

PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University
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PARAQUAT CERTIFIED APPLICATOR TRAINING TO PREVENT POISONINGS NOW AVAILABLE

A new certified applicator training module for paraquat dichloride (also known as paraquat) is now available. The training was developed by paraquat manufacturers as part of EPA's 2016 risk mitigation requirements and approved by EPA.

Paraquat is one of the most widely used herbicides in the U.S. for the control of weeds in many agricultural and non-agricultural settings and is also used as a defoliant on crops such as cotton prior to harvest. Paraquat is a restricted use pesticide for use only by a certified applicator. The restriction applies to mixing, loading, and applying paraquat, as well as other pesticide handling activities.

Since 2000, 17 deaths have been caused by accidental ingestion of paraquat. Many of these deaths resulted from people illegally transferring the pesticide to beverage containers and the victim later mistaking it for a drink. [A single sip can be fatal](#). In addition to the deaths by accidental ingestion, since 2000, three more deaths and many severe injuries have been caused by the pesticide getting onto the skin or into the eyes of those working with it.

To help prevent these tragedies, certified applicators must now take paraquat-specific training before use, to emphasize that the chemical must not be

transferred to or stored in improper containers. The training also covers paraquat toxicity, new label requirements and restrictions, consequences of misuse, and other important information.

The requirement for training is only one of [several actions EPA has taken](#) to prevent poisonings, including making label changes, restricting the use of all paraquat products to certified applicators only, and requiring closed-system packaging for all non-bulk (less than 120 gallon) end use product containers of paraquat.

View the paraquat:

- [Training module and list of FAQs](#),
- [Summary of mitigation measures](#), and
- Mitigation decision and other supporting documents at www.regulations.gov under docket # [EPA-HQ-OPP-2011-0855](#).

(EPA March 8, 2019)

<https://www.epa.gov/pesticides/paraquat-certified-applicator-training-prevent-poisonings-now-available>

A link to the paraquat training can also be found on our webpage at www.pested.okstate.edu

APRIL TEST HELP DATES

The OSU Pesticide Safety Education Program will conduct the next test help workshops for 2019 in April. The workshops will be held April 9th in Oklahoma City and April 17th in Tulsa.

The Oklahoma City Test help session will be at the Oklahoma County Extension Office 2500 NE 63rd. The Tulsa session will be at the Tulsa County Extension Office at 4116 E. 15th.

The help sessions will focus on information covered in the core and service tech tests. OSU PSEP will answer any questions over other category tests during this session.

Applicators should acquire and study the manuals before coming to the help session for optimum success. Study manuals can be purchased by using the manual order form available at our website

<http://pested.okstate.edu/pdf/order.pdf> or by calling University Mailing at 405-744-9037.

ODAFF Testing fees are not included in the registration fee and must be paid separately.

Register online at the Pesticide Safety Education Program (PSEP) website at <http://pested.okstate.edu/html/practical.htm>. Registration forms can also be downloaded from the website.

Registration will start at 8:30 and the program will run from 8:45 am to 12:30 pm at both locations. Testing will begin at 1:30 pm at both locations.

NO CEU's will be given for this program!

Please check our website below for future test help dates.

<http://pested.okstate.edu/html/practical.htm>

EPA MAY LIMIT STATE RESTRICTIONS ON PESTICIDE USE, SUCH AS DICAMBA

After months of denials and vague language, EPA has confirmed it is considering limiting the ability of states to restrict pesticide use beyond the federal label.

State regulators are expressing alarm at this development, particularly those dealing with widespread dicamba injury, which appears to be the catalyst for EPA's announcement.

At issue is Section 24(c) of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), which allows states to grant "special local needs" (SLN) labels that supplement federal pesticide labels. Several states in the Midwest and South have used 24(c) labels to limit use of new dicamba formulations for the past few years, in an effort to control overwhelming off-target injury complaints

to crops and plants. For example, most recently, Illinois granted a 24(c) label with a June 30 cut-off date for XtendiMax, Engenia and FeXapan in the state.

EPA warned state regulators that it did not like this use of 24(c) in the summer of 2018. (See the DTN story here: [https://www.dtnpf.com/...](https://www.dtnpf.com/)). But the agency continued to approve state 24(c) labels for dicamba herbicides for 2019.

Now the agency is formally re-evaluating this regulatory process.

"Due to the fact that section 24(a) allows states to regulate the use of any federally registered pesticide, and the fact that some states have instead used 24(c) to implement cut-off dates (and/or impose other restrictions), EPA is now re-evaluating its approach to reviewing 24(c) requests and the circumstances under which it will exercise its authority to disapprove those requests," the agency said in a statement on its website. "Before making any changes in this regard, EPA intends to take public comment on any potential new approaches before adopting them.

"EPA is not making any immediate changes in this area and does not expect any potential changes will impact 24(c) requests that states submit ahead of the 2019 growing season," the agency added.

State regulators are prepared to fight to retain this use of 24(c) registrations, which have long been used to address state regulatory needs, such as environmental concerns, said Rose Kachadoorian, a pesticide regulator from Oregon serving as president of the American Association of Pesticide Control Officials (AAPCO).

"This is something AAPCO will pursue with vigor," she told DTN. "The ramifications of saying states can't put restrictions in special local needs labels is really concerning to me. It's taking away states' right to protect their environment."

The agency may inadvertently endanger use of dicamba in these states if it stops allowing this use of 24(c), Kachadoorian added.

"If states wanted to flat out prohibit dicamba use, they would do that," she said. "But they are trying to make sure that this technology can co-exist with non-dicamba soybeans, tomatoes, all other kinds of crops. And they are using 24(c) to allow the use of the chemical in the state safely."

The actual language of Section 24(c) only permits states to grant additional uses of a federal pesticide. But EPA has long permitted states to add restrictions for environmental, crop and worker safety, Kachadoorian said.

Oregon has some of the most numerous 24(c) labels in the country, and some of those are more restrictive than the federal labels, she said. For example, on one 24(c) label, the state successfully added a 300-foot no-spray buffer next to waterways to protect surface water that could contain salmon species.

"This is a process that has been working, it's not broken, and there is nothing to fix here," Kachadoorian said. "This process has enabled growers to use pesticides more effectively and safely."

That EPA is pursuing these changes specifically because of dicamba is alarming, she added. "We don't want one chemical to somehow affect all these valuable pesticide registrations that are very economically important to our states and to our growers."

North Dakota State University Extension pesticide program specialist Andrew Thostenson suggested legal problems for the federal agency are at play here.

Even as state regulators struggle to reconcile growers' need for dicamba with the overwhelming off-target injury complaints, EPA is battling its own dicamba tug-of-war, he said.

"EPA is under duress because they have twin legal threats: Registrants who claim they have fulfilled all the obligations under the law to market these new formulations and environmental groups that desire to halt the use," he said. "The latter have and are

suing EPA, the former are likely to act if they feel they are not being treated fairly under the law."

AAPCO will soon issue a letter to EPA detailing state regulator concerns, and is working to clarify when and if the agency will conduct an official public comment period on any proposed changes, Kachadoorian said.

For now, all 2019 state 24(c) restrictions for dicamba still stand. But 2020 could be different, Thostenson noted.

"EPA is putting everyone on notice for 2020," he said. "I suspect this will be a very messy process moving forward."

See EPA's announcement and its guidance on Section 24(c) here: <https://www.epa.gov/...>

(Progressive Farmer, March 22, 2019)
<https://www.dtnpf.com/agriculture/web/ag/news/crops/article/2019/03/22/epa-may-limit-state-restrictions-use>

CDC TO TRACK TICKS AND THE DISEASES THEY CARRY

The CDC for the first time will be monitoring the nation's tick population and the diseases the pests may be carrying, [WebMD reported](#).

The effort comes as the number of people diagnosed with serious diseases caused by things like ticks, fleas, and mosquitoes has more than doubled over the past few decades. Ticks caused the vast majority of those diseases. Its aim is to assess where Americans might be most likely to get a tick-borne illness.

"For the first time this year, the CDC is funding states to conduct widespread surveillance of ticks and the pathogens they can transmit, in addition to funding human disease surveillance and education and prevention," Anna Perea of the National Center for Emerging and Zoonotic Infectious Diseases' Division of Vector-Borne Diseases, told WebMD.

"Taken together, the data can help define areas where ticks are spreading, the infectious pathogens that they carry, and where risk of tick-borne disease is increasing."

Richard S. Ostfeld, PhD, a disease ecologist with the Millbrook, NY-based Cary Institute of Ecosystem Studies, called the CDC's step "great news."

"The CDC will be able to paint a picture of where risk is occurring, and it will provide us with better data than we have ever had before with geographic coverage of the ticks, where they are moving, and how infection prevalence is changing," he told WebMD.

(PCT Online, March 28, 2019)

<https://www.pctonline.com/article/cdc-track-ticks/>

US CALIFORNIA JURY FINDS MONSANTO'S GLYPHOSATE HERBICIDE LIKELY CAUSED CANCER

Exposure to Bayer legacy company Monsanto's glyphosate-based herbicide was likely a substantial factor in causing a California man to develop cancer, a federal jury concluded on Tuesday (March 19th).

The decision moves the closely watched case to a second phase where the California jury will consider the company's liability and whether it should pay damages to the plaintiff for failing to warn of the potential cancer risk from its Roundup herbicide.

The verdict is a blow for Bayer, which is contesting thousands of complaints in federal and state courts brought by cancer victims who claim that glyphosate caused their illnesses.

The six-member jury -- five women and one man -- reached a unanimous verdict in favour of 70-year old Edwin Hardeman after five days of

deliberations. A California resident, Mr. Hardeman testified that he frequently sprayed Roundup to kill weeds and poison oak on his 56-acre (23 ha) property over more than two decades.

Dr Dennis Weisenburger, a pathologist who testified on behalf of the plaintiff, said that Mr Hardeman sprayed an estimated 6,000 gallons (22,700 litres) of the glyphosate-based herbicide between 1986 and 2012 and was exposed more than 300 times, getting the pesticide on his hands, arms and face.

Mr. Hardeman was diagnosed with non-Hodgkin's lymphoma (NHL), a type of blood cancer, in 2015 - he has undergone treatment for the disease and is in remission.

During closing arguments last week, Mr. Hardeman's attorney, Aimee Wagstaff, reminded the jury that her client needed simply to prove by a "preponderance of the evidence" that Roundup was a "substantial factor" in causing his illness.

"This isn't like those shows you see on TV where you have to find -- you have to be convinced beyond a reasonable doubt -- this is a preponderance of the evidence," she said. "If you are sure 50.01 percent, that is a preponderance of the evidence. We always say that if you have a complete weighing of the scales; and you just believe that by putting a feather on it, that is preponderance of the evidence. That's the burden that Mr Hardeman has to prove."

Monsanto argued that there was little evidence that glyphosate caused Mr Hardeman's NHL, suggesting that his cancer was more likely the result of a range of other factors, including advancing age, chronic hepatitis C and hepatitis B. "There is no way to know what caused his non-Hodgkin's lymphoma, which unfortunately happens every single day in hospitals, in cancer centres around the country," Monsanto's attorney, Brian Stekloff, told the jury during his closing argument.

The second phase of the trial is scheduled to begin on Wednesday (March 20th) and the stakes are clearly high for Bayer. Mr Hardeman's case is the first of three bellwether trials under the purview of

US District Judge Vince Chhabria, who is overseeing more than 620 similar complaints. The lawsuits argue that the company knew of the cancer risks from its glyphosate-based herbicides and failed to warn consumers in violation of state consumer protection law.

Monsanto is also facing some 8,000 similar lawsuits in state courts and is currently contesting a decision by a California state jury to award a plaintiff \$79 million after determining that his NHL was caused by exposure to the company's glyphosate products. A second state case is set run to next week -- the California judge overseeing that lawsuit recently denied Monsanto's bid to bifurcate the trial into two phases.

Mr. Hardeman's attorneys said that they will now hone in on Monsanto's alleged attempts to mislead regulators and the public and to downplay the cancer risks from glyphosate.

"Now we can focus on the evidence that Monsanto has not taken a responsible, objective approach to the safety of Roundup," Ms. Wagstaff said. "Instead, it is clear from Monsanto's actions that it does not particularly care whether its product is in fact giving people cancer, focusing instead on manipulating public opinion and undermining anyone who raises genuine and legitimate concerns about the issue. We look forward to presenting this evidence to the jury."

Bayer voiced its disappointment with the decision but reiterated its belief that the science confirms that glyphosate-based herbicides do not cause cancer.

"We are confident the evidence in phase two will show that Monsanto's conduct has been appropriate and the company should not be liable for Mr Hardeman's cancer," the company says. "Regardless of the outcome, however, the decision in phase one of this trial has no impact on future cases and trials because each one has its own factual and legal circumstances."

"We have great sympathy for Mr Hardeman and his family, but an extensive body of science supports the conclusion that Roundup was not the cause of his cancer," the company adds. "Bayer stands

behind these products and will vigorously defend them." (Pesticide & Chemical Policy/AGROW, March 20, 2019)

BUG BOMBS BOMB

For many years the go-to solution for DIY pest control was the bug bomb. Got fleas? Get yourself a bug bomb. Cockroaches in the kitchen? Bug bomb! Most recently, it's bed bugs. See a bed bug? Reach for the bug bomb.

But do bug bombs (also known as total release aerosols) really work? Not very well according to a [recent paper was published last month](#) in the Open Access journal BMC Public Health. Researchers at North Carolina State University found that not only did bug bombs under-perform (not even killing cockroaches penned in open containers), they left residues on floors and counter-tops.

All homes in the study were infested with German cockroaches, the most common and difficult-to-control cockroach found in homes and restaurants in the U.S. Twenty homes were treated according to label instructions with one of four total release aerosol products. Ten homes were treated with over-the-counter gel baits designed for cockroaches. Cockroaches used for the test included insecticide-susceptible, lab-reared cockroaches and wild cockroaches collected from the tested apartments. Cockroaches were confined in open-topped containers and exposed to the fogs either on the apartment floor or in an open cupboard.

While the wimpy, lab-reared cockroaches exposed in open cages suffered 90-100% mortality, the tougher, "wild" cockroaches, similarly caged, suffered only 10-38% mortality. Keep in mind that unlike cockroaches in your kitchen, the caged cockroaches in this experiment could not escape exposure to insecticide fog. In actual kitchens, cockroaches typically hide in protective crevices when they sense an irritating insecticide.

Researchers also counted "free-range" cockroaches in apartments treated both with foggers and baits

during the test. In fogger-treated apartments there was no significant drop in these wild cockroach numbers two to four weeks after the kitchens were bombed. In apartments treated with gel baits cockroach numbers dropped 70-95%. In other words, the "bombs" bombed, and gel baits worked pretty well.

Gels outperformed the bug bombs in terms of safety as well. No insecticide residues were found on untreated surfaces in bait-treated apartments; but all fogger-treated apartments had detectable insecticide residues on horizontal surfaces (floors, counter-tops, inside cupboards) up to a month after treatment. Admittedly, residues were low, and likely of little importance to human health; but foggers do have a record of causing health concerns in people when they are used improperly. [Common health concerns among people exposed to fogger contents](#) include coughing, difficulty breathing, itchy throat, headaches and even nausea and vomiting.

Dr. Susan Jones at Ohio State University saw [similar results in her studies with bed bugs](#) and insecticide foggers a few years ago. Wild bed bugs almost literally laughed at researchers setting off foggers only feet from their cages in that test.

The lesson? We need to stop thinking about bug bombs as effective tools against any insect that hides in protected places (like cockroaches, bed bugs and fleas), and especially those insects like bed bugs and cockroaches that have developed some degree of resistance to the insecticides used in foggers.

Given these data, it makes little sense to keep wasting money on these old-fashioned, risky and ineffective insecticide devices, especially when there are good alternatives available, like cockroach gel baits. Maybe, when it comes to cockroach and bed bug control, it's time to kill the bug bomb?

(Texas A&M AgriLife Insects in the City, February 5, 2019) <https://citybugs.tamu.edu/2019/02/05/bug-bombs-bomb/>

US NINTH CIRCUIT HEARS DISPUTE OVER BID TO BAN CHLORPYRIFOS

The US Trump administration illegally has abandoned an EPA plan to ban agricultural uses of chlorpyrifos and should be compelled to pull the insecticide from the market, a coalition of environmentalists and farmworker advocates told an en banc panel of the US Court of Appeals for the Ninth Circuit this week.

Attorneys for the Department of Justice (DOJ) did not defend the merits of the EPA's actions but honed in on jurisdictional issues, arguing that the appeals court lacks authority to hear the dispute. The question of jurisdiction largely dominated the 60-minute discussion and the Court appeared uneasy with the idea of upholding a decision by a three-judge panel that had ordered the Agency to revoke food tolerance and ban use of chlorpyrifos.

Safety dispute

The hearing marked the latest chapter in a dispute over the safety of chlorpyrifos that stretches back more than a decade. US farmers use an estimated 5 million pounds (2,268 tonnes) of the organophosphate insecticide on almonds, apples, citrus, maize, strawberries and dozens of other crops, but concern about adverse health effects have prompted environmentalists, farmworker advocates, pediatricians and several states to call for a ban.

Worry about neurological harm to children prompted the Natural Resources Defense Council (NRDC) and other environmentalist groups to file a petition with the EPA in 2007 urging the Agency to revoke food tolerances. After years of legal wrangling, the EPA in 2016 appeared to agree and proposed granting the petition, citing evidence that cumulative exposures pose undue risks under the Federal Food, Drug and Cosmetic Act (FFDCA).

But the Agency has faced heavy pressure to reverse course from grower groups, chlorpyrifos manufacturer Dow Agrosciences and the USDA, who have all raised concern about the scientific integrity of the EPA's review and worry about the

lack of affordable and effective alternatives to one of the nation's most widely-used insecticides.

The Trump administration bowed to that pressure and former EPA Administrator Scott Pruitt issued an order in March 2017 denying the petition and leaving food tolerances in place.

The NRDC-led coalition subsequently filed suit to reverse Mr Pruitt's order, arguing that he had failed to provide a new FFDCA safety finding needed to support the decision. Seven states, including California and New York, joined the lawsuit challenging the decision.

A three-judge Ninth Circuit panel ruled 2-1 last August in favor of the plaintiffs, agreeing that Mr Pruitt's actions were illegal and ordering the EPA to revoke tolerances for chlorpyrifos within 60 days. The Trump administration appealed, and the full Ninth Circuit agreed to hear the dispute.

Delayed response

Earthjustice attorney Patti Goldman told the 11-judge en banc panel that the EPA had wrongly abandoned the revocation plan "even though it did not and could not find the pesticide safe", said Goldman. "EPA cannot deny a petition and leave tolerances in place unless it can make a safety finding."

Several judges pressed Ms. Goldman on the EPA's argument that the Court lacked jurisdiction until the agency had formally responded to objections raised through the FFDCA administrative appeals process to its decision. Under the law, petition denial orders are not to be challenged in the appeals court until that process is resolved.

Several judges honed in on that issue.

"You don't have an order on your objections and you are asking us to get to the merits even though there has been no ruling on your objections," said Circuit Judge Richard Paez.

"I appreciated that you are frustrated there hasn't been a ruling on the objections, but I'm waiting for the answer on why ... would we have jurisdiction?"

added Judge Kim McLane Wardlaw. "Until we have a ruling ... we have a jurisdictional issue."

Ms. Goldman responded that the situation is "extraordinary" because the EPA has shown no signs of action. The agency is "sitting on the objections and perpetuating its violation of the law", she said. "It is inconceivable that Congress intended EPA to do what it is doing here and not [be] subject to [judicial] review."

Arguing for the state interveners, New York Deputy Solicitor General Andrea Oser echoed that view and noted that the EPA had been "sitting on" objections for nearly two years. "What is critical here is that the step that we are waiting for, the decision by EPA on objections, that is outside our control," Ms. Oser said. "We as litigants did everything we were supposed to do. We filed timely objections and now we are waiting."

Judge Jacqueline Nguyen asked if the states were arguing that the EPA's failure to respond meant that the "exhaustion requirement can be waived."

Ms. Oser agreed and said the Court had ample authority to intervene because of the Agency's record of avoiding action, despite scientific evidence of harm from the pesticide.

"All we have seen in this case is a decade of delays and missed deadlines," Ms. Oser told the Court. "Bottom line -- there is no clear statement that Congress intended to permit EPA, by unilaterally holding a decision on objections, to defeat judicial review and thereby violate the very command of this statute that EPA either affirmatively find existing tolerances safe to a reasonable degree of certainty or revoke them."

Authority lacking

DOJ Deputy Assistant Attorney General Jonathan Brightbill focused his comments on the jurisdictional issues, arguing that the court lacks authority to consider a challenge of a petition denial under the FFDCA. "To the extent there would be a challenge that would have to be heard in the district court," he said.

Judge M. Margaret McKeown questioned Mr. Brightbill on the Agency's slow response to the petition. "You've had 10 years," she said. "We've changed administrations -- we've changed science. How long do you need?"

Mr. Brightbill declined to answer but drew the ire from other judges for the EPA's lack of action on the administrative objections.

During oral arguments before the three-judge panel last July, the DOJ said that the EPA needed a year to complete that process -- on Tuesday Mr. Brightbill said that the Agency had stopped its work in light of that panel's August order calling for tolerances to be revoked.

Judge Nguyen questioned that decision. "The government decided not to proceed on parallel tracks and just stopped preparing the responses to the objections?" she asked.

"It stopped because that ruling effectively mooted that objections process," Mr. Brightbill replied, drawing a rebuke from Judge Nguyen.

"It's not moot, EPA decided not to do anything," she said, asking when the agency plans to respond to the objections.

Mr. Brightbill said that the Agency intends to complete the process 90 days after an order from the full Ninth Circuit -- he then returned to the argument that the Court lacked authority to compel action on the issue.

The denial order is "not final agency action" subject to judicial review under the FFDCA, he said. "EPA has never come to any actual final findings about whether or not chlorpyrifos is safe."

Ms. Goldman contested that view, noting that EPA's 2016 risk assessment found that the insecticide did not meet the food safety law's safety standard. "It found chlorpyrifos unsafe every way people are exposed," she said. "For children one to two years old, they are exposed to 140 times safe levels."

The court should compel the EPA to act on the objections and the petition by a specific date, Ms. Goldman said.

“If it is 90 days we'll take it, although we think it should be done a lot sooner ... and it should be taking whatever action must be taken,” she told the Court. “If this pesticide is unsafe, it has got to go and EPA has to finalize its revocation rule.”

Court action is imperative, Ms. Goldman added, given the Agency's track record stalling action on chlorpyrifos. "We are just not very hopeful the EPA will do what the statute requires, given what it has done so far," she concluded. (Pesticide & Chemical Policy/AGROW, March 28, 2019)

DICAMBA-STACKED CORN ON THE HORIZON

Dicamba-tolerant crop acreage could grow even larger in the next decade, when and if Bayer's XtendFlex corn reaches the market.

This corn trait, developed by Monsanto and now under Bayer's ownership, tolerates in-crop applications of dicamba and glufosinate and is expected to be stacked with a glyphosate-tolerant trait, as well. In documents submitted to USDA in 2015, Monsanto predicted the trait could eventually penetrate 89% of U.S. corn acres, roughly 80 million acres of corn.

For now, XtendFlex corn is still several years from joining the landscape. Although USDA deregulated the trait in 2016, EPA has not yet added XtendFlex corn to the label of current dicamba formulations, and no seed companies are selling it yet. "Bayer does not anticipate launching XtendFlex corn until early-to-mid-next decade," the company told DTN in an emailed statement.

But the corn trait has garnered some media attention recently, after EPA released a notice on March 18 that the agency had received Bayer's application to add new corn uses to the label of its dicamba

herbicide XtendiMax, to prepare for dicamba-tolerant corn hybrids.

The addition of XtendFlex corn to the landscape could increase dicamba usage significantly. In its petition for deregulation to USDA, Monsanto estimated that once XtendFlex is fully commercialized, dicamba could be used on 36% of all corn acres, up from 13% in 2013.

These projections could be lower than realized, given that dicamba-tolerant cotton and soybean acreage has already surpassed what Monsanto told USDA to expect when those traits were first under review.

When Monsanto submitted its petitions for deregulation to USDA for Xtend soybeans and cotton in 2012 and 2013, the company stated that Xtend soybean acreage would likely top out at 40% of U.S. soybean acres, roughly 35 million acres. The company pegged maximum Xtend cotton acreage at 50% of U.S. cotton acres, 7 million acres using 2018 planting data and just 5 million acres using 2013 planting data.

At those estimates, dicamba-tolerant soybeans and cotton should never have breached 40 million to 42 million acres, combined. Yet already, Bayer has estimated that 60 million soybean and cotton acres will be planted to Xtend cotton and soybeans in 2019.

The prospect of adding dicamba-tolerant corn to the line-up of dicamba-tolerant crops has already sparked an outcry from some environmental groups. Since 2016, several Midwest and Southern states have received unprecedented numbers of off-target dicamba injury complaints to sensitive crops and plants, from Xtend cotton and soybean fields. The technology, welcomed by some farmers battling herbicide-resistant weeds, has pitted overwhelmed state regulators, growers of dicamba-sensitive crops and academic scientists against the agrichemical and seed companies that sell and promote it.

As a result, environmentalists were quick to take note of Bayer's petition to add corn to its dicamba label this week.

"It beggars belief that Monsanto would propose expanding the devastation its GMO-herbicide package has already caused," Bill Freese, science policy analyst at Center for Food Safety, said in the group's press release. "EPA must finally defend farmers and the environment from further injuries by immediately rejecting this petition."

"Use of this dangerous, uncontrollable toxin should be banned, not expanded," added Nathan Donley, a senior scientist with the Center for Biological Diversity. "With millions of acres of crops, orchards and natural areas already harmed by this volatile herbicide, Trump's EPA should reject Monsanto's self-serving request to dramatically escalate its use."

You can see XtendFlex corn's USDA deregulation documents here: <https://www.aphis.usda.gov/...>

(Progressive Farmer, March 21, 2019)
<https://www.dtnpf.com/agriculture/web/ag/news/crops/article/2019/03/21/dicamba-stacked-corn-horizon>

ISU STUDY: REQUIRING LANDLORDS TO DISCLOSE BED BUGS HAS LONG-TERM BENEFITS

Policies requiring landlords to disclose a rental unit's history with bedbugs may raise costs to landlords over the short-term, but over the long-term they are an effective way to reduce infestations and lower costs, according to a just-published [study from Iowa State University](#).

A team of researchers has developed a mathematical model to evaluate the costs and benefits of city and state policies requiring landlords to report recent bedbug infestations to prospective tenants.

That model says: Disclosure is an effective control policy to reduce the prevalence of infestations. It can lead to modest, five-year cost increases to landlords, but ultimately results in long-term savings to landlords. Disclosure also saves tenants

money from the first year of implementation. Disclosure could also reduce the threat – and cost – to private homeowners of spreading infestations.

During a series of workshops related to the study, the researchers heard real stories of bedbug infestations, their effects on people and the struggle to get rid of the biting, blood-hungry pests.

"Some of these stories were heartbreaking," said Chris Rehmann, an Iowa State University associate professor of civil, construction and environmental engineering and a member of the study team. "That's part of the appeal of this study. We're doing something that makes life better for people."

The Proceedings of the National Academy of Sciences just published a paper reporting the researchers' findings. The corresponding author is Michael Levy, an associate professor of biostatistics, epidemiology and informatics at the University of Pennsylvania's Perelman School of Medicine. Co-authors are Rehmann; Sherrie Xie, a doctoral student who's also at Pennsylvania's Perelman School of Medicine; and Alison Hill, a research fellow for Harvard University's Program for Evolutionary Dynamics.

Rehmann, whose civil engineering work usually involves studies of mixing in rivers and lakes, was brought into the study for his expertise in mathematical modeling and his prior work with the initiator of the bedbug study, Daniel Schneider, a professor of urban and regional planning at the University of Illinois.

The National Socio-Environmental Synthesis Center (which is funded by the National Science Foundation) was the primary supporter of the study. The Bill and Melinda Gates Foundation and the National Institutes of Health also supported Hill's work. The NIH also supported the work of Levy and Xie.

Bedbugs have re-emerged as a national and worldwide problem over the past 20 years, the researchers wrote. New York City, in fact, estimates annual prevalence of bedbug infestations is 12 percent in some neighborhoods.

The bugs feed on human blood, causing itching, rashes, allergies, sleep loss and anxiety. Infestations also cause psychological, social and economic problems. And the bugs are very difficult to eliminate from homes.

That's why leaders in some cities and states – New York City, San Francisco, Mason City, Connecticut and Maine – have passed policies requiring disclosure of recent bedbug infestations.

The researchers' model said disclosure can make a difference:

"Our results show that bedbug control is a classic collective action problem: Individual landlords bear the initial costs of disclosure policies, but after a few years, both landlords and tenants will benefit from the reduction in prevalence of infestations," the researchers wrote in their paper.

The researchers said their model could also be used to evaluate policies to control other household pests.

"We've demonstrated," Rehmann said, "that we can help people develop good policies to reduce the prevalence of these pests."

(PCT Online, March 27, 2019)
<https://www.pctonline.com/article/la-city-hall-remove-carpets/>

CEU Meetings

Date: April 4, 2019

Title: Target Specialty Products OKC Workshop 2019

Location: Reed Conference Center
Midwest City, OK

Contact: Jennifer Gonzalez (800) 352-3870
www.target-specialty.com

CEU's:	Category(s):
4	7a
1	7b
5	10
1	All

Date: September 10, 2019

Title: General Pest Services (Defined by label/What does this mean to you?)

Location: Hampton Inn Tulsa, OK

Contact: Donald Stetler (281) 217-2965
www.ensystem.com www.for-thor.com

CEU's:	Category(s):
4	3A
2	7A
3	7B

Find us on Twitter at
[@OkstatePestEd](https://twitter.com/OkstatePestEd)

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/>

Univar USA

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

AG CEU Online

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

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

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

Date: September 11, 2019

Title: General Pest Services (Defined by label/What does this mean to you?)

Location: Hampton Inn Edmond, OK

Contact: Donald Stetler (281) 217-2965

www.ensystem.com www.for-thor.com

CEU's: Category(s):

4 3A

2 7A

3 7B

Date: September 12, 2019

Title: General Pest Services (Defined by label/What does this mean to you?)

Location: Hampton Inn Durant OK

Contact: Donald Stetler (281) 217-2965

www.ensystem.com www.for-thor.com

CEU's: Category(s):

4 3A

2 7A

3 7B

ODAFF Test Information

Pesticide applicator test sessions dates and locations for April/May are as follows:

April		May	
9	OKC	7	OKC
10	Lawton	7	Lawton
11	Tulsa	7	Goodwell
25	Tulsa	9	Tulsa
		16	Enid
		30	Tulsa

- Enid: Garfield County Extension Office,
316 E. Oxford.
- Goodwell: Okla. Panhandle Research &
Extension Center, Rt. 1 Box 86M
- Lawton: Great Plains Coliseum,
920 S. Sheridan Road., Prairie Bldg
- McAlester: Kiamichi Tech Center on
Highway 270 W of HWY 69
- OKC: ODAFF Building 2800 N Lincoln
BLVD Oklahoma City OK
- Tulsa: Tulsa County Extension Office
4116 E 15th St. **(New Location)**

**Pesticide Safety
Education Program**