OKLAHOMA COOPERATIVE EXTENSION SERVICE

PESTICIDE REPORTS

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

December, 2024 CHEM

2024 RECERTIFICATION DEADLINE

Applicators needing to re-test for recertification in categories 3A, 3B, 3C, 6, and 7A have until December 31, 2024 to re-test at PSI to be eligible to work in 2025. Applicators should have received notice from ODAFF about the recertification process.

If applicators have enough CEUs to recertify they still must pay ODAFF the $50 recertification fee before December 31, 2024 to complete recertification and be able to work in 2025.

If study manuals are needed call University Mailing at 405-744-9037 to order any applicator manual.

To schedule a test at PSI links can be found at our website http://pested.okstate.edu. Click on the link that says Applicator Testing Procedure & FAQ.

To check on your CEU status use this link https://www.kellysolutions.com/OK/applicators/login.asp
(OSU PSEP)

EPA ANNOUNCES INTERIM GUIDANCE ON THE 2024 APPLICATION EXCLUSION ZONE (AEZ) RULE

The U.S. Environmental Protection Agency (EPA) is releasing interim guidance and additional materials to support the regulatory community in implementing the requirements of the final rule for the Agricultural Worker Protection Standard (WPS) Application Exclusion Zone (AEZ). EPA has also created an FAQ document about the rulemaking, as well as a comparison chart showing the differences between the 2015 WPS, the 2020 AEZ Rule that never went into effect, and the 2024 AEZ Rule.

The AEZ is an area with additional requirements to protect workers and bystanders. This area immediately surrounds the pesticide application equipment during an outdoor pesticide application. The AEZ only exists during the application, moves with the equipment during application, and can extend outside of an agricultural establishment (e.g., school grounds, residential neighborhoods). It may have a 25-foot or 100-foot radius, depending on the application type and droplet size used. When the application is complete, the AEZ ceases to exist (although any post-application restrictions, such as a restricted entry interval, would apply to the treated area).

The interim guidance document and other materials can be found on EPA's Application Exclusion Zone webpage and Worker Protection Standard webpage. The interim guidance addresses topics such as compliance with AEZs that extend off-establishment, determining the size of the AEZ using the American Society of Agricultural and Biological Engineers standards for droplet size, and the exemption for immediate family. EPA plans to revise this guidance over time in response to various stakeholders' questions and needs. Suggestions for additional guidance topics and improvements can be submitted to opp_occupational_pesticide_safety@epa.gov. This interim guidance supersedes all of EPA's previous guidance on the AEZ and will be effective when the final AEZ rule goes into effect which is 60 days after the publication date in the Federal Register.

Background on the AEZ Rule

The WPS regulation protects over two million agricultural workers (and their families) and pesticide handlers who work on over 600,000 agricultural establishments. In 2015, EPA made significant changes to the regulation to reduce incidents of pesticide exposure among farmworkers and their family members. Less pesticide exposure means a healthier workforce and fewer lost wages, medical bills, and absences from work and school. These changes include creating the AEZ.

In 2020, the previous administration published a rule limiting AEZ protections to agricultural establishments and shrinking the size of the AEZ from 100 feet to 25 feet for some ground-based spray applications. These changes would have meant that applicators no longer had to suspend applications if people in the AEZ were outside of an agricultural establishment, such as a neighboring property or in an easement. Additionally, some AEZs would have been sized smaller (e.g., 25 feet instead of 100 feet) even for some fine sprays, which tend to drift farther. Prior to the effective date of the 2020 AEZ Rule, petitions were filed in the U.S. District Court for the Southern District of New York (SDNY) and in the U.S. Second Circuit Court of Appeals challenging the 2020 Rule. The SDNY issued an order granting the petitioners' request for a temporary restraining order and preliminary injunction enjoining the effective date of the rule. As a result, the 2020 AEZ Rule never went into effect.

In 2021, EPA began reviewing the 2020 AEZ Rule in accordance with Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis. The Agency determined that the provisions in the 2020 AEZ Rule that weakened protections for farmworkers and nearby communities from pesticide exposure should be rescinded. The proposed rule to reinstate several provisions of the 2015 rule was published in March of 2023, and finalized in October 2024. It reinstates AEZ protections, extends protections for neighboring communities, makes requirements easier to understand,

and provides flexibilities for family farms without compromising protections.

The 2024 AEZ Rule can be found on www.regulations.gov using Docket ID EPA-HQ-OPP-2022-0133.

(EPA, November 13, 2024)
https://www.epa.gov/pesticides/epa-announces-interim-guidance-2024-application-exclusion-zone-aez-rule

EPA MAKES THOUSANDS OF RECORDS ON THE AGENCY'S REVIEW OF STUDIES ON PESTICIDES PUBLICLY AVAILABLE

Today, the U.S. Environmental Protection Agency announced it made available more than 4,500 Data Evaluation Records (DERs) in ChemView, a public portal that houses data and review of toxic chemicals. A DER is the documented EPA review of studies submitted during the request to register a pesticide or during the registration review process, and does not contain confidential business information. The studies may include product chemistry, toxicology, ecological effects, human exposure, spray drift, environmental fate, and residue chemistry.

EPA has not routinely released most DERs to the public. Prior to today's announcement, to obtain a DER not included as part of EPA's registration review docket, including most product chemistry DERs, a requester would need to submit a Freedom of Information Act (FOIA) request separately for each DER. Releasing this batch of DERs that have previously been requested through the FOIA process, which are largely product chemistry DERs, aims to reduce the need for submitting FOIA requests for these DERs in the future.

To access DERs in ChemView, select "EPA Assessments" in the output selection box. Results can be filtered using an EPA-issued study number with the document information filter, or product code with the chemical identifier filter. EPA plans on exploring ways to proactively add DERs to ChemView as they are developed.

To learn more, visit ChemView.EPA.gov.

(EPA, November 22, 2024)
https://www.epa.gov/pesticides/epa-makes-thousands-records-agencys-review-studies-pesticides-publicly-available

EPA RELEASES RODENTICIDE STRATEGY, INCLUDING FINAL BIOLOGICAL EVALUATION ON THE EFFECTS OF 11 RODENTICIDES ON ENDANGERED SPECIES AND ASSOCIATED MITIGATION

The U.S. Environmental Protection Agency (EPA) is releasing the final biological evaluation (BE), and associated response to comments, for 11 rodenticide active ingredients. The mitigation measures described in this final BE will also serve as the agency's Rodenticide Strategy as outlined in EPA's Endangered Species Act (ESA) Workplan.

Each year, rodents cause significant damage to property, crops, and food supplies across the United States. They may also spread diseases, posing a serious risk to public health. Rodenticides are used in residential, agricultural, and non-agricultural settings to control a variety of pests including house mice, Norway rats, roof rats, moles, voles, pocket gophers, prairie dogs, ground squirrels, feral hogs, and mongooses.

The 11 rodenticides evaluated in the BE are: chlorophacinone; diphacinone and its sodium salt; warfarin and its sodium salt; brodifacoum; bromadiolone; difenacoum; difethialone; bromethalin; cholecalciferol; strychnine; and zinc phosphide. These rodenticides are intended to control target animals using different biochemical mechanisms (e.g., neurotoxicity, reduced blood clotting). They also have different

properties that affect the types of species that may be impacted. For example, some rodenticides may remain in target animals long enough such that predator or scavenger animals that consume the target animals may be affected. The assessment accounts for these different properties across the 11 rodenticides evaluated in the BE.

EPA's final BE finds that the currently labeled uses of the 11 rodenticides evaluated in this assessment remained the same as those in the draft BE, and:

- Will have no effect on 88% of species and 95% percent of critical habitats;
- Are not likely to adversely affect 4-11% of species and 1% of critical habitats;
- Are likely to adversely affect 1-8% of listed species and 4% of critical habitats; and,
- Have a likelihood of future Jeopardy/Adverse Modification (J/AM) of less than 5% of listed species and less than 1% of critical habitats.

The final BE describes several scenarios intended to illustrate how EPA may implement mitigations from the Rodenticide Strategy as each rodenticide goes through registration review and for new active ingredient registrations. It provides additional clarity regarding the applicability of each mitigation measure to each rodenticide product and use, and how EPA anticipates implementing these measures.

The final Rodenticide Strategy does not itself impose any requirements or restrictions on pesticide use. Any mitigation measures needed to address potential likelihood of future J/AM for listed species will only apply in geographically specific areas where listed species with J/AM predictions are located, using EPA's Bulletins Live! Two system, as part of label language, or in the Terms and Conditions of registration. Not all of these measures will be necessary for all uses or products containing these pesticide ingredients. Rather, they are measures from which EPA expects to choose when reducing exposure to listed species and their critical habitats, as necessary, for a specific active ingredient, use site, and application method (i.e., bait station, in-burrow, and broadcast).

During formal consultation, U.S. Fish and Wildlife Service (FWS) will use EPA's effects determinations to inform their biological opinion(s). If FWS determines in its final biological opinion that additional or different mitigation measures are necessary to address any J/AM determinations or to address any incidental take beyond those mitigation measures, then EPA will work to ensure that any necessary registration or labeling changes are made.

The final BE is available in the docket EPA-HQ-OPP-2023-0567 on www.regulations.gov.

Background

In 2020, EPA released a draft human health and ecological risk assessment followed by a public comment period to support EPA's registration review of these 11 rodenticides. Based on that assessment, EPA identified measures to reduce ecological exposures, which included several pilot listed species.

In December 2023, EPA released a draft BE for these 11 rodenticides that provided draft effects determinations for all registered uses. The draft BE included predictions of whether there is a potential likelihood that the rodenticides could lead to a future J/AM finding by the FWS for listed species and designated habitats. In addition, the draft BE identified possible mitigation measures to avoid predicted J/AM and minimize take of listed species.

The final rodenticide BE released today includes revisions after incorporating public comments on the draft BE. Highlights from the revisions include refinements of EPA's predictions of potential likelihood of future adverse modification of critical habitat based on the use pattern and type of rodenticide, clarification of how different use types were combined for effects determinations, and including effects determinations for the most recently listed species. The final BE also includes examples of how EPA envisions implementing mitigations. While EPA included carcass search, scouting for carcasses that have signs of rodenticide exposure, in the draft as a mitigation measure to reduce exposures based on its inclusion in FWS' previous biological opinion on other rodenticides (i.e., Rozol and Kaput), numerous commenters expressed concerns about

its applicability and feasibility for many/most of the rodenticides and uses subject to this strategy. As a result, EPA is now specifying it expects to only select the carcass search measure when other mitigation measures are not practical or feasible. EPA has included an example of the limited types of scenarios in which EPA would expect to implement this measure in the final Rodenticide Strategy.

(EPA, November 22, 2024)
https://www.epa.gov/pesticides/epa-releases-rodenticide-strategy-including-final-biological-evaluation-effects-11

ESA CHANGES WILL IMPACT ALL OF AGRICULTURE

A critical issue facing agriculture is the **Endangered Species Act (ESA)**. This past August, revisions to this act were introduced, which will have a major impact on how farming operates going forward. In fact, as Jeffrey Smith, Associate Director of Industry & Government Relations at **Valent U.S.A. LLC**, explained, the process for crop protection product registration has always been a cost borne by the suppliers.

But that's changed now.

"With ESA, the impacts go directly to the bottom line of the grower," said Smith, speaking at the 2024 Mid America CropLife Association (MACA) annual meeting in September. "And they will be severely impacted."

How did the industry find itself in this position? According to Smith, it boils down to a conflict between two different laws – ESA and the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

"These two laws were written without each other in mind," he said. "FIFRA is administered by EPA while ESA is administered by the federal services. These have different requirements, with ESA being a risk-based assessment, so that if any species could be harmed by a product, EPA has to consult with the services before considering any registration."

According to Smith, there are currently more than 1,200 active ingredients in the marketplace that fall under the new ESA rules, potentially impacting 1,700 species and 800 critical habitats. To complete all the required ESA consultations could take between four and 15 years to complete for each ingredient.

"Under this, it would take the EPA 1,000 years to complete all the current pesticide consultations with the services," said Smith. "This is simply not feasible."

According to Stanley Culpepper, Professor and Extension Agronomist in the Crop and Soil Department at the University of Georgia and a farmer himself, the new ESA rules will have a direct impact on growers.

"As growers, we will have to make a decision on every field, not every farm," said Culpepper. "We will have to consider the products we are applying, the crops we are applying them on, and look at each field's characteristics such as slope, soil texture, and run-off."

In practice, this will have growers evaluate all these factors into a points system, he said. The lower the number achieved, the better.

Still, Valent's Smith expressed that he is confident the ag industry will adapt to this new system."In the end, I don't think this will be as big a deal as some people think," he concluded. "It's going to take a heck of a lot of communication and we in the industry will have to change how we handle risk assessment. Obviously, we don't want to have nine-point products. But if all the products we use get down to six points or less, we should be okay."

(CropLife, November 13, 2024)
https://www.croplife.com/editorial/esa-changes-will-impact-all-of-agriculture/

UF RESEARCHERS USE AI, LASERS FOR PRECISION SPRAYING TO COMBAT MOSQUITOES

Researchers from the UF/IFAS Florida Medical Entomology Laboratory (FMEL) and the Florida Museum of Natural History are working to revolutionize mosquito control by using artificial intelligence to improve the precision of mosquito control. Their research aims to make it easier to apply larvicide effectively but in targeted areas, meaning less larvicide gets used where it isn't needed, benefitting mosquito control programs through cost-savings and environmental protection.

Assistant Professor Lindsay Campbell of FMEL and Professor Robert Guralnick, the Curator of Biodiversity Informatics at the Florida Museum of Natural History, are researching the development of precision larvicide applications, using AI and advanced geospatial technologies such as LiDAR as a new tool to help target mosquito breeding areas with more accuracy than current methods, Campbell said.

"Precision larvicide application is about combining knowledge from mosquito control programs about high-producing larval habitats with geospatial technologies and AI to pinpoint areas where larvicides can be applied more effectively," she said. "By doing so, we can help reduce costs for mosquito control programs, slow the development of insecticide resistance and minimize environmental impact."

The project uses AI to model mosquito larval distributions and predict optimal locations for larvicide applications.

"Recent advances in AI allow us to create models that are adept at filtering out noise and outliers, making them highly effective in predicting mosquito habitats," Guralnick said. "These models can reveal complex relationships between preferred larval habitat and environmental factors that were previously difficult to detect."

A key part of the research involves inputting hydrological data derived from LiDAR into the AI models to get detailed insights into how water collects on Florida's coasts. The goal of using this information in the model is to predict with high accuracy where mosquito breeding sites are located.

Their plan is to create a dashboard for mosquito control programs to be able to access detailed hydrological data in their areas and to use model outputs as a tool to help plan their future mosquito control applications, she said. A $55,000 grant from the Florida Department of Agriculture and Consumer Services (FDACS) is supporting the creation of the dashboard to make the valuable data accessible.

"Our goal is to provide an accessible tool that improves decision-making for mosquito control," Campbell said. "By predicting areas with higher larval production, mosquito control programs can use this information to apply larvicides more strategically, which will help to protect sensitive environments like mangroves while reducing costs to programs."

Guralnick said the project is not only about saving mosquito control districts tax-payer funding, but it's about protecting Florida's essential environmental resources.

"This research not only helps us make better decisions about where to apply larvicides but also protects the vital ecosystem functions of our coastal areas," he said. "It's about giving state officials and control programs the tools they need to do their jobs effectively while safeguarding the environment."

This interdisciplinary collaboration between UF/IFAS and the Florida Museum underscores the importance of combining expertise from various fields to advance scientific research and address pressing public health challenges, like mosquito control.

(PCT, November 1, 2024)
https://www.pctonline.com/news/uf-researchers-use-ai-lasers-for-precision-spraying-to-combat-mosquitoes/

THE STRANGE TYPES OF SPIDERWEBS FOUND IN NATURE

Spiderwebs evoke a unique mix of fear and awe. Even for those who prefer that spiders stay far away, it's hard not to appreciate the delicate, silky architecture and radiating patterns made by these tiny creatures.

Not all spiderwebs follow the iconic radial design we usually picture though. There are at least five types of spiderwebs made with different silk types, said Wizzie Brown, Texas A&M AgriLife Extension Service integrated pest management specialist in the Texas A&M Department of Entomology, Austin.

The 50,000-plus known species of spiders can produce up to seven types of silks from their glands, which Brown describes like faucets of a soda fountain. Few spiders can make all seven silks, but many have more than one. The varying levels of stickiness give each a particular purpose, such as catching prey or making egg sacs.

Brown said each silk type is tailored to the lifestyle and habitat of the spider to help it survive — whether we like them sticking around or not.

Spiral orb webs: the classic trap

By far the most iconic of the spiderwebs, orb webs are the flat grid or spoke-pattern webs we usually associate with spiders, cemented in the public consciousness by Charlotte, the beloved barn spider from "Charlotte's Web."

Brown said spiders tend to set up their webs in strategic locations, like insect flight paths, to boost their chances of catching prey. Yellow garden spiders are a common type of orb weaver you may encounter around your home.

Spiders build these webs using multiple silk types, with the stickiest parts in the middle. Webs serve as the spider's home and as a means of catching prey. Brown said orb weavers typically lie in wait for prey in a corner, where they can be easily missed if you don't look closely.

As with other web styles, the spiders sense the vibrations along the threads when insects wander into the web.

Tangle webs or cobwebs: a fluffy snare

Tangle webs lack the intricate design of orb webs and instead opt for a cottony mesh of spider silk. However, it's easy to see why these webs are still effective for catching prey — especially if you've ever walked into one.

Brown said these often cause concern to homeowners because they're the kind of web made by cobweb or comb-footed spiders, including the infamous black widow. However, the sight of a cobweb isn't necessarily cause for concern.

"Not all cobwebs house dangerous spiders," she said. "You're much more likely to see a common house spider in a cobweb than a black widow."

Sheet webs: a morning dew masterpiece

The tangled, hammock-shaped structures most likely to be seen strewn across grass are known as sheet webs. Commonly found on vegetation, the spiders responsible for these traps tend to wait underneath the webs for insects to fall onto them from above.

Sometimes mistaken for wolf spiders, American grass spiders are one common type of sheet-web spinner.

Funnel webs: a not-so-fun tunnel of terror

Funnel webs might conjure thoughts of the highly toxic Australian funnel-web spider, but Brown said the spiders in the U.S. that make these types of webs — like barn funnel weavers — are generally harmless. The webs are tunnel-shaped and often built close to the ground or around the base of trees.

"The spiders usually stay in there, but they build the tunnel with two openings, so they have an escape route if needed," Brown said. "And they dart out to catch prey that comes close enough."

Net webs: real-life web slingers

Not content with the passive approach, net-casting weavers in the ogre-faced spider family — named so for their large eyes — prefer to take a more active approach to hunting. Brown said she thinks of these as the Spider-Man group.

After weaving small, net-like webs, these spiders wait for prey to come near and then fling a silk net over them from above. They then devour the insect right away or wrap it up in silk to eat later.

Trapdoor spiders' burrows and trip lines: nature's jack-in-the-box

Though not considered a type of web, trapdoor spiders deserve recognition for the silk-walled underground burrows they call home and the trip lines and hinged doors they employ to catch prey. These spiders are often mistaken for tarantulas because of their large, stocky bodies and thick legs.

Trapdoor spiders hide beneath a camouflaged door, waiting to ambush unsuspecting insects that pass by. Brown said these spiders pop out and snatch passing insects. Luckily, they pose little threat to humans — aside from inducing nightmares.

(PCT, November 25, 2024)
https://www.pctonline.com/news/the-strange-types-of-spiderwebs-found-in-nature/

CEU Meetings

Please note that some of these meetings are virtual using Zoom or Microsoft Teams. Please contact the meeting host directly if you have any questions.

Date: December 9, 2024
Title: Cross Timbers Ag Producers Meeting
Location: Contact Lincoln County Extension for Location
Contact: Cody Linker (405)-258-0560

CEU's:	Category(s):
5	1a
5	Private
5	10

Date: December 10, 2024
Title: The Deadliest Oak Diseases: Oak Wilt and Sudden Oak Death
Location: US Environmental Protection Agency (Virtual)
Contact: Dr. Marcia Anderson (908)-577-2982
https://www.epa.gov/ipm/upcoming-integrated-pest-management-webinars

CEU's:	Category(s):
1	2
1	3a

Date: December 10, 2024
Title: McClain County 2024 Applicator CEU Class
Location: McClain County Fairgrounds Purcell
Contact: Justin McDaniel (405)-527-2174

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

Date: December 17-18, 2024
Title: Oklahoma State University Winter Crops School 2024
Location: OSU Ag Hall Stillwater OK
Contact: DR D BRIAN ARNALL (405)-744-1722
https://secure.touchnet.com/C20271_ustores/web/store_cat.jsp?STOREID=15&CATID=59

CEU's:	Category(s):
6	1a
6	Private
6	10

Date: January 19-21, 2025
Title: 2025 OKAAA Convention and Trade Show
Location: Embassy Suites Norman OK
Contact: Sandy Wells (405)-431-0381
http://www.okaaa.org/

CEU's:	Category(s):
pending	

Date: February 14, 2025
Title: Central OK Cattle Conference
Location: Contact Payne County Extension for location
Contact: Jennifer Kay Patterson (918)-575-3497

CEU's:	Category(s):
1	1a
1	Private
1	10

Date: February 27, 2025
Title: 2025 Turfgrass Professional Education Session
Location: Contact for location
Contact: Michael Kenty, Ph.D. (901)-409-6525

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

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

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

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