

PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University

<http://pested.okstate.edu>



March, 2021

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UNWANTED PESTICIDE DISPOSAL COLLECTIONS SCHEDULED FOR APRIL

ODAFF has scheduled the next Unwanted Pesticide Disposal Program collection dates for April 2021. They will occur April 1st, 2021 in Purcell and April 27 in Claremore. The locations are the McClain County Fairgrounds and the Claremore Expo Center. The Disposal will run from 8 a.m. to 1 p.m. rain or shine at both locations.

There is no charge for this program. **Limit is 2,000 pounds per entity.** ONLY PESTICIDES will be taken at the sites (no fertilizer, paint, oil, etc)! If you have any questions, contact Charles Luper (OSU) at 405-744-5808 or Ryan Williams (ODAFF) at 405-522-5993.

April 1st McClain County Fairgrounds
1721 Hardcastle Blvd, Purcell OK

April 27th Claremore Expo Center
400 Veterans Pkwy Claremore, OK

For more information please go to
<https://extension.okstate.edu/programs/pesticide-safety-education/unwanted-pesticide-disposal-program/index.html>(OSU PSEP)

TEST HELP WORKSHOP SCHEDULED FOR APRIL IN OKLAHOMA CITY

The Oklahoma State University Pesticide Safety Education Program (PSEP) has scheduled a test help workshop for April 8, 2021 in Oklahoma City. The workshop will be held at the Oklahoma County Extension Center at 2500 N.E. 63rd St. in Oklahoma City.

With new social distance and safety procedures class size is limited and mask are required to be worn at all times during the program.

Cost is \$50 and will include a copy of Applying Pesticides Correctly which is the study manual for the core and service technician exams. To register for this class please go to the Pesticide Safety Education Program (PSEP) website at <https://extension.okstate.edu/programs/pesticide-safety-education/practical-workshop-and-re-certification-dates/> and click on the register online link. Class information and an agenda can also be found at that website.
(OSU PSEP)

ODAFF NEW WEB PAGE

The Oklahoma Department of Agriculture, Food and Forestry (ODAFF) has a brand new web page and web page address. The new link to the ODAFF webpage is <https://ag.ok.gov/> and is also linked at the OSU Pesticide Education at <http://pested.okstate.edu>.

Applicators may want to update bookmarks and note that web pages and resources might be listed in new places on the ODAFF webpage.

(OSU PSEP)

EPA CELEBRATES NATIONAL PESTICIDE SAFETY EDUCATION MONTH

During the month of February, the U.S. Environmental Protection Agency (EPA) celebrates National Pesticide Safety Education Month to raise awareness for pesticide safety education and share best practices for using pesticides safely in and around your home.

Reading the label every time you use a pesticide is key to ensuring you are using the pesticide correctly and keeping yourself and your family safe. EPA assesses the risks and benefits of all pesticides sold and distributed in the United States and requires instructions on each pesticide label for how to use the pesticide safely.

Here are more tips to follow for all pesticides:

- Store pesticides in their original containers with proper labels.
- Store pesticides out of the reach of children and pets, preferably locked up.
- Use the amount specified on the label. Using more will not be more effective and may harm you, your loved ones and the environment.
- Wash hands with soap and water after using a pesticide. Wash clothes that have been in contact with pesticides immediately and separately from other items.
- Don't let children and pets enter sprayed areas while they are still wet.
- Keep pesticides away from food and dishes.

Did you know [disinfectants for use against SARS-CoV-2 \(COVID-19\)](#) are pesticides regulated by EPA? As consumers, it's easy to forget that common household products like antimicrobials, weed killers and insect repellents are pesticides and should be used with proper precautions.

EPA supports projects like the [National Pesticide Information Center](#) (NPIC) to educate pesticide applicators, handlers and farmworkers on working

safely with, and around, pesticides. NPIC has been a useful resource to consumers especially during the COVID-19 public health emergency in developing bilingual disinfectant safety materials and providing guidance to the public on how to use EPA's List N: Disinfectants for Coronavirus.

National Pesticide Safety Education Month also recognizes the efforts of land-grant [Pesticide Safety Education Programs \(PSEPs\)](#) as they teach pesticide safety across the country to reach workers and special communities. Through a [cooperative agreement](#) with the eXtension Foundation, EPA supports the work of PSEPs to provide workshops and educational tools to approximately 869,000 certified pesticide applicators in a variety of languages and help them meet certification requirements. An additional 2 million people are reached through pesticide safety education programs, including pesticide educators, farm workers and inner-city and rural communities.

Learn more today about pesticide safety by visiting <https://www.epa.gov/pesticides>.

(EPA February 4, 2021)
<https://www.epa.gov/pesticides/epa-celebrates-national-pesticide-safety-education-month>

COMMENT PERIOD EXTENDED FOR CHLORPYRIFOS DRAFT RISK ASSESSMENTS AND PROPOSED INTERIM DECISION

EPA is extending the public comment period on the draft risk assessments (DRAs) and proposed interim decision (PID) for chlorpyrifos to give the public and stakeholders more time to review and comment. The current comment period was set to close on February 5, 2021, and EPA is extending the comment period for an additional 30 days. Comments can be submitted through March 7, 2021, to the chlorpyrifos registration review docket number EPA-HQ-OPP-2008-0850 on www.regulations.gov.

EPA will use feedback received from the public comment period to determine next steps in the registration review process for chlorpyrifos. EPA will also follow the science and law in accordance with the Biden-Harris Administration's executive orders and the Federal Insecticide, Fungicide, and Rodenticide Act in reviewing the chlorpyrifos DRAs and PID to ensure they are protective of public health and the environment.

[More information on chlorpyrifos, including the DRAs and PID, is on the Agency's website.](#)

Background

In December 2020, EPA released its [PID for chlorpyrifos](#) proposing measures to reduce the risks identified in the Agency's [September 2020 DRAs](#) for public review and comment. The Agency also opened a public comment period for the DRAs at this time as well. By holding the comment period at the same time, the public had access to more information and could provide more informed, robust comments.

EPA will also consider the input and recommendations in the [December 2020 report](#) from the [September 2020 FIFRA Scientific Advisory Panel \(SAP\) meeting](#). Depending on the SAP's conclusions, EPA may further revise the human health risk assessment and the PID. (EPA February 5, 2021)
<https://www.epa.gov/pesticides/comment-period-extended-chlorpyrifos-draft-risk-assessments-and-proposed-interim-decision>

LEGAL DISPUTE LINGERS OVER CALIFORNIA CANCER WARNINGS FOR GLYPHOSATE

The US state of California has revived its quest to require cancer warnings on products that contain glyphosate herbicide. It is urging the US Court of Appeals for the Ninth Circuit to reverse a lower

court ruling that rejected the assertion that the widely-used pesticide was carcinogenic.

State officials last week filed their opening brief with the appeals court laying out their rationale for adding glyphosate to California's Proposition 65 list of chemicals that can cause cancer or reproductive harm and defending their proposed warning label.

"The Attorney General's proposed warning not only complies with Supreme Court and Ninth Circuit case law, but also advances one of the core purposes of the First Amendment, as well as of Proposition 65 – to foster the dissemination of accurate information that, in this case, serves to protect public health and safety," according to the state.

The filing with the Court continues a legal dispute that stretches back to the state's July 2017 decision to list glyphosate under Proposition 65, a move that relied on the International Agency for Research on Cancer's (IARC) 2015 declaration that the herbicide is a "probable human carcinogen." The IARC designation has proven a major headache for pesticide and agribusiness interests, prompting thousands of lawsuits against Bayer-owned Monsanto and a challenge to the EPA's reregistration of glyphosate.

Officials with the state's Office of Environmental Health Hazard Assessment (OEHHA) explained that IARC was one of the "authoritative bodies" that could be relied upon for listing a chemical under the 1986 law that implemented Prop 65. They argued that the IARC's declaration effectively required the state to add the popular weed killer to the list of chemicals known to cause cancer or reproductive harm and to set a level of concern that requires cancer warning labels.

The National Association of Wheat Growers, along with Monsanto, CropLife America, and an array of agricultural and food interests, filed suit in November 2017 in the US District Court for the Eastern District of California to block the listing. They questioned the dependence on the IARC declaration and argued that warning label requirements would violate their constitutional

protections for commercial speech under the First Amendment. Eleven states intervened on behalf of the plaintiffs.

The OEHHA subsequently finalized the no significant risk level for glyphosate at 1,110 micrograms per day, a standard that state officials said would not require warning labels on any of the food products cited by the plaintiffs.

Those plaintiffs conceded that that might be the case, but argued they still faced potential harm from the listing, including the potential for citizen suits challenging the lack of warning labels. The EPA also weighed in with support for the plaintiffs, warning that state cancer warning labels for glyphosate were unjustified and prohibited by federal pesticide law.

US District Judge William Shubb sided with the agriculture industry in the lower court ruling, concluding that the "great weight of evidence" indicated that the widely used herbicide was not a known carcinogen and that cancer warnings for glyphosate would be misleading and in violation of the First Amendment.

"While it may be literally true that California technically 'knows' that glyphosate causes cancer as the State has defined that term in the statute and regulations, the required warning would nonetheless be misleading to the ordinary consumer," Judge Shubb explained in his June 2020 ruling. "The State of California may not skew the public debate by forcing companies to adopt the state's determination that glyphosate is a carcinogen, relying solely on the IARC's determination, when the great weight of evidence indicates that glyphosate is not known to cause cancer."

It is not the listing of glyphosate, but the warning requirements that pose First Amendment concerns, the judge said, adding that he was not convinced by California's assurances that most products fall within the safe harbor level set by OEHHA and thus would not need labels.

“The no significant risk level only provides an affirmative defense for a business when faced with a Proposition 65 enforcement action, and it has no relevance as to whether the warning requirement is factual and uncontroversial,” Judge Shubb said.

On appeal, California argues that Judge Shubb got it wrong and ignored precedent.

The plaintiffs essentially argued that the “the First Amendment empowered them to expose consumers and workers even to high levels of glyphosate without warning them that IARC has found glyphosate to be a carcinogen – information those individuals could have used to protect themselves from exposure”, according to the state. “This position is unfounded ... and the District Court erred in holding that there was no possible Proposition 65 warning for glyphosate that satisfies the First Amendment’s relaxed criteria for compelled commercial speech.”

Proposed warning

The state notes that it proposed the following Prop 65 label/warning for glyphosate:

“WARNING: This product can expose you to glyphosate. The State of California has determined that glyphosate is known to cause cancer under Proposition 65 because the International Agency for Research on Cancer has classified it as a carcinogen, concluding that there is sufficient evidence of carcinogenicity from studies in experimental animals and limited evidence in humans, and that it is probably carcinogenic to humans. The EPA has concluded that glyphosate is not likely to be carcinogenic to humans. For more information about glyphosate and Proposition 65, see www.P65warnings.ca.gov.”

The state’s safe harbour warning for glyphosate in consumer products would read: “WARNING: This product can expose you glyphosate, a chemical known to the State of California to cause cancer.”

State officials argue that the proposed warning is “purely factual” and “uncontroversial” as well as “not misleading.” They add that it is “reasonably

related to the state’s substantial interest in protecting public health and safety” and “neither unjustified nor unduly burdensome”.

The fact that there is a scientific disagreement about the carcinogenicity and risks of glyphosate “does not create a ‘controversy’ within the meaning of the First Amendment”, the state argues, adding that the constitution does not bar California from requiring a warning even if a scientific consensus has not yet emerged.

“In any event, to ensure that consumers are in no way misled by the overall import of the warning, the Attorney General’s proposed warning provides relevant context explaining what it means for a chemical to be a known carcinogen under Proposition 65, as well as information about EPA’s divergent finding,” the state says. “The warning clearly furthers California’s substantial interest in protecting the health and welfare of its people by requiring companies to provide them with information they can use to make a choice to avoid or minimize their exposure by taking certain basic precautions.”

The state concludes that the First Amendment “simply does not entitle businesses that expose individuals to significant amounts of a chemical identified as a carcinogen by an international expert cancer research agency to refuse to inform them of this carcinogenicity determination”.

Stakeholders hoping for a quick resolution to dispute are likely to be frustrated. The plaintiffs are not scheduled to submit their reply brief until May. (Connect AGRIBUSINESS, February 22, 2021)

EPA ORDERS AMAZON TO HALT ILLEGAL PESTICIDES SALES

The Seattle office of the U.S. Environmental Protection Agency announced on Feb. 9 that it has issued a “stop sale” order to Amazon.com to prevent sales on the platform of potentially

dangerous or ineffective unregistered pesticides and pesticide devices making illegal and misleading claims, including multiple products that claimed to protect against viruses.

This action adds 70 products to a June 6, 2020 EPA order which contained over 30 illegal products.

“Unregistered pesticides in the e-commerce marketplace pose a significant and immediate health risk to consumers, children, pets, and others exposed to the products,” says Ed Kowalski, director of the Enforcement Compliance Assurance Division in EPA’s Region 10 office in Seattle.

This is the third pesticide stop-sale order issued by the agency to Amazon in the last three years. Beyond the stop-sales EPA has mounted other efforts to stop fraudulent products, such as partnering with U.S. Customs and Border Protection to stop multiple imports of millions of illegal disinfectant products imported by or for sale on Amazon. EPA has also provided guidance to e-commerce companies on multiple occasions about their requirements to ensure their disinfectant products are legal and safe.

The agency advises consumers who have purchased an unregistered pesticide product or a misbranded pesticidal device to safely dispose of it in accordance with local, state, and federal laws. This is especially important for consumers seeking to protect against SARS-CoV-2, the virus that causes COVID-19. EPA recommends that consumers only purchase products on EPA’s “List N of Disinfectants for Coronavirus (COVID-19).” EPA expects all products on this list to kill the coronavirus SARS-CoV-2 (COVID-19) when used according to the label directions.

Under the Federal Insecticide Fungicide and Rodenticide Act, pesticides and disinfectants

intended for sale in the U.S. must be evaluated for safety and efficacy by EPA and bear approved labeling with an EPA registration number (e.g. “EPA Reg. No. 1234-56”) and an EPA establishment number (e.g., “EPA Est. No. 12345-AA-1” (domestic) or “EPA Est. No. 12345-AAA1” (foreign)). In contrast, pesticidal devices must bear an EPA establishment number and conform to certain other requirements, but they are not evaluated for safety and efficacy by EPA before marketing.

(PCT Online February 12, 2021)

<https://www.pctonline.com/article/epa-stop-sale-order-amazon/>

EPA WATCHDOG CRITIQUES 24(C)

EPA's oversight of state Section 24(c) labels is poorly managed, risky to the public and environment and needs an overhaul, the agency's Inspector General said in a report issued Wednesday.

The report could have implications for farmers, pesticide applicators and state regulators, who often rely on these types of pesticide labels, also known as special local needs labels or SLNs, to address local environmental or pest problems.

In this report, titled "EPA Is at Risk of Not Achieving Special Local Needs Program Goals for Pesticides," the EPA's Office of the Inspector General (OIG) demanded the agency make major changes to its oversight of Section 24(c) labels.

The OIG functions as an internal government watchdog for all the major federal and state agencies. Each government agency, including EPA, has an OIG division within it that regularly reviews the agency's actions and programs for fraud, waste, abuse or mismanagement.

Section 24(c) labels have come under scrutiny lately because several states have used them to further restrict federal dicamba labels in the past few years. Most recently, EPA announced it will no longer permit this kind of restrictive state SLN labels. (See more on that here: <https://www.dtnpf.com/...>)

While the Inspector General's report touched on that issue, it largely focused on EPA's current mismanagement of the entire Section 24(c) process. EPA does not have a standard procedure for reviewing these state-created labels, it lacks the protocols or data to assess how well they are working and there is no public database of current 24(c) labels for states or the public to see, the report stated. The report also concluded EPA does a poor job of communicating with the state officials who create, submit and enforce these labels.

State pesticide regulators told DTN they agreed with the bulk of the report's conclusions. "In a nutshell, we agree with the OIG report's conclusion," said Leo Reed, an Indiana pesticide regulator who serves as president of the American Association of Pesticide Control Officials (AAPCO). "There's a disconnect between the states and EPA and a need for comprehensive guidance that both the EPA and the states are aware of and using."

Some states are still actively struggling to get Section 24(c) labels past EPA's review process in time for the 2021 spray season. A large group of states from the South, including North Carolina, Alabama, Mississippi, Oklahoma and Texas, are working to expand the federal dicamba cutoff dates in their states to accommodate late soybean and cotton planting. But they are running into resistance from EPA which is demanding additional data it has never required before, said Pat Jones, a North Carolina pesticide regulator. "We really do need some consistency and to know what states are expected to submit, instead of changing the requirements on us all the time," Jones said.

In some places, the EPA's current problems could be endangering the public, the report said. "Given the information gathered from our state interviews,

the [EPA's Office of Pesticide Program's] inconsistent and ineffective communication of its oversight role to state partners increases the risk to human health and the environment," the inspectors wrote.

For example, during the investigation, OIG inspectors found there was confusion over who was responsible for producing and reviewing the risk assessments that determine if a state's new special local needs label is safe for the environment and public. EPA reported the states were responsible for these, while some states told the OIG inspectors they assumed EPA was.

"Representatives from three of the states we interviewed informed us that they do not have the staff resources or expertise to review the technical information in SLN registrations," the OIG inspectors wrote. Specifically, some states lacked the necessary toxicologists to do pesticide risk assessments and others didn't have the resources to adequately test pesticide products. "These resource-challenged states said that they relied on the EPA to review health and safety data for each SLN registration. Because this assumption was, in fact, incorrect, the states introduced risk to the SLN application review process," the report concluded.

The Inspector General's report also called out EPA's sudden reversal on its long-held policy of allowing states to issue Section 24(c) labels that are more restrictive than the federal label. As of November 2020, the agency will no longer permit this practice, a significant policy change that was communicated to states via a footnote within the 2020 dicamba registrations.

"All representatives from the six states we interviewed stressed the importance of the ability to restrict pesticides based upon their own local needs and encouraged the EPA to retain the option of permitting states to restrict pesticide uses through the FIFRA 24(c) registration process," the OIG inspectors noted.

The report did not dig into the legality of EPA's policy reversal on 24(c) labels, which are the subject of two ongoing federal lawsuits, but that remains a possibility, Jeffrey Lagda, congressional and media liaison for EPA's OIG, told DTN.

"The OIG did not conduct any work of the legality of EPA's final decision, but could consider that in the future if deemed necessary," Lagda wrote in an email to DTN.

The report also pointed out the Association of American Pesticide Control Officials (AAPCO) had developed a guidance document for states on how to submit Section 24(c) labels that addressed some of the confusion in the process OIG had found in its investigation. However, the EPA has taken no action on it. The OIG inspectors told EPA to either adopt that guidance or develop their own.

Ultimately, the report demanded five fixes from EPA, which the agency has consented to:

--By the end of 2021, EPA will make a public database that includes all current Section 24(c) labels, with registration dates, the label's duration and the actual label itself. The database will be accessible here: <https://iaspub.epa.gov/...>

--By July 2022, EPA will collect data on its 90-day special local needs review process, develop a performance measure to track how it is working, and if necessary, make changes.

--By the end of 2021, EPA will create a standard operating procedure so that all labels will be reviewed uniformly and by the same standards.

--By the end of 2021, EPA will engage with AAPCO to see if state officials find the agency's current Section 24(c) guidance sufficient and amend it, if necessary.

--By June 30 of this year, EPA will contact all state regulatory partners and let them know where and how they can get a consultation with the agency before submitting new labels.

See the full OIG report here: <https://www.epa.gov/...>

(Progressive Farmer, February 11, 2021)
<https://www.dtnpf.com/agriculture/web/ag/crops/article/2021/02/11/inspector-general-orders-epa-fix-24c>

US GROWERS CALL ON EPA TO REAPPROVE CHLORPYRIFOS

US fruit, vegetable and sunflower growers are pressing the EPA to reregister chlorpyrifos, arguing that the organophosphate insecticide is a critical crop protection tool and that alternatives are costly and less effective.

Comments sent to the EPA by the Pacific Northwest Vegetable Association, Florida Fruit and Vegetable Association and the National Sunflower Association lay out support for continued use of chlorpyrifos, with the groups telling the agency that the insecticide can be used safely.

The backing of the industry groups comes as the Biden administration is [reviewing](#) the EPA's work on chlorpyrifos, notably the decision by Trump administration officials to [abandon](#) an agency plan to revoke food tolerances and effectively ban agricultural use of the insecticide. The EPA in 2015 concluded that cumulative exposures to the known neurotoxin exceeded the safety standard set by federal food safety law and proposed granting a petition that called for revocation of food tolerances. Pressure from ag groups and the pesticide industry helped convince the Trump administration to change course and deny the petition. The EPA subsequently issued new risk assessments in [September 2020](#) to support a reregistration decision and proposed an [interim registration](#) decision last December.

Although environmentalists and public health advocates say the science warrants [pulling](#) the insecticide from the market, the grower groups

reject that assertion and argue that the benefits of chlorpyrifos outweigh the risks.

“Failing to renew the chlorpyrifos registration jeopardizes the production of many vegetable crops and has the potential to increase vegetable prices and adversely affect human nutrition,” according to the Pacific Northwest Vegetable Association, which represents more than 800 vegetable growers and industry stakeholders in the state of Washington.

“Our growers are concerned that there are so few alternatives to this product, especially when it comes to soil insect control,” the organization said in its comments to the EPA. “It is critical for our growers to have a variety of crop protection tools to prevent resistance and effectively control the ever-changing pest pressures their crops face.”

The Florida Fruit and Vegetable Association says that “for more than five decades, chlorpyrifos has provided low- cost, broad spectrum, long-acting insect management for farmers”. The Association represents Florida growers of more than 250 specialty crops, an industry that rakes in more than \$8.7 billion annually.

Sunflower growers echo similar sentiments and say that chlorpyrifos is “one of the few materials” left for them to rely on for effective insect control and management.

“We know chlorpyrifos is restricted and we treat it with respect,” according to the National Sunflower Growers, which represents some 28,000 US growers in Texas, Nebraska, Minnesota and five other states.

The organization says that growers have “safely used chlorpyrifos for years” and would struggle if it was not available.

“If we did not have chlorpyrifos, we would be using more frequent sprays of less effective material, and more fuel and other farm inputs, none of which would be good for the environment,” the National Sunflower Growers says. “The critical nature and

benefits of having chlorpyrifos in the toolbox for sunflower growers cannot be underestimated.”

The EPA is taking [comments](#) on the chlorpyrifos assessments and interim decision until [March 7th](#) and there are signs that the worries of growers may be overshadowed by concerns that the pesticide is too dangerous to be used on food crops. The controversy surrounding chlorpyrifos has gained in proportion over the past decade and the legality of the Trump administration’s decision not to ban the insecticide is currently under consideration by the US Court of Appeals for the Ninth Circuit. Five states – [California](#), [Hawaii](#), [Oregon](#), Maryland and New York – have moved to ban agricultural uses within their borders and Democrats in Congress have [written legislation](#) to force the EPA to follow suit.

The EU [banned](#) chlorpyrifos last year and is poised next month to propose a global prohibition on production and use via the Stockholm Convention on Persistent Organic Pollutants.

(Connect AGRIBUSINESS, February 15, 2021)

GLUFOSINATE-RESISTANT PIGWEED

Scientists in Arkansas have confirmed the presence of glufosinate-resistant Palmer amaranth populations in two northeastern counties of the state.

The populations were collected from two fields in Mississippi County in 2020 and one field in Crittenden County in 2019, said Tom Barber, a University of Arkansas Extension weed scientist. The Crittenden County weeds were found to be 3.5 times more resistant to glufosinate than susceptible weeds, and the Mississippi County weeds appear at least 15 times more resistant than susceptible weeds, Barber explained in a university blog posted Wednesday.

The Arkansas scientists are testing the three pigweed populations for resistance to other modes of action, as well. For now, the glufosinate-resistant weeds do not seem widespread, Barber said.

"Currently, this problem does not appear to be widespread across Mississippi and Crittenden county or the northeast Arkansas area based on extensive screenings that have been taking place in this geography," Barber wrote. "Although it stands to reason that several other fields likely contain small segments of the Palmer amaranth population that has reduced sensitivity to glufosinate."

Palmer amaranth is only the second weed in the U.S. to develop resistance to glufosinate, after glufosinate-resistant Italian ryegrass was documented in Oregon in 2010 and California in 2015.

But Palmer amaranth is an especially aggressive and hard-to-control weed, which makes this new finding an ominous one, particularly for cotton and soybean growers, who are fast running out of herbicide options to control it. Palmer amaranth first developed glyphosate resistance in the early 2000s, and glufosinate, sold commonly as Liberty, has been a mainstay of pigweed control in the Southern states since then.

"This finding will represent the first documented case of broadleaf resistance to glufosinate herbicide in the world," Barber noted. "It is not a big surprise that Palmer amaranth has developed resistance to glufosinate considering the history," he added. "Cotton producers have heavily relied on glufosinate since 2007, where widespread occurrence of glyphosate (Roundup) resistance was present in pigweed populations across this geography."

That reliance has deepened in recent years, as glufosinate tolerance has been bred into more cotton and soybean varieties. Currently, most herbicide-tolerant cotton varieties (including LibertyLink, Enlist and XtendFlex) and herbicide-tolerant soybeans platforms on the market (including XtendFlex, Enlist E3, LibertyLink GT27 and

LibertyLink soybeans) contain glufosinate tolerance. See more here: <https://www.dtnpf.com/...>

According to the U.S. Geological Survey, glufosinate use has swelled from roughly 2.5 million pounds per year in 2007 to nearly 15 million pounds per year in 2017. Most of that growth has come in soybean and cotton fields.

Glufosinate is the second herbicide in a year to show cracks against Palmer amaranth. In the summer of 2020, Tennessee weed scientists also confirmed dicamba-resistant Palmer amaranth populations. (See the DTN story here: <https://www.dtnpf.com/...>)

So far, dicamba still appears to control the glufosinate-resistant populations, Barber noted. But he urged growers to watch for pigweed escapes in their fields this summer and adjust their weed management as necessary.

"Special care should be taken in the future to remove any escaped pigweed populations prior to seed set, regardless of crop grown in the field," he said. "In addition, we are recommending that these fields be rotated to corn if possible due to the herbicide alternatives available in a corn production system."

Growers who decide to stick with cotton or soybeans should consider the Enlist system, since 2,4-D-choline (Enlist One) combined with glufosinate still shows consistent control of Palmer amaranth, Barber added. He also urged growers to apply multiple residual herbicides at planting time, as well as overlapping group 15 residual herbicides after emergence.

"Unfortunately, all of these suggestions are short-term solutions," Barber concluded. "A long-term solution for pigweed control in Arkansas will require multiple cultural tactics, including deep tillage, cover crops, crop rotation, hand weeding and harvest weed seed control to reduce selection pressure from current herbicides and increase focus on pigweed seed bank reduction."

See Barber's blog post
here: <https://arkansascrops.uaex.edu/...>

(Progressive Farmer, February 17, 2021)

CORTEVA AGRISCIENCE DISCONTINUES FEXAPAN HERBICIDE

Corteva Agriscience is discontinuing sales of FeXapan herbicide in the United States and Canada. It is instead shifting resources to support the Enlist weed control system.

FeXapan was one of four dicamba formulations for dicamba-tolerant soybeans. BASF's Engenia, Bayer's XtendiMax With VaporGrip Technology, and Syngenta's Tavium Plus VaporGrip Technology are the others that are now on the market.

Corteva released this statement explaining its decision:

"We continue to see strong demand and broad adoption of Enlist technology for seed and Enlist herbicide crop protection solutions. This decision allows Corteva to focus customer and applicator training, sales, and distribution resources on our leading Enlist weed control system.

Our commercial team will continue to support our customers who have selected Roundup Ready 2 Xtend technology from a Corteva seed brand. Those customers may use dicamba herbicides offered through other brands, while still accessing other soybean herbicides from Corteva and benefitting from the strong yields of Corteva brand dicamba-tolerant soybean products."

(Successful Farming, February 23, 2021)
<https://www.agriculture.com/news/crops/corteva-agriscience-discontinues-fexapan-herbicide>

EPA'S EVALUATION OF ATRAZINE THREATENS FUTURE USE

Atrazine is one of the most widely used herbicides in North America and has been a mainstay ingredient in weed control, with more than 300 products that contain the herbicide. An ongoing biological evaluation of atrazine by the U.S. Environmental Protection Agency could limit the product's 63-year run and bring a \$2 billion negative impact to corn, sorghum and sugarcane growers.

EPA is accepting [public comment](#) through Feb. 19 on a draft Endangered Species Act biological evaluation relative to the potential effects of atrazine on threatened or endangered (listed) species and their designated critical habitats.

Atrazine is a chlorotriazine herbicide registered in the U.S. to control annual broadleaf and grass weeds. During the most recent five years of available survey data (2013-2017), an annual average of 72 million pounds of atrazine were applied to an average of 75 million acres of agricultural crops. The majority of atrazine is applied to corn both in terms of pounds a.i. applied (87% of total; 62 million pounds applied annually) and acres treated (88%). Sorghum and sugarcane make up the majority of the remaining annual usage. Annual use on sorghum is approximately 6.4 million pounds and sugarcane is 1.7 million pounds.

In its [draft biological evaluation](#), EPA estimated that atrazine is likely to adversely affect 54% of all species and 40% of critical habitats. The BE is an assessment of risks to listed endangered or threatened species from labeled uses of atrazine. It also includes a draft ecological effects assessment and determines the toxicological endpoints — the range of acceptable amounts of atrazine in the environment — to be used in EPA's ecological effects determinations.

“Atrazine is slightly toxic to birds and mammals and is practically non-toxic to terrestrial invertebrates on an acute exposure basis. On an acute exposure basis, atrazine is moderately toxic to freshwater and estuarine/marine fish, highly toxic to freshwater aquatic invertebrates and very highly toxic to estuarine/marine aquatic invertebrates. In both terrestrial and aquatic animals, atrazine demonstrates a variety of growth and reproductive effects at a range of chronic exposure concentrations. Atrazine has demonstrated adverse effects on growth to both vascular and non-vascular aquatic plants as well as terrestrial plants. There are reported ecological incidents involving atrazine use for birds, mammals, fish, terrestrial invertebrates, and terrestrial plants,” EPA says.

Methodology concerns

EPA found that atrazine is likely to adversely affect nearly all species and critical habitats in the continental U.S., including some that are already extinct. This could affect the future availability of atrazine in the marketplace, according to Michigan Farm Bureau National Legislative Counsel John Kran.

“The methodology used in EPA’s draft biological evaluation led to gross inaccuracies such as determining atrazine was likely to adversely affect already extinct species,” Kran says. “How the EPA responds to these findings based on this biological evaluation methodology will have a broad impact on the future availability of atrazine and other active ingredients equally important to the agriculture industry.”

According to Kran, EPA failed to incorporate the best available science and adopt a quantitative weight of the evidence approach to endpoint determination. A submitted analysis that included the most up-to-date studies on ecological toxicity and exposure to help in the effort was ignored, according to the Michigan Farm Bureau.

“We have numerous concerns about EPA’s methodology, including the use of poor data and low-quality scientific studies,” Kran adds. “If those

concerns are not addressed, it could affect the future availability of atrazine in the marketplace.”

Left unchecked, Kran says EPA’s questionable methodology inaccurately depicts atrazine as a threat to listed species.

Documented benefits

“Atrazine’s effectiveness and safety is well documented throughout the United States and around the world, with nearly 7,000 scientific studies conducted on the product,” he adds.

There is a reason that atrazine is one of the leading herbicides, according to MFB Crop Specialist Theresa Sisung. Unlike many other herbicides, atrazine has a wide spectrum of uses, applications and utility.

“Farmers use atrazine to control weeds on well over half of the country’s corn acreage, about two-thirds of sorghum acreage and 90% of its sugar cane,” Sisung says. “Use data shows atrazine is used on nearly 60% of U.S. corn acres, making it the second most popular herbicide for corn farmers.” Atrazine’s popularity, according to Sisung, is based on a trifecta of economics, effectiveness and product safety. Ironically, EPA research has also documented the benefits of atrazine.

“EPA’s own data shows that farming without atrazine would cost corn growers \$30 per acre in lost yield and/or increased weed control costs,” Sisung says. “The agency estimates the total negative impact on corn, sorghum and sugar cane growers in the U.S. would exceed \$2 billion if atrazine were not available.”

Conservation tillage and no-till, the mantra of climate-smart farming, would also be directly impacted, says Sisung, especially in corn and sorghum production.

“Because atrazine is so effective in minimum tillage and no-till management systems it plays a significant role in protecting the environment and critical wildlife habitats by reducing up to 85

million tons of soil erosion each year,” she adds.
(Southwest FarmPress, February 17, 2021)
<https://www.farmprogress.com/regulatory/epas-evaluation-atrazine-threatens-future-use>

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 March 9, 2021
Title: Cotton Production, Cotton Herbicide and Dicamba Training
Location: AM Sayre, PM Cordell
Contact: Greg Hartman (580)-928-2139
50-person limit at each location

CEU's:	Category(s):
1	1A

Date: March 10-11, 2021
Title: Wichita Falls RANCH, FARM EXPO 2021
Location: J.S. Bridwell Ag Center, 111 N Burnett Street, Wichita Falls, TX
Contact: David Graf (940)-716-8610
<https://www.wichitafallsranchandfarmexpo.net/ceu-classes-2019/>

CEU's:	Category(s):
4	1A
1	1B
1	11B

Date September 7-9, 2021

Title: ENSYSTEX - 2021 CEU Workshop
Location: TBA
Contact: Don Stetler (281) 217-2965

CEU's:	Category(s):
2	7A
6	7B

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

Wood Destroying Organism Inspection Course
www.nachi.org/wdocourse.htm

CTN Educational Services Inc
https://ctnedu.com/oklahoma_applicator_enroll.html

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

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

AG CEU Online
<https://agceuonline.com/courses/state/37>

Target Specialty Products Online Training
<https://www.target-specialty.com/training/online-training>

For more information and an updated list of CEU meetings, click on this link:
<http://www.kellysolutions.com/OK/applicators/courses/searchCourseTitle.asp>

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 <https://bit.ly/3sF4y0x>.

Reservation must be made in advance at 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

Norman Moore Norman Technology Center, 4701 12th Ave NW, Norman, Oklahoma, 73070

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

Kevin Shelton
405-744-1060 kevin.shelton@okstate.edu or

Charles Luper
405-744-5808 charles.luper@okstate.edu

Find us on Twitter at @OkstatePestEd

**Pesticide Safety
Education Program**



Oklahoma Unwanted Pesticide Disposal Program



<https://bit.ly/3pF9K2p>

April 2021

When & Where?

8:00 am to 1:00 pm

DATE April 1, 2021
COUNTY McClain County
CITY Purcell
LOCATION McClain County Fairgrounds 1721 Hardcastle Blvd, Purcell OK

What is the Oklahoma Unwanted Pesticide Disposal program?

The Oklahoma Department of Agriculture, Food and Forestry is funding a program to help collect and properly dispose of unwanted pesticides that homeowners, farmers, ranchers, commercial applicators, or dealers may have. For future locations and dates check the website listed above.

What are unwanted pesticides?

Unwanted pesticides are pesticides that are unusable as originally intended for various reasons. Unwanted pesticides are leftover pesticides, pesticides that are no longer registered in the state of Oklahoma, pesticides that no longer have labels and pesticides that are no longer identifiable.

Who is eligible to participate and what does it cost?

Oklahoma commercial and non-commercial applicators and pesticide dealers may participate. Oklahoma farmers and ranchers and homeowners can use the program as well. **There is no cost for the first 2,000 pounds of pesticides brought in by a participant.**

- Liquid pesticide weighs about 10 pounds per gallon.

Will someone pick up my pesticides for me?

No it is the owner's responsibility to transport the pesticides to the site. Some transportation tips can be found at <https://bit.ly/3pF9K2p>

What are the steps to participate in the collection program?

Applicators, homeowners, farmers, and ranchers are not required to pre-register. Dealers are asked to voluntarily pre-register through the OSU Pesticide Safety Education Program. After completing pre-registration requirements, if required, bring unwanted pesticides safely to one of the collection sites. Visit the OSU Pesticide Safety Education Program for information and how to register at <https://bit.ly/3pF9K2p>

Why are dealers asked to pre-register?

Dealers are asked to pre-register due to the potential of large quantities coming from multiple dealers and/or multiple locations. This allows the contractor to plan the appropriate resources to handle the quantity of pesticides that comes into the collections.

Will the department use my participation in the program as a means to prosecute for illegal management of pesticides?

No, the disposal program is a service program designed to remove unusable pesticides from storage and reduce the potential threat to public health and the environment. Those disposing of pesticides will not be required to provide their names or details on their chemicals. The disposal service is free up to 2,000 pounds.

Contact Information:



Charles Luper
 Oklahoma State University
 Pesticide Safety Education Program
 405.744.5808
charles.luper@okstate.edu

Ryan Williams
 Oklahoma Department of Agriculture
 Consumer Protection Services
 405.522.5993
ryan.williams@ag.ok.gov





PESTICIDE SAFETY
EDUCATION PROGRAM
OSU Extension

Oklahoma Unwanted Pesticide Disposal Program



<https://bit.ly/3pF9K2p>

April 2021

When & Where?

8:00 am to 1:00 pm

DATE April 27, 2021
COUNTY Rogers County
CITY Claremore
LOCATION Claremore Expo Center 400 Veterans Pkwy Claremore, OK 74017

What is the Oklahoma Unwanted Pesticide Disposal program?

The Oklahoma Department of Agriculture, Food and Forestry is funding a program to help collect and properly dispose of unwanted pesticides that homeowners, farmers, ranchers, commercial applicators, or dealers may have. For future locations and dates check the website listed above.

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