

PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University

<http://pested.okstate.edu>



June, 2023

CHEM

- 1 TEST HELP WORKSHOPS OKC & TULSA
- 2 EPA TAKES NEXT STEP IN THE ENDANGERED SPECIES ACT REVIEW OF THREE NEONICOTINOIDS
- 3 EPA MARKS ENDANGERED SPECIES DAY BY PUBLISHING MAPS TO HELP PESTICIDE USERS BETTER UNDERSTAND RISKS TO ENDANGERED SPECIES
- 4 EPA REACHES AGREEMENTS ON EARLY MITIGATION MEASURES FOR THREE MORE ORGANOPHOSPHATE PESTICIDES
- 6 EPA APPROVES CHLORPYRIFOS RETURNS
- 7 MOST POLL RESPONDENTS SAY THEY'VE DEALT WITH BAIT-AVERSE COCKROACHES
- 7 DRAFT OPINION EASES ENLIST RESTRICTIONS
- 9 MOVE TO CHANGE HOW U.S. TRACKS PESTICIDE USE SPARKS PROTEST
- 11 CEU MEETINGS
- 12 ONLINE CEU LINKS
- 12 ODAFF TEST INFORMATION

TEST HELP WORKSHOPS OKC & TULSA

The Oklahoma State University Pesticide Safety Education Program (PSEP) has scheduled test help workshops for June 13 in Oklahoma City and June 15 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 June 12 for Oklahoma City and \$65 after June 12. Registration cost is \$50 before June 14 for Tulsa and \$65 after June 14. 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 TAKES NEXT STEP IN THE ENDANGERED SPECIES ACT REVIEW OF THREE NEONICOTINOIDS

The U.S. Environmental Protection Agency (EPA) is releasing new analyses identifying federally endangered or threatened (listed) species that it predicts face the greatest risks from [clothianidin](#), [imidacloprid](#), and [thiamethoxam](#), part of a group of insecticides known as neonicotinoids used on a variety of crops, turf, and ornamentals, and for other residential and commercial indoor and outdoor uses. While these types of analyses—which predict which species could be at jeopardy and which critical habitats could face adverse modification from the use of these pesticides—have not historically been part of EPA’s Endangered Species Act (ESA) assessments, EPA has recently conducted some of these analyses in order to expedite ESA consultations with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services). The analyses will also help EPA and the Services prioritize mitigation measures for the highest risk species. These analyses were completed as part of EPA’s efforts to meet its obligations under the ESA and furthers the goals outlined in [EPA’s April 2022 ESA Workplan](#) to provide practical protections for listed species from pesticides.

EPA finalized [biological evaluations \(BEs\) for clothianidin, imidacloprid, and thiamethoxam](#) in June 2022. The BE is EPA’s determination of whether the continued registration of these insecticides will have an effect on each listed species or its designated critical habitat. When EPA makes a “may affect” determination, the Agency also determines if continued registration will likely adversely affect (LAA) or not likely adversely affect (NLAA) a listed species or critical habitat.

In the final BEs, the Agency made numerous LAA determinations. An [LAA determination](#) means that EPA reasonably expects that at least one individual of any listed species may be exposed to a chemical 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. An LAA determination, however, does not necessarily mean that a pesticide is putting a species in jeopardy.

Whenever EPA makes an LAA determination, the Agency consults with the Services, which will analyze whether those impacts rise to the level of jeopardizing the existence of the entire species or adversely modifying its critical habitat. The Services’ analysis is typically complex and time-consuming. To help expedite this analysis, EPA in its BE has predicted whether each of the three pesticides could lead to a future jeopardy or adverse modification finding for each species or critical habitat with an LAA finding. Although EPA has made these predictions, the Services are responsible for making the actual jeopardy/adverse modification findings and have the sole authority to do so.

Below are the findings from the BEs and the new analyses on jeopardy and adverse modification (last two bullets). The BEs evaluated the effects of the three neonicotinoids on over 1,700 listed species and over 800 critical habitats in the United States.

Clothianidin

- Will have no effect on 16% of species and 17% of critical habitats;
- May affect but is not likely to adversely affect 20% of species and 27% of critical habitats;
- Is likely to adversely affect but EPA predicts that use will not likely cause jeopardy to 55% of listed species or adversely modify 52% of critical habitats;
- Is likely to adversely affect and EPA predicts that use may cause jeopardy to 9% of listed species and adversely modify 4% of critical habitats.

For more information on clothianidin, see <https://www.epa.gov/endangered-species/final-national-level-listed-species-biological-evaluation-clothianidin>.

Imidacloprid

- Will have no effect on 15% of species and 13% of critical habitats;
- May affect but is not likely to adversely affect 13% of species and 11% of critical habitats;

- Is likely to adversely affect but EPA predicts that use will not likely cause jeopardy to 61% of listed species or adversely modify 73% of critical habitats;
- Is likely to adversely affect and EPA predicts that use may cause jeopardy to 11% of listed species and adversely modify 3% of critical habitats.

For more information on imidacloprid, see <https://www.epa.gov/endangered-species/final-national-level-listed-species-biological-evaluation-imidacloprid>.

Thiamethoxam

- Will have no effect on 15% of species and 13% of critical habitats;
- May affect but is not likely to adversely affect 14% of species and 10% of critical habitats;
- Is likely to adversely affect, but EPA predicts that use will not likely cause jeopardy to 60% of listed species or adversely modify 73% of critical habitats;
- Is likely to adversely affect and EPA predicts that use may cause jeopardy to 11% of listed species and adversely modify 4% of critical habitats.

For more information on thiamethoxam, see <https://www.epa.gov/endangered-species/final-national-level-listed-species-biological-evaluation-thiamethoxam>.

Next Steps

These neonicotinoids are also currently undergoing [registration review](#). Proposed Interim Decisions (PIDs) for these neonicotinoids were released in January 2020.

EPA anticipates releasing amended proposed interim decisions later this year that will include additional ecological mitigation measures to reduce neonicotinoid exposures for non-target organisms, including some listed species for which EPA has predicted that jeopardy is likely.

EPA expects to finalize these additional mitigation measures in interim decisions, which the Agency

foresees releasing in 2024. EPA will inform the Services of any additional mitigations identified during registration review, which may be considered during formal consultation.

During formal consultation, the Services use EPA’s effects determinations and jeopardy/adverse modification predictions to inform their biological opinions, which will include their final determinations of jeopardy/adverse modification. Prior to issuing the final biological opinions, the Services will provide a draft opinion to EPA, which the Agency will share for public comment. EPA will summarize and provide all comments to the Services for consideration as they complete the final opinion.

Learn about the updated review schedule for neonicotinoid pesticides by visiting EPA’s website: [Schedule for Review of Neonicotinoid Pesticides](#). (EPA, May 5, 2023) <https://www.epa.gov/pesticides/epa-establishes-first-pesticide-tolerance-hemp>

EPA MARKS ENDANGERED SPECIES DAY BY PUBLISHING MAPS TO HELP PESTICIDE USERS BETTER UNDERSTAND RISKS TO ENDANGERED SPECIES

Today, in recognition of Endangered Species Day, the U.S. Environmental Protection Agency (EPA) is publishing a group of StoryMaps to raise public awareness about protecting endangered species from pesticides. These StoryMaps use an interactive format to describe 11 endangered and threatened (listed) species, their habitats, and why they are at risk from pesticide exposure.

Through its [Vulnerable Species](#) Pilot, EPA has been identifying endangered species that are vulnerable to pesticides, developing mitigations to protect them from pesticide exposure, and will apply the mitigations to many types of pesticides.

The species included in this pilot are:

- listed as endangered or threatened species by the U.S. Fish and Wildlife Service;
- located in areas where pesticides are likely to be applied; and
- have relatively small ranges (where they live, are suspected to live, and areas that impact the species' survival in some way).

As described in EPA's [Endangered Species Workplan](#), the pilot focuses on implementing protections for 27 vulnerable federally listed endangered and threatened (listed) species.

The StoryMaps released today include descriptions of 11 of the pilot species and their habitats and explains why they are vulnerable to pesticides. These StoryMaps offer the unique ability to convey geospatial information about the location of these species and the protections they need from pesticides. For example, users can zoom in on the maps to view specific locations that may be of interest to them (e.g., where pesticide restrictions may apply to protect each species). Engaging the public and stakeholders through maps, other visuals, and narratives can help convey complex information in an easy-to-understand manner, offering a greater sense of place-based mitigations to protect species from pesticides.

EPA plans to propose mitigations and its implementation plan for all 27 species included in the Vulnerable Species Pilot in June 2023. At that time, the Agency will update the StoryMaps released today to include mitigations and will release StoryMaps for the 16 remaining species.

EPA and its federal partners are committed to developing tools for pesticide users to better understand pesticide risks to listed species and designated critical habitats, not just on Endangered Species Day, but every day.

View the StoryMaps page [here](#).

(EPA, May 19, 2023)

<https://www.epa.gov/pesticides/epa-marks-endangered-species-day-publishing-maps-help-pesticide-users-better-understand>

EPA REACHES AGREEMENTS ON EARLY MITIGATION MEASURES FOR THREE MORE ORGANOPHOSPHATE PESTICIDES

The U.S. Environmental Protection Agency (EPA) is announcing new mitigation measures for three additional organophosphate pesticides: ethoprop, phosmet, and tribufos. The Agency worked with the registrants of these pesticides to develop mitigation measures several years ahead of the scheduled completion of EPA's registration review work on these chemicals, expediting protection for farmworkers and other people who work with these pesticides.

In March 2023, EPA released updated Occupational and Residential Exposure (ORE) assessments for the three organophosphate pesticides (and for a fourth organophosphate, diazinon, for which early [mitigation measures were announced last month](#)). The assessments showed that some uses of these pesticides posed health risks to workers who mix, load, and apply the pesticide; workers conducting certain post-application activities (e.g., hand weeding, hand harvesting, or re-entering treated areas); and to bystanders (including farmworkers) who could be exposed through spray drift. EPA is pursuing mitigation for these three pesticides earlier than would be achieved through the standard [registration review process](#). That process requires re-evaluation of registered 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.

Phosmet

Phosmet is a widely used agricultural insecticide that provides pest control benefits to growers of orchard fruit, nut, and other crops. In the updated ORE assessment, the most significant risks of concern for people who work with phosmet were for those using mechanically pressurized handguns on many use sites, mixers and loaders for most aerial and chemigation uses sites, and for post-application activities on a variety of stone and pome fruits and grapes.

The technical registrant for this pesticide, Gowan, has agreed to mitigation measures including:

- The registrant requesting to voluntarily cancel the registration of three products that contain phosmet;
- Prohibit the use of mechanically pressurized handgun for the riskiest uses;
- Prohibit aerial and chemigation application on certain crops;
- Require longer waiting periods between application and certain post-application activities for stone and pome fruits, and grapes;
- Require coarser droplet size to reduce the potential for pesticide spray to drift and expose people nearby;
- Include buffers between application sites and residential areas;
- Reduce the application rate for some uses; and
- Require use of increased personal protective equipment (PPE) (including gloves, respirators, etc.).

The updated phosmet ORE assessment is available in the registration review docket [EPA-HQ-OPP-2009-0316](#) at www.regulations.gov.

Tribufos

Tribufos is an herbicide used as a pre-harvest defoliant on cotton. The updated ORE assessment identified potential risks of concern to workers who mix, load, and apply the pesticide; workers conducting certain post-application activities; and bystanders (including farmworkers) who could be exposed to spray drift.

The technical registrants for this herbicide, AMVAC and RedEagle, have agreed to mitigation measures including:

- Reduce the maximum application rate;
- Limit the pesticide amount handled for aerial applications;
- Require coarser droplet size to reduce the potential for pesticide spray to drift and expose people nearby;
- Implement no-spray buffers between application sites and residential areas;

- Prohibit certain post-application activities for a longer duration after application (when higher application rates are used); and
- Require closed loading systems for ground applications (already required for aerial applications) to reduce exposure to people mixing and loading the pesticide into the application equipment.

The updated tribufos ORE assessment is available in the registration review docket [EPA-HQ-OPP-2008-0883](#) at www.regulations.gov.

Ethoprop

Ethoprop is an insecticide and nematicide used on a variety of agricultural crops prior to, or at the time of, planting. All ethoprop products are classified as restricted use pesticides due to acute dermal toxicity. The updated ORE assessment identified potential risks of concern to workers who mix, load, and apply the pesticide and to bystanders who could be exposed through spray drift.

The technical registrant for this insecticide-nematicide, AMVAC, has agreed to mitigation measures including:

- Reduce the maximum application rate for all liquid products (exception allowed when nematode pressure is high for treatment of potato, sweet potato, and Easter Lily crops using banded application only, due to the lack of other effective nematicides for these crops);
- Require coarser droplet size and a maximum release height to reduce the potential for pesticide spray to drift and expose people nearby; and
- Implement no-spray buffers between application sites and residential areas.

The updated tribufos ORE assessment is available in the registration review docket [EPA-HQ-OPP-2008-0560](#) at www.regulations.gov.

Stakeholders will have an opportunity to comment on the registration review for these three organophosphates during the next step of the process, when the proposed interim decisions are published for comment along with full updated human health risk assessments. Per the registration review process, these proposed decisions will be followed by interim or final decisions, which will implement additional label mitigation measures for risks not covered by the early mitigation initiatives. EPA expects to issue the proposed interim decisions for tribufos in 2025, and for ethoprop, phosmet, and diazinon in 2026. (EPA, May 25, 2023)

<https://www.epa.gov/pesticides/epa-reaches-agreements-early-mitigation-measures-three-more-organophosphate-pesticides>

EPA APPROVES CHLORPYRIFOS RETURNS

The EPA granted Corteva Agriscience and Adama US authorization in April to begin receiving returned shipments of chlorpyrifos-based products, after the agency canceled the insecticide's registration.

In an April 19, 2023, memorandum posted to the Federal Register, EPA issued a list of chlorpyrifos products that can be returned to Corteva and Adama.

A third chlorpyrifos registrant, Gharda Chemicals International Inc., and 19 agriculture interest groups continue to fight the EPA's decision in a lawsuit pending in the U.S. Court of Appeals for the Eighth Circuit.

"These registrants have provided the agency with information on the anticipated timing and consolidation process and have also agreed to document information on the returned products including product names, EPA registration numbers and amount of product being returned," the agency said in the memo.

To make arrangements to return Chlorpyrifos 4E AG and Vulcan products to Adama, the company can be reached at 1-866-406-6262 or by email at ordergroup@adama.com.

For more information on how to return chlorpyrifos products to Corteva, companies and farmers are encouraged to call the company at 1-800-258-3033.

Those Corteva products include Lorsban 15G, LOCK-ON, Hatchet, Lorsban 4E, Lorsban 50W in water soluble packets, Lorsban 75WG, Cobalt, Lorsban advanced, Cobalt advanced, Yuma 4E, Whirlwind, Govern 4E, Eraser and CPF 4E.

Chlorpyrifos is an organophosphate insecticide that has been plagued by legal problems over its alleged health effects since the 1990s, and its use had declined in agriculture in the past decade. Corteva, the largest registrant of the product, had discontinued its production of its branded chlorpyrifos product, Lorsban, in 2020.

According to EPA, other companies that sell similar products are either seeking registration amendments to remove food uses from or are requesting voluntary cancellations of chlorpyrifos products used on food and feed.

EPA finalized a rule on Feb. 28, 2022, revoking the food tolerances for chlorpyrifos, effectively banning legal use of the insecticide among U.S. farmers. That rule was issued by the Biden EPA in August 2021 in response to an order from the U.S. Court of Appeals for the Ninth Circuit.

The EPA issued a new interim registration for the insecticide in December 2020 before the Ninth Circuit handed down its order in April 2021. That order led EPA to issue its food tolerance revocation.

In the December 2020 action by EPA, it found 11 high-benefit, low-risk crop uses for chlorpyrifos. That finding is the subject of the lawsuit pending in the Eighth Circuit.

(Progressive Farmer, May 17, 2023)

<https://www.dtnpf.com/agriculture/web/ag/crops/article/2023/05/17/chlorpyrifos-products-can-returned>

MOST POLL RESPONDENTS SAY THEY'VE DEALT WITH BAIT-AVERSE COCKROACHES

According to those who responded to PCT's most recent reader poll, 59 percent said they have encountered bait-averse cockroaches, while 41 percent said they have not.

Chelle Harzter, owner of [360 Pest and Food Safety Consulting](#), said she has had multiple encounters with bait-averse roaches in both residential and commercial accounts. "It can be resistance, when they survive eating the active ingredient, or it can be aversion, where they have 'learned' not to like the taste of the bait and they just avoid it. It's why we stress SO MUCH to rotate baits."

Hartzter explains how she rotates baits in these situations. "I will typically use two, even three different baits at the same time to see which one they are currently eating. I would also use a liquid application in low areas like baseboards and under equipment if that's possible. And you definitely need to add an IGR to that liquid. Also, make sure the customer is not treating with their own products — they are usually repellent and will push cockroaches away from your bait."

Mohammed El-Damir, technical and training director of [Adam's Pest Control](#), Maple Grove, Minn., also said he has observed bait-averse roaches in residential and commercial accounts, mostly in apartment buildings. "In these situations, we recommend that customers stop self-treating. We also recommend cleaning the area where the baits are placed to remove any trace of things that irritate them. Finally, we suggest switching the bait with something else with different AI, formulations, or food matrices."

El-Damir added that bait aversion has become less of a problem for his company as a result of bait rotation and customer education.

Ashley Roden, technical and quality assurance manager of [Sprague Pest Solutions](#), said although she's not witnessed bait aversion herself, Sprague service professionals have...and she is aware of one situation

"where bait was applied in a food processing facility, and they wouldn't even touch it."

Like other companies, Sprague will switch baits if they believe cockroaches are averse to the bait they are using. Roden added German cockroaches are a rising problem in Sprague's service areas and that she suspects there are more issues than just avoidance. "Overreliance on bait, not checking to see if they like the bait, not using dusts when appropriate, not treating the right areas, and forgetting to rotate pesticide classes," are all reasons for German cockroach control failure, she said.

(PCT Online, May 19, 2023)

<https://www.pctonline.com/news/bait-averse-cockroach-poll/>

DRAFT OPINION EASES ENLIST RESTRICTIONS

Farmers in 10 states currently banned from using Enlist One and Enlist Duo may get access to the herbicides. This is after a draft biological opinion from the U.S. Fish and Wildlife Service (USFWS) determined the registration of the products, as proposed, is not likely to jeopardize the continued existence of endangered or threatened species.

On May 24, EPA initiated a 60-day public comment period on the 155-page document, which calls for the removal of county prohibitions in Arizona, Colorado, Louisiana, New York, Pennsylvania and South Carolina and the establishment of sub-county level restrictions in Alabama, Georgia, Tennessee and Texas. Florida is the only state where no changes are proposed to the current prohibition.

The biological opinion considered 22 threatened or endangered species, from the Attwater's greater prairie chicken and dusky gopher frog to Virginia sneezeweed and the Panama City crayfish.

While USFWS concluded that all species in the opinion have vulnerabilities, the herbicides were not likely to jeopardize their continued existence.

In January 2022, EPA granted seven-year registrations and labels for Enlist Duo and Enlist One herbicides. Both contain 2,4-D choline and are intended for post-emergent application over genetically modified corn, cotton, and soybeans.

The labels were among the first to include mitigation measures intended to protect federally threatened and endangered species. This "pick list" included off-field conservation buffers, such as vegetative filter strips, grassed waterways and field borders intended to reduce runoff and erosion. Also included were on-field conservation practices, such as reduced tillage in the form of no-till and strip-till, as well as planting cover crops.

However, the labels also included county-level restrictions to ensure that the herbicides did not harm federally threatened and endangered species or adversely modify their designated critical habitats. Initially, use of Enlist Duo was banned in 217 counties in 21 states, with the bulk falling in Arkansas, Florida, Kansas, Nebraska, Ohio, Oklahoma, and Texas. Enlist One was prohibited from use in 169 counties in 14 states, many of which overlapped with the list of banned counties for Enlist Duo.

Most of the counties were banned due to the agency's concern over risks to the American burying beetle, an endangered insect, as well as potential threats to the Eastern Massasauga, a species of rattlesnake. After Corteva brought new data to EPA on the beetle, and the agency discovered updated maps for the rattlesnake's range, the agency reversed course. In late March 2022, the labels for Enlist Duo and Enlist One were amended, allowing use of the products in 134 counties where it was previously prohibited.

However, several dozen counties remained banned from Enlist One and Enlist Duo applications in Alabama, Arizona, Colorado, Florida, Georgia, Louisiana, New York, Pennsylvania, South Carolina, Tennessee and Texas.

REACTION TO DRAFT OPINION

In a statement sent to DTN, Corteva said the company is pleased the USFWS's draft biological opinion concludes

that the proposed registration of Enlist One and Enlist Duo herbicides is not likely to jeopardize the continued existence of any of the species analyzed.

"We will continue to take appropriate actions to ensure that growers continue to have access to these and other technologies critical to their operations, while also protecting human health and the environment," the statement read.

News of the USFWS's preliminary findings was encouraging to soybean farmers who have rapidly adopted Enlist E3 soybeans as a means of combatting herbicide-resistant weeds.

"While we are still reviewing the draft biological opinion, we are initially optimistic this proposal would move the Enlist and Enlist Duo registrations in a positive direction," said Alan Meadows, American Soybean Association director and Tennessee soybean farmer. "We appreciate EPA and Fish and Wildlife Service for considering revising restrictions that, when viewed with the best available science, are found unnecessary to protect endangered species.

"The American Soybean Association has long believed that when more data is used in Endangered Species Act reviews, it will result in better regulatory decisions that only require protections that are truly necessary and justified by sound science,"

Meadows continued. "We look forward to further reviewing it and offering comments in the days ahead."

implement them. These measures need to be in place for this growing Not everyone was pleased with the draft biological opinion.

"The Fish and Wildlife Service has completely dropped the ball by failing to include on-the-ground conservation measures for this dangerous pesticide," said Brett Hartl, government affairs director at the Center for Biological Diversity. "The agency expects the pesticide to cause serious harm to endangered butterflies like the Dakota skipper but plans to do nothing about it. Despite minimal measures required to reduce runoff, the Fish and Wildlife Service is giving the EPA 18 months to season, not 2025. What's the point of doing this work if species

are left without a safety net for years as the agencies sit on their hands?"

MEASURES TO MINIMIZE EXPOSURE

According to EPA, the draft biological opinion describes measures to minimize potential exposure and effects to endangered species. It also accounts for measures that are included as part of the registration decision that are intended to ensure that Enlist products are not likely to jeopardize listed species or adversely modify critical habitats. The draft includes actions EPA must take to minimize incidental harm to listed species and critical habitats.

In its announcement of the 60-day public comment period, EPA stated the agency is particularly interested in feedback on the feasibility of the pick list of conservation measures that are intended to further reduce movement of Enlist One and Enlist Duo off treated fields after application. After the public comment period ends on July 24, EPA will provide USFWS with the comments for its consideration before it finalizes the biological opinion. The issuance of the final biological opinion is the last step in EPA's formal consultation process with USFWS. Once USFWS issues its final biological opinion, EPA will work with the registrants to implement it.

The Enlist draft biological opinion can be found here: <https://www.epa.gov/...>

(FarmProgress, May 25, 2023)
<https://www.dtnpf.com/agriculture/web/ag/crops/article/2023/05/25/wildlife-agency-says-enlist-put-risk>

MOVE TO CHANGE HOW U.S. TRACKS PESTICIDE USE SPARKS PROTEST

Last year, Alan Kolok, an ecotoxicologist at the University of Idaho, published a study that found the incidence of cancer in counties across 11 western U.S. states was correlated with the use of farm chemicals called fumigants, which kill soil pests. The fine-grained

analysis was feasible, he says, because a U.S. government database made timely, county-level statistics on pesticide use publicly available.

Now, Kolok is one of many scientists concerned that changes to the National Pesticide Use Maps database will make it far less useful to scientists. Last month, he joined more than 250 researchers and dozens of public health and environmental groups in urging the U.S. Geological Survey (USGS), which oversees the database, to reconsider moves to reduce the number of chemicals it tracks and to release updates less frequently.

The agency says the changes are being driven, in part, by budget constraints and a desire to align the pesticide survey with its other research programs. But in an open letter to USGS, critics say the changes endanger a database that provides "vital information and tracks trends that are not available anywhere else."

The USGS data have played a role in more than 500 peer-reviewed studies, the letter notes, including highly cited works on the impact of pesticides on public health, water quality, and ecosystems. Instead of reducing the database's scope and frequency, the critics say USGS should be expanding it in order better track the estimated 540 million kilograms of pesticides used annually in the United States. "We need credible sources of data to be able to study and understand what this widespread pesticide use means to the health of people and the environment," the letter states.

At its height, the USGS database, which dates to 1992, tracked the shifting use of more than 400 chemicals to control insects, fungi, weeds, and other pests. Each year, the agency typically released preliminary maps documenting pesticide use 2 years prior. To make the maps, agency staff combined farm data on pesticide use on specific crops—purchased from Kynetec, a company based in the United Kingdom—with crop acreage data from the U.S. Department of Agriculture.

In recent years, however, USGS has narrowed its approach. The most recent data release, which covered 2018 and 2019, included only 72 compounds that USGS judged to be especially important because of their widespread use and toxicity. In a statement, the agency

said the shorter list aligns the survey with “the list of pesticides that USGS routinely collects data on for water quality purposes.”

On 25 May, the agency said there are no immediate plans to expand the list. It also said that, from now on, it would not release the preliminary data every year. Instead, USGS expects to release its next full report, covering 2018 to 2022, in late 2024; reports will be published every 5 years starting in 2029. The schedule change could save the agency roughly \$100,000 each year.

Many scientists aren’t happy with those decisions. “This plan to just keep the program running on life support does not reflect how important it is,” says Nathan Donley, a senior scientist at the nonprofit Center for Biological Diversity. Having to wait 5 years for data, he argues, will make it impossible for researchers to detect trends and potential problems early and address them quickly. The data are “basically just a history lesson at that point,” he says. “What’s the point ... if you’re going make it harder for the public to use the data in any meaningful way?”

Others say the agency should be tracking more pesticides, not fewer. “There are literally hundreds of active ingredients and thousands of products that are applied on croplands,” notes Christy Morrissey, an ecotoxicologist at the University of Saskatchewan who studies pesticide impacts on birds and insects. Researchers say USGS should not only restore its original tracking list—which included antibiotics such as oxytetracycline and streptomycin—but also add any new farm chemicals approved by the Environmental Protection Agency (EPA). “The most widespread pollutants today aren’t necessarily going to be the most widespread in 5 or 10 years,” says Donley, who notes that EPA approves about five new products each year.

Some scientists also want USGS to restart efforts to track one of the fastest growing uses of pesticides: seed coatings that protect against, for example, plant diseases or nematodes. Kynetec stopped tracking chemicals used to coat seeds in 2014 because surveys were deemed too complicated to conduct accurately. One result is that researchers are now unable to track the full extent of

neonicotinoids, controversial chemicals that have been linked to dwindling bee populations. (In January, researchers published a paper in the *Proceedings of the National Academy of Sciences* that relied on USGS data from 2008 to 2014, when it still included coated seeds. The study concluded that neonicotinoids had harmed populations of the western bumble bee.)

When this article was published, neither USGS nor its parent agency, the Department of the Interior, had formally responded to the scientists’ pleas.

(Science, May 30, 2023)

<https://www.science.org/content/article/move-change-how-u-s-tracks-pesticide-use-sparks-protests>

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: June 2, 2023

Title: Oklahoma Pecan Growers Association Annual Conference

Location Contact for exact Location

Contact: Becky L Carroll (405) 744-6139

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

Date: June 9, 2023

Title: Payne County Pasture Tour

Location Contact for exact Location

Contact: Nathan Anderson (405) 747-8320

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

Date: June 15, 2023

Title: South Central Pasture Pesticide Conference

Location: Pontotoc County OSU Extension Agri-Plex Convention Center

Contact: Erin Hubbard (580) 490-2578

<https://extension.okstate.edu/programs/private-applicator-training/calendar.html?trumbaEmbed=view%3Devent%26eventid%3D167160138>

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

Date: August 1, 2023

Title: Ensystem 2023 CEU Workshop

Location: Hampton Inn 4333 SW 15th OKC

Contact: DON STETLER (281) 217-2965

<https://ceuworkshop.com/#95d40a97-d688-4731-9d1a-1e00ab8de51e>

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

Date: August 2, 2023

Title: Ensystem 2023 CEU Workshop

Location: Holiday Inn Express Tulsa 2201 N Stonewood Cir. Tulsa

Contact: DON STETLER (281) 217-2965

<https://ceuworkshop.com/#95d40a97-d688-4731-9d1a-1e00ab8de51e>

CEU's:	Category(s):
2	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

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

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**