johnson.

In **August 2018**, a California state court found Monsanto liable for failing to add warnings that its Roundup herbicide could have caused his cancer. The state judge overseeing that trial **reduced** the \$279 million award to \$78 million. The case went to appeal and, **in July**, the California Court of Appeals for the First Appellate District further reduced the award to \$20.4 million. The appeals court, however, denied Bayer’s request to vacate the decision, rejecting the argument that Monsanto had little evidence glyphosate posed any cancer risk and that the claims were pre-empted by federal law. Bayer appealed to the California Supreme Court but the court rejected its plea without explanation.

The ruling by the California Supreme Court leaves Bayer with only one more route of appeal – the US Supreme Court. The company said that it was considering its options.

(Connect AGRIBUSINESS, October 27, 2020)

## CEU Meetings

Please note that many of these meetings are now being done virtual. Please contact the meeting host directly if you have any questions.

Date: November 5  
 Title: Winfield Virtual Academy  
 Location: Virtual  
 Contact: Rachel Mohorn (828) 638-5798  
<https://www.winfieldunitedpro.com/winfield-united-academy>

CEU's:	Category(s):
5	3A
3	3B
5	3C
1	6
4	7A
2	7B
1	9
4	10
1	13

Date: November 10  
 Title: 2020 CSE Recertification Seminar  
 Location: Unknown  
 Contact: Mindi Carlson Central States Fumigation (800) 527-8215

CEU's:	Category(s):
7	7C
7	10

Date: November 12 and December 4, 2020  
 Title: ONLA Webinars  
 Location: Virtual  
 Contact: Summer Maser (405) 945-6737  
<https://www.oknla.org/events>

CEU's:	Category(s):
2	3A

Date: November 12  
 Title: National Right-of-Way Applicator Webinar  
 Location: Virtual  
 Contact: Sandra McDonald (970) 266-9573  
<https://mountain-west-pest.square.site/product/11-12-2020-national-right-of-way-applicator-webinar/78?cs=true>

CEU's:	Category(s):
5	6
1	15

Date: November 17  
 Title: Oklahoma Turfgrass Conference  
 Location: Virtual  
 Contact: Sabrina Buxton (405) 818-9720  
<https://www.otrf.net/events.html>

CEU's:	Category(s):
2	3A
2	5
3	6
5	10



## ODAFF Approved Online CEU Course Links

Online Pest Control Courses

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

PestED.com

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

Certified Training Institute

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

WSU URBAN IPM AND PESTICIDE SAFETY EDUCATION PROGRAM

<https://pep.wsu.edu/rct/recertonline/>

CEU University

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

Technical Learning College

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

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/>

Veseris

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

AG CEU Online

<https://ageuonline.com/courses/state/37>

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

<http://www.kellysolutions.com/OK/applicators/courses/searchCourseTitle.asp>

If you have questions on pesticide certification. Please email or call:

Kevin Shelton

405-744-1060 [kevin.shelton@okstate.edu](mailto:kevin.shelton@okstate.edu) or

Charles Luper 405-744-5808 [charles.luper@okstate.edu](mailto:charles.luper@okstate.edu)

## ODAFF Test Information

**Testing dates and locations may be limited due to the Covid-19 emergency.**

Testing will be done at testing centers in multiple locations around the state by PSI Services LLC.

For more information and instructions please go to <http://pested.okstate.edu/html/new-odaff-testing-procedure> or the PSI exam information website [www.psiexams.com/](http://www.psiexams.com/).

**Reservation must be made in advance** at [www.psiexams.com/](http://www.psiexams.com/) or call **855-579-4643**

PSI locations.

Oklahoma City I 3800 N Classen Blvd, Ste C-20, Oklahoma City, OK 73118

Oklahoma City II NW 23rd St and Villa Avenue, Suite 60, Shepherd Mall Office Complex, Oklahoma City, OK 73107

Tulsa 2816 East 51st Street, Suite 101, Tulsa, OK 74105

McAlester 21 East Carl Albert Parkway (US Hwy 270), McAlester, Oklahoma 74501

Woodward 1915 Oklahoma Ave, Suite 3, Woodward, OK 73801

Lawton Great Plains Technology Center, 4500 West Lee Blvd Building 300- RM 308, Lawton, OK 73505

Enid Autry Technology Center, 1201 W. Willow Rd, Enid, OK 73703

Ponca City Pioneer Technology Center, 2101 N Ash, Ponca City, OK 74601

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