

PESTICIDE REPORTS

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



April, 2023

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APRIL UNWANTED PESTICIDE DISPOSALS

ODAFF has scheduled the next Unwanted Pesticide Disposal Program collection dates for April 2023. They will occur April 25 in McAlester and April 27 in Kingfisher. The locations are the Southeast Expo Center and the Kingfisher County Fairgrounds. The Disposals 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 25 Southeast Expo Center,
4500 West, 4500 US-270, McAlester, OK

April 27 Kingfisher County Fairgrounds
300 South 13th St., Kingfisher, OK

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

APRIL TEST HELP WORKSHOPS

The Oklahoma State University Pesticide Safety Education Program (PSEP) has scheduled test help workshops for April 11 in Oklahoma City and April 13 in Tulsa.

The Oklahoma City workshop will be at the Oklahoma County Extension Center at 2500 N.E. 63rd St. in Oklahoma City. The Tulsa workshop will be at the Tulsa County Extension Office at 4116 E 15th in Tulsa.

Registration cost is \$50 before April 10 for Oklahoma City and \$65 after April 10. Registration cost is \$50 before April 12 for Tulsa and \$65 after April 10. Registration will include a copy of Applying Pesticides Correctly. This 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 <http://pested.okstate.edu/html/practical.htm> and click on the register online link. Class information and an agenda is also at that website. Future 2023 workshop dates are on the website as well. (OSU PSEP)

EPA ANNOUNCES ACCELERATED ACTION ON FOUR ORGANOPHOSPHATE PESTICIDES BASED ON UPDATED EXPOSURE ASSESSMENTS

Today, the U.S. Environmental Protection Agency (EPA) is announcing an effort to expedite protections on some high-risk uses of four organophosphate pesticides. The Agency is releasing the updated occupational and non-occupational spray drift exposure risk assessments for these four pesticides – diazinon, ethoprop, tribufos and phosmet – several years ahead of the scheduled completion of EPA’s work on these chemicals in order

to seek early mitigation prior to completing the standard registration review process.

“The science is clear: some uses of these four pesticides pose a serious health risk to the people that are exposed to them,” said **Michal Freedhoff, Assistant Administrator for the Office of Chemical Safety and Pollution Prevention**. “That’s why we’re taking early action now. While we know there’s still a lot of work to finish our review of these pesticides, today’s announcement helps deliver on our promise to protect farmworkers and uphold our commitment to environmental justice.”

Diazinon, ethoprop, tribufos and phosmet are part of the group of pesticides known as organophosphates. These pesticides are used in both agricultural (e.g., fruit and nut trees, vegetables and herbs, cotton) and non-agricultural settings for a range of purposes. Diazinon and phosmet controls insects, ethoprop controls worms and other soil pests, and tribufos defoliates cotton prior to harvest. These pesticides are currently undergoing registration review, a process that requires EPA to reevaluate pesticides every 15 years to ensure that as the ability to assess risk evolves and as policies and practices change, pesticides continue to meet the statutory standard of causing no unreasonable adverse effects on human health or the environment.

As part of the registration review process, EPA assessed the potential risks to people who mix, load, and apply the four pesticides, farmworkers who work with crops that have been treated with these pesticides, and bystanders who are potentially exposed to spray drift, including families living in agricultural communities.

The Agency identified the following potential risks for each pesticide:

- The diazinon assessment identified potential risks to workers who mix, load, and apply the pesticide, and to bystanders (including farmworkers) who could be exposed to spray drift.
- The ethoprop assessment identified potential risks to workers who mix, load, and apply the pesticide, and to bystanders (including farmworkers) who could be exposed to spray drift.

- The phosmet assessment identified potential risks to workers who mix, load, and apply the pesticide, workers conducting certain post-application activities (e.g., weeding, hand harvesting, or workers re-entering treated areas), and bystanders (including farmworkers) who may be exposed to spray drift.
- The tribufos assessment identified potential risks to workers who mix, load, and apply the pesticide, and to bystanders (including farmworkers) who may be exposed to spray drift.

Although registration review for these pesticides was not scheduled to be completed until 2025-2026, after recognizing that several of uses of these four pesticides present significant human health risks, EPA is taking accelerated and early action to address these risks. This will allow the Agency to put important protections in place quickly for some high-risk uses of these pesticides, while allowing time to work through the complicated scientific issues that need to be addressed before completing registration review.

EPA is currently meeting with the technical registrants of the four pesticides about early risk mitigation. The types of mitigation under consideration include cancellation of uses and formulation types, prohibition of application methods, increased personal protective equipment for pesticide handlers, spray drift requirements, and new restrictions on when workers can reenter treated fields and perform harvesting and other types of post-application activities. The Agency is asking the registrants to submit label amendments that reflect the necessary risk mitigation measures for each of these four organophosphates and is prepared to expedite label reviews in order to implement the protections as quickly as possible.

The updated exposure risk assessments are now available in the registration review dockets, [EPA-HQ-OPP-2008-0351](#) (diazinon), [EPA-HQ-OPP-2008-0560](#) (ethoprop), [EPA-HQ-OPP-2008-0883](#) (tribufos) and [EPA-HQ-OPP-2009-0316](#) (phosmet) at www.regulations.gov. Given the expedited nature of this effort, the Agency is not taking comment on these assessments. Stakeholders will have an opportunity to comment on the four occupational and non-occupational spray drift risk assessments when the cases progress

through the next step of registration review with the proposed interim decision, which will include the full updated human health risk assessment for each. EPA expects to issue the proposed interim decisions in fiscal year 2025 (tribufos) and fiscal year 2026 (ethoprop, diazinon and phosmet). (EPA, March 15, 2023) <https://www.epa.gov/newsreleases/epa-announces-accelerated-action-four-organophosphate-pesticides-based-updated>

EPA RELEASES FINAL BIOLOGICAL EVALUATION FOR EFFECTS OF SULFOXAFLOR ON FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES AND DESIGNATED CRITICAL HABITATS

The U.S. Environmental Protection Agency (EPA) has released its [final biological evaluation \(BE\)](#) and its response to comments received on the draft BE. Sulfoxaflor is an insecticide used on a variety of crops to target difficult pests such as aphids and tarnished plant bugs (lygus). As an alternative to older insecticides including carbamates, neonicotinoids, organophosphates, and pyrethroids, sulfoxaflor typically requires fewer applications resulting in less exposure to non-target pests and plants.

In the BE, EPA evaluated sulfoxaflor to determine the potential effects on federally listed endangered and threatened (listed) species and their designated critical habitats, along with predictions of whether sulfoxaflor is likely to jeopardize endangered and threatened (listed) species or adversely modify designated critical habitats. The BE is part of EPA's efforts to meet its obligations under the Endangered Species Act (ESA). This work furthers the goals outlined in [EPA's April 2022 ESA Workplan](#) to provide practical protections from pesticides for listed species.

EPA carefully considered the comments on the [draft BE](#) received during the public comment period in 2022. Additionally, since the draft BE was issued, the registrant provided comments and submitted revised proposed labels that EPA incorporated in the analysis for the final BE. The revised proposed labels, once approved, would decrease exposure (e.g., reducing aerial application rates for certain use patterns, prohibiting aerial application for certain uses) which resulted in a reduction of the “likely to adversely affect” determinations and jeopardy/adverse modification predictions in the final BE.

In the final BE, and taking into account the new mitigations in the revised proposed labels, EPA evaluated the effects of sulfoxaflor on more than 1,700 listed species and more than 800 designated critical habitats in the United States, determining that sulfoxaflor:

- Will cause no effect to 47 percent of listed species and 54 percent of critical habitats (as compared to 36 percent and 52 percent, respectively from the draft BE, which did not include the mitigations in the revised proposed labels);
- May affect but is not likely to adversely affect 22 percent of listed species and 37 percent of critical habitats (as compared to 30 percent and 35 percent, respectively, from the draft BE, which did not include the mitigations in the revised proposed labels);
- Is likely to adversely affect but EPA predicts the likelihood that use will not cause jeopardy to 27 percent of listed species or adversely modify 6 percent of critical habitats (as compared to 27 percent and 9 percent, respectively from the draft BE which did not include the mitigations in the revised proposed labels); and
- Is likely to adversely affect and EPA predicts the likelihood that use may cause jeopardy to 4 percent of listed species and adversely modify 3 percent of critical habitats (as compared to 7 percent and 4 percent, respectively from the draft BE which did not include the mitigations in the revised proposed labels).

This LAA determination means EPA reasonably expects at least one individual animal or plant, among a variety of listed species, may be exposed to sulfoxaflor at a sufficient level to have an adverse effect. This is the case even if a listed species is almost recovered to a point where it may no longer need to be listed. The likely “take,” which includes unintentional harm or death, of even one individual of a species, is enough to trigger such a determination. As a result, there are often a high number of LAA determinations in a BE. An LAA determination, however, does not necessarily mean that a pesticide is putting a species in jeopardy.

Since EPA determined that sulfoxaflor is likely to adversely affect certain listed species and/or critical habitats, the Agency has initiated formal consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (collectively “the Services”). EPA will also continue discussions with the registrant to determine what additional mitigation measures could be implemented to further protect listed species and critical habitats while the consultation is ongoing.

During formal consultation, the Services use EPA’s effects determinations to inform their biological opinions, which will include their final determinations of whether a pesticide jeopardizes each relevant listed species and/or adversely modifies designated critical habitats. The Agency intends to work with the sulfoxaflor registrant, as well as the Services and other stakeholders, during the formal consultation process to identify additional mitigation measures to protect listed species and/or designated critical habitats.

The final BE and the response to comments are available in docket [EPA-HQ-OPP-2010-0889](#) on regulations.gov. (EPA, March 30, 2023)
<https://www.epa.gov/pesticides/epa-releases-final-biological-evaluation-effects-sulfoxaflor-federally-listed-endangered>

EPA POSTS DRAFT BIOLOGICAL OPINION FOR CARBARYL AND METHOMYL FOR PUBLIC COMMENT

Today, the U.S. Environmental Protection Agency (EPA) is posting and seeking public comment on the National Marine Fisheries Service's (NMFS) draft biological opinion for the insecticides carbaryl and methomyl. Carbaryl and methomyl are insecticides used on a variety of crops, including field vegetables and orchard crops.

Under the Endangered Species Act (ESA), EPA must ensure that its actions, including many pesticide registration actions, do not jeopardize federally listed endangered or threatened species, or adversely modify their designated critical habitats. When EPA determines in a biological evaluation that use of a pesticide product may affect these species or critical habitats, EPA must initiate formal consultation with NMFS, the U.S. Fish and Wildlife Service (FWS), or both (the Services). In response, the Service(s) may develop a biological opinion that determines whether the pesticide will jeopardize listed species or adversely modify critical habitats.

In March 2021, EPA completed its final biological evaluations for carbaryl and methomyl. EPA's biological evaluations made "likely to adversely affect" determinations for 1,640 listed species and 736 designated critical habitats for carbaryl and 1,098 listed species and 736 designated critical habitats for methomyl. A "likely to adversely affect" (LAA) determination means that EPA reasonably expects that at least one individual animal or plant of any listed species may be exposed to these pesticides at a sufficient level to have an adverse effect. This is the case even if a listed species is almost recovered to a point where it may no longer need to be listed.

EPA initiated formal consultation with the Services upon completing these biological evaluations and, in response, NMFS has developed a draft biological opinion for carbaryl and methomyl.

Biological opinion and next steps

The draft biological opinion includes NMFS's determinations that, under the ESA, use of carbaryl and methomyl is likely to jeopardize some listed species and adversely modify their critical habitats when used as registered. The draft biological opinion contains measures to avoid jeopardy and adverse modification, and to minimize "take," which is incidental harm of listed species.

In its draft biological opinion, NMFS evaluated the effects of the use of pesticide products containing carbaryl and methomyl and determined that carbaryl is likely to jeopardize 37 listed species and adversely modify 36 critical habitats. Methomyl is likely to jeopardize 30 listed species and adversely modify 29 critical habitats. These findings cover only NMFS species. FWS will issue its own biological opinion addressing the listed species under their purview.

The draft biological opinion describes measures to avoid jeopardy, including a flexible list of chemical-specific measures to reduce loading of pesticides into aquatic habitats to protect them from adverse effects of pesticide exposure. It also includes measures to minimize take and impacts to critical habitats, such as the development of ESA educational materials, reporting of label compliance monitoring, and inclusion of label information about ecological incident reporting.

EPA and NMFS are particularly interested in comments on the draft biological opinion regarding:

- additional risk reduction options beyond those described in the biological opinion;
- the general feasibility of drift reduction measures based on wind direction; and
- runoff and/or spray drift reduction technologies.

After the 60-day public comment period, EPA will provide NMFS with the comments received and a summary of the comments for consideration before it finalizes the biological opinion. EPA will implement the final biological opinion.

The biological opinion is available for public comment in docket [EPA-HQ-OPP-2023-0144](#). (EPA, March 30,

2023) <https://www.epa.gov/pesticides/epa-posts-draft-biological-opinion-carbaryl-and-methomyl-public-comment>

BAYER SUES SIX MISSOURI FARMERS FOR ALLEGEDLY SAVING ROUNDUP READY 2 XTEND SOYBEAN SEED

Six farmers from southeast Missouri find themselves at odds with Bayer CropScience after allegedly saving and subsequently planting soybean seed that contained the company's Roundup Ready 2 Xtend technology.

Bayer also alleges that four of the six growers illegally applied dicamba formulations not approved for over-the-top (OTT) use on Xtend soybeans and did so after the June 30 cutoff date for OTT dicamba application set by EPA and the state of Missouri.

In complaints filed in late January with the U.S. District Court for the Eastern District of Missouri in St. Louis, Bayer claimed the Bootheel farmers' alleged actions infringe upon its patents and breach the terms of contracts and technology stewardship agreements (TSAs) the farmers signed. The company seeks damages and a permanent injunction against the farmers to prevent future infringements on patented technologies.

In response to DTN's request for comment on the lawsuits, a Bayer spokesperson wrote that "deciding to pursue litigation against growers is not easy for us. We exist to serve and support growers. The vast majority of growers abide by the law and honor their contractual agreements. In these cases, there was clear evidence of irresponsible and illegal use.

"Illegal use threatens law-abiding growers' access," the spokesperson wrote. "These lawsuits are about ensuring proper use of the technologies and protecting grower access to the technologies."

The farmers named in the lawsuits include Caleb Duffy, Greg Duffy, Michael J. Hodel and Brian G. Irions, all of Hayti, Missouri; Robert O. Pierce Jr. of Caruthersville, Missouri; and Danny Glass of Wardell, Missouri. All grew soybeans in Pemiscot County. The complaints of illegal application of unapproved dicamba formulations after the OTT dicamba cutoff date were lodged against the four farmers from Hayti only.

In February, all six farmers filed a separate answer to Bayer's complaint in which they denied all allegations and demanded a jury trial. Wendell L. Hoskins II, an attorney from Caruthersville, Missouri, represents the farmers. DTN reached out to Hoskins by phone and email seeking comment on behalf of his clients but received no return call or reply.

The six lawsuits are the most recent in a string of legal actions since the mid-1990s when the Monsanto Co. -- which Bayer acquired in 2018 -- first sued farmers who saved and replanted its glyphosate-tolerant Roundup Ready seed. Though hundreds of lawsuits have been filed, very few have made it to trial. In those that have, courts have found in favor of the agriculture biotechnology company.

When Bayer's dicamba-tolerant Xtend soybeans were introduced in 2016, EPA had not yet approved OTT dicamba formulations. Some growers, anxious to take advantage of the new technology to combat herbicide-resistant weeds, sprayed older, unapproved dicamba products anyway, leading to off-target movement and crop damage. Such issues led EPA to amend registrations for all OTT dicamba products in 2017, 2018 and again in 2020 after the 9th U.S. Circuit Court of Appeals vacated the 2018 registrations on the basis that "EPA substantially understated risks that it acknowledged and failed entirely to acknowledge other risks."

The new EPA registrations in 2020 for three OTT dicamba products included new measures intended to prevent off-target movement and damage to nontarget crops and other plants. Despite these measures, dicamba-related incidents have continued.

In its complaints against the Duffys, Hodel and Irions, Bayer claims the defendants' alleged illegal applications of unapproved dicamba formulations have made it more difficult for the company to continue obtaining registrations for XtendiMax, its OTT dicamba formulation, while also contributing to more restrictive application conditions for the product. Last month, EPA amended OTT dicamba labels in Illinois, Indiana, Iowa and South Dakota, shortening the application window in each state.

"We cannot say for sure how much of the reported off-target movement can be attributed to illegal use of unapproved dicamba products, but we can say for sure that using the unapproved dicamba products over the top is significantly more likely to cause off-target movement," Bayer said in an email to DTN. "Notably, there have been more reports of dicamba off-target movement in southeast Missouri than in most other parts of the country in recent years."

According to the Missouri Department of Agriculture, it received 38 complaints of alleged dicamba damage in 2022. For comparison, that number exceeded 300 cases in the Show-Me State in 2017.

The six lawsuits are moving independently through the judicial process. The most recent action occurred on March 24 when the parties filed a joint proposed scheduling plan for the complaint against Michael J. Hodel. The document reveals that both parties believe that referring the case to mediation would be appropriate; the earliest date by which the case would reasonably be expected to be ready for trial would be Sept. 30, 2024.

The Bayer spokesperson wrote that any money collected from these growers will be donated back into agriculture communities to support youth programs and other important local agriculture initiatives.

(Progressive Farmer, March 29, 2023)
<https://www.dtnpf.com/agriculture/web/ag/crops/article/2023/03/29/bayer-sues-six-missouri-farmers-2>

N.C. STATE STUDY EXAMINES BACTERIA LIVING IN AND ON MOSQUITOES

Avoiding mosquitoes to protect against bites is always a good idea. But a new North Carolina State University study shows that the bacteria-ridden exteriors of mosquitoes may be another reason to arm yourself with a swatter.

The first-of-its-kind study, published in [PLOS ONE](#), examined both the exterior surface and interior microbiome of mosquitoes found in homes in Africa's Cote d'Ivoire – the Ivory Coast.

"When you're exposed to mosquitoes, you worry about blood feeding," said R. Michael Roe, William Neal Reynolds Distinguished Professor of Entomology at NC State and co-corresponding author of the study. "Our hypothesis is that mosquitoes can physically transfer bacteria by landing on you or by defecating on household surfaces, like flies do.

"They may not, but no one has studied it before."

Research collaborators at the Centre Suisse de Recherches Scientifiques collected 79 adult female *Anopheles coluzzii* mosquitoes from homes in a rice-producing province in Cote d'Ivoire. The mosquitoes were sent to NC State for analysis of the microbiome inside and on external body surfaces.

Some of the findings were surprising.

"We found greater bacterial diversity internally than externally, which didn't match what has been found with blow flies, for example," said Loganathan Ponnusamy, an NC State principal research scholar in entomology and co-corresponding author of the paper.

"At the same time, we found lots of external bacterial differences between homes, but not much difference internally between homes, which makes sense. Much of what is found internally relates to nectar or honey consumed as mosquitoes forage outdoors."

The researchers also found – for the first time in the academic literature – fructobacillus, which is generally found in nectar sources like flowers and beehives, pointing to mosquitoes visiting those plants or nectar sources, said Kaiying Chen, an NC State postdoctoral researcher and first author of the paper.

Perhaps more ominously, the researchers also found large amounts of Staphylococcus and two variants of Rickettsia. The genus of these bacteria are associated with human and animal diseases.

“This is another risk,” Roe said. “Mosquitoes carry bacteria externally and internally and come into your home, possibly transferring pathogenic bacteria.”

The researchers hope to continue the work by exposing mosquitoes to a bacteria that would never be found on human skin and seeing whether the bacteria transfers to an artificial membrane. They then could perform the same test on human arms.

(PCT Online, March 10, 2023)
<https://www.pctonline.com/news/nc-state-study-bacteria-living-on-mosquitoes/>

RESEARCHERS CREATE SENSOR TO DETECT PESTICIDES IN FOOD

University of São Paulo (USP) researchers have developed a kraft paper-based electrochemical [sensor](#) that can detect traces of pesticides in fruit and vegetables.

This innovation works in “real time” when linked to an electronic device and the researchers say that, using an apple or cabbage as an example, the device can detect carbendazim, a banned fungicide that they claim is still used in Brazil.

“To find out whether a food sample contains traces of pesticides by conventional methods, you must grind up the sample and submit it to time-consuming chemical

processes before any such substances can be detected,” said Osvaldo Novais de Oliveira Junior, an author of the article and a professor at IFSC-USP.

“Wearable sensors like the one we developed for continuous monitoring of pesticides in agriculture and the food industry eliminate the need for these complex processes. Inspection is much easier, cheaper and reliable for a supermarket, restaurant or importer.”

The researchers claim that the new device is highly sensitive and resembles the glucometers used by diabetics to measure blood sugar, except that the results of food scanning for pesticides are displayed on a smartphone.

“In the tests we performed, its sensitivity was similar to the conventional methods. Plus, it’s fast and inexpensive,” said José Luiz Bott Neto, corresponding author of the article and a postdoctoral fellow at IFSC-USP.

The device itself consists of a paper substrate modified with carbon ink which is submitted to electrochemical treatment in an acid medium to activate carboxyl groups which makes detection possible.

“We use the silkscreen process to transfer carbon-conducting ink to a strip of kraft paper, thereby creating a device based on electrochemistry. It has three carbon electrodes and is immersed in an acidic solution to activate the carboxyl groups. In other words, oxygen atoms are added to the structure of the carbon electrode.

“When it comes into contact with a sample contaminated with carbendazim, the sensor induces an electrochemical oxidation reaction that permits detection of the fungicide. The quantity of carbendazim is measured via electrical current,” explained Bott Neto.

After developing the tool, the researchers evaluated the stability and structure of the paper substrate. Looking at kraft paper and parchment, the researchers found that both types of paper were “stable enough” to be used as a substrate for the sensor.

However, they noted that the porousness of kraft paper allowed for more sensitivity on the sensor and the carboxyl groups formed during electrochemical activation. Meanwhile, they found that paper-based electrodes could be used in “many applications”.

“There are commercial electrodes made of plastic or ceramic material. We successfully developed electrochemical sensors based on paper, a much more malleable material and therefore potentially useful in many areas, not just on farms or in supermarkets, but also in healthcare,” concluded Thiago Serafim Martins, first author of the article and a postdoctoral fellow at IFSC-USP

(New Food Magazine, April 3, 2023)
<https://www.newfoodmagazine.com/news/190990/researchers-create-sensor-to-detect-pesticides-in-food/>

INSECTICIDE DERIVED FROM SPIDER VENOM

For decades, researchers sought ways to take the venom from the most venomous spider on the planet, the Blue Mountains funnel-web spider, and package the venom to control insects in an insecticide.

Earlier this century, Vestaron, based in Kalamazoo, Mich., found a way to do that, and in 2014, after a successful registration with the Environmental Protection Agency, released its first product, Spear T, derived from the venom of the Blue Mountain funnel-web spider. Spear T was targeted to thrips, whiteflies and spider mites in greenhouse settings. It is based on a peptide in versutoxin, the major component of the venom of the Blue Mountain funnel-web spider.

Today, Vestaron is the leading producer of peptide-based bioinsecticides. At Commodity Classic in Orlando March 8 to 11, Vestaron highlighted its latest Spear product, Spear RC, derived from versutoxin. Spear RC is targeted to cotton, soybean, rice and other broader acre crops to control lepidopteran pests such as cotton bollworm, soybean looper and armyworms.

Hugh Beckham, Vestaron territory manager for the Mid-South, says Spear RC works in conjunction with Leprotec, another Vestaron product, to kill worms. Beckham says the mixture is one quart of Spear RC and one pint of Leprotec.

Beckham notes that field trials show Spear RC performs similar to conventional insecticides. He says Vestaron’s Spear products have gone through field testing over 500 trials over five years in eight countries. He says Spear is an excellent integrated pest management (IPM) and resistance management tool. With no known resistance or cross resistance, Spear RC works as a standalone or in rotation with conventional insecticides.

“Spear is great for bees and other beneficials. It is very environmentally friendly. We’ve seen a lot of resistance problems in our industry, and that’s one thing we bring to the market is no resistance in our product. Spear is a new mode of action, Group 32,” Beckham says.

R.J. Byrne, Vestaron territory manager for the Southeast, says many are taken aback that Spear is derived from spider venom. They question if it is safe to use.

“I was visiting with a consultant about Spear, explaining how it works and that it comes from the world’s most venomous spider, and he says ‘oh my gosh, does the label have a skull and crossbones on it?’ I say, ‘no,’ this product has very low toxicity to mammals and off-target species.”

(FarmProgress, March 28, 2023)
<https://www.farmprogress.com/insects/insecticide-spear-rc-derived-from-spider-venom-debuts-at-commodity-classic>

CEU Meetings

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

Date: April 4, 2023

Title: Cimarron Ag Conference
Location: Noble County Fairgrounds
Contact: Brian Pugh (918) 686-7800

CEU's:	Category(s):
6	1A
6	10

Date: April 6, 2023

Title: 2023 Oklahoma Beef Summit
Location: Contact for Location
Contact: Justin McDaniel (405) 527-2174

CEU's:	Category(s):
2	1A

Date: April 6, 2023

Title: Spring Pest Management & Pasture Weed Update
Location: Contact for Location or County Extension Office
Contact: Todd A Baughman (580) 224-0623

CEU's:	Category(s):
3	1A
3	10

Date: April 10, 2023

Title: Cross Timbers Ag Producers Meeting
Location: Lincoln County OSU Extension Contact for exact location
Contact: Cody Linker (405) 258-0560

CEU's:	Category(s):
6	1A
3	6
5	10

Date: April 11, 2023

Title: Farmers Coop Gin Best practices for herbicide applications to ensure optimal performance
Location: Caddo Kiowa Technology Center , Contact for exact Location
Contact: Heath Hull (405) 668-0108

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

Date: April 14, 2023

Title: Heritage PPG Virtual Academy Perimeter PESts
Location: Virtual
Contact: Rachel Mohorn (828) 638-5798
<https://heritageppg.com/pages/academy>

CEU's:	Category(s):
1	3A
1	10

Date: April 17, 2023

Title: Sprayer Calibration
Location: Haskell County, contact for exact location
Contact: Crystal Shipman (918) 467-4330

CEU's:	Category(s):
2	1A

Date: April 26, 2023

Title: Tipton Valley Research Center Spring Wheat Field Tour
Location: Tipton Valley Research Center Tipton OK
Contact: Jennifer Catoe (405) 744-5401

CEU's:	Category(s):
TBD	TBD

Date: April 27, 2023

Title: Weed Considerations in Poultry Litter
Location: Haskell County contact for exact location
Contact: Crystal Shipman (918) 467-4330

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

Date: April 27, 2023

Title: East Central Pesticide Conference
Location: Contact for Location
Contact: Jennifer Patterson (918) 696-2253

CEU's:	Category(s):
7	1A
6	10

Date: May 2, 2023

Title: Kansas Pest Control Association IPM for the Food Industry
Location Virtual Zoom meeting
Contact: Jared Harris (785) 633-0192
<https://kpca.wildapricot.org/events>

CEU's:	Category(s):
3	7A
4	7C

Date: May 2, 2023

Title: Latimer County CEU Meeting
Location: Latimer County OSU Extension, Contact for exact Location
Contact: Hannah Rea (918) 465-3349

CEU's:	Category(s):
2	1A
4	3A
2	6

Date: May 5, 2023

Title: McCurtain County Applicator Field Day
Location: McCurtain County OSU Extension, Contact for exact Location
Contact: Bradley Bain (580) 286-7558

CEU's:	Category(s):
3	1A
1	6
3	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

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

CTN Educational Services Inc
http://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>

MarKev Training <https://www.markevtraining.com/>

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

Find us on Twitter at @OkstatePestEd

ODAFF Test Information

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

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

South Penn - Moore Norman Technology Center
13301 S. Pennsylvania, Oklahoma City, OK 73170

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

**Pesticide Safety
Education Program**



Oklahoma Unwanted Pesticide Disposal Program



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

April 2023

When & Where?

8:00 am to 1:00 pm

DATE	April 25, 2023
COUNTY	Pittsburgh County
CITY	McAlester
LOCATION	Southeast Expo Center, 4500 West, 4500 US-270, McAlester, 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.

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. Visit the OSU Pesticide Safety Education Program for information and how to register at <https://bit.ly/3pF9K2p>

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





Oklahoma Unwanted Pesticide Disposal Program



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

April 2023

When & Where?

8:00 am to 1:00 pm

DATE

April 27, 2023

COUNTY

Kingfisher County

CITY

Kingfisher

LOCATION

Kingfisher County Fairgrounds, 300 South 13th St., Kingfisher, OK

What is the Oklahoma Unwanted Pesticide Disposal program?

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