

# PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University

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**December, 2015**

**CHEM**

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## **EPA EXTENDS COMMENT PERIOD FOR PROPOSED PESTICIDE APPLICATOR CERTIFICATION RULE**

EPA is extending the public comment period on the proposed changes to the certification rule. EPA is proposing stronger standards for pesticide applicators who are certified to apply the riskiest pesticides, known as restricted use pesticides (RUPs). The goal is to reduce the likelihood of harm from the misapplication of RUPs and ensure a consistent level of protection among states. [Read more about this rule.](#)

A formal announcement of the 30-day extension to the comment period will be published in the Federal Register shortly. The closing date for comments is now December 23, 2015.

Comments can be submitted via [www.regulations.gov](http://www.regulations.gov) under docket number [EPA-HQ-OPP-2011-0183](http://www2.epa.gov/pesticides/pesticide-news-stories). (EPA November 16, 2015) <http://www2.epa.gov/pesticides/pesticide-news-stories>

## **CANCELLATION ORDER ISSUED FOR SULFOXAFLOR**

On November 12, 2015, EPA issued a cancellation order for all previously registered Sulfoxaflor products. This cancellation order is in response to the September 10, 2015, order of the Ninth Circuit Court of Appeals finding that EPA improperly approved the Federal Insecticide, Fungicide, and Rodenticide Act registrations of the pesticide sulfoxaflor; the court's order became effective on November 12.

Pursuant to EPA's cancellation order, and beginning November 12, 2015, distribution or sale by the registrant of cancelled sulfoxaflor products is prohibited, unless such distribution or sale is for the purpose of disposal or export. Also, stocks of cancelled products held by persons other than the registrant may not be commercially distributed in the United States, but instead may be distributed only to facilitate return to the manufacturer or for proper disposal or lawful export. Use of existing stocks by end users is permitted provided such use is consistent in all respects with the previously-approved labeling for the product.

The Federal Food, Drug, and Cosmetic Act tolerances, also known as maximum pesticide residue levels for sulfoxaflor are not affected by either the court's decision or EPA's cancellation order, so crops that have been properly treated with sulfoxaflor or that may be treated with existing stocks as described in the final cancellation order can still be sold legally. (EPA, November 13, 2015) <http://www2.epa.gov/pesticides/cancellation-order-issued-sulfoxaflor>

## **EPA PULLS REGISTRATION ON DOW'S ENLIST DUO**

EPA on Wednesday withdrew approval of a controversial new weed killer to be used on genetically modified corn and soybeans, reports the Associated Press via BostonHerald.com.

EPA announced the decision after receiving new information from manufacturer Dow AgroSciences that a weed killer called Enlist Duo is probably more toxic to other plants than previously thought.

It was originally approved a year ago and is designed to be used with new strains of genetically modified corn and soybeans. The agency says it needs to study whether wider buffer zones will be required to protect non-target plants.

The seeds are engineered to resist the herbicide, so farmers can spray the fields after the plants emerge and kill the weeds while leaving crops unharmed.

EPA's move was welcomed by environmental and food safety groups that had sued to rescind approval of the potent new herbicide. But it is sure to create anxiety for the agriculture industry, since many weeds have become resistant to glyphosate, an herbicide commonly used on genetically modified corn and soybeans now. Enlist includes a combination of glyphosate and an updated version of an older herbicide named 2, 4-D.

“With this action, EPA confirms the toxic nature of this lethal cocktail of chemicals, and has stepped back from the brink,” said Earthjustice Managing Attorney Paul Achitoff. “Glyphosate is a probable carcinogen and is wiping out the monarch butterfly, 2, 4-D also causes serious human health effects, and the combination also threatens endangered wildlife. This must not, and will not, be how we grow our food.”

Dow AgroSciences issued a statement calling for rapid resolution of the matter, citing “the pressing needs of U.S. farmers for access to Enlist Duo to counter the rapidly increasing spread of resistant weeds” and predicting that “these new evaluations

will result in a prompt resolution of all outstanding issues.”

EPA’s decision means that Enlist Duo, which is currently on the market, won’t be in wide use for plantings next spring. EPA hasn’t said whether farmers already in possession of the herbicide will be able to use it, and that could be a topic for future litigation, said Andrew Kimbrell of the Center for Food Safety.

Critics say they’re concerned the increased use of 2,4-D could endanger public health and more study on the chemical is needed. The USDA has predicted that the use of 2,4-D could increase by an estimated 200 percent to 600 percent by the year 2020.

EPA had earlier said when approving the new weed killer that agency officials had used “highly conservative and protective assumptions to evaluate human health and ecological risks.” The EPA said at the time that the herbicide met safety standards for the public, agricultural workers and endangered species.

Now, EPA says it has “has received new information from Dow AgroSciences — the registrant of Enlist Duo — that suggests two active ingredients could result in greater toxicity to non-target plants.”

2,4-D is now used on other crops, including wheat, and on pastures and home lawns. It is the world’s most popular herbicide and the third most popular in the United States, behind atrazine and glyphosate.

Groups opposed to expanded use of 2,4-D’s say they are concerned about its toxic effects and the potential for it to drift. Corn and soybeans are the nation’s largest crops, and the potential for expanded use is huge. Critics also expressed concern that weeds eventually would become resistant to the combination herbicide as they have to glyphosate, something EPA had planned to revisit.

EPA had earlier required a 30-foot buffer zone where the herbicide couldn’t be sprayed and

ordered farmers to stop spraying when wind speeds exceeded 15 miles an hour.

EPA had approved Enlist Duo for use in Illinois, Indiana, Iowa, Ohio, South Dakota, Wisconsin, Arkansas, Kansas, Louisiana, Minnesota, Missouri, Mississippi, Nebraska, Oklahoma, and North Dakota, and was likely to OK it for other states.(CropLife November 25, 2015)  
<http://www.croplife.com/crop-inputs/herbicides/breaking-epa-pulls-registration-on-dows-enlist-duo/>

## **A COCKROACH CAN BITE WITH A FORCE 50 TIMES ITS BODY WEIGHT, RESEARCHERS REPORT**

Scientists from the U.K. and Germany have revealed in lab studies that cockroaches can bite with a force 50 times greater than their body weight.

Insects are all around us and play pivotal roles in ecosystems, the researchers write in their paper, appearing this week in PLOS ONE.

The team turned to the American cockroach as a starting point for figuring out insect mouth morphology, since roaches eat practically anything and have relatively primitive mandibles. Ten American cockroaches raised in a lab colony took part in the study. To measure the insects' bite force, the researchers put the cockroaches into what looks like a miniature medieval torture device. Cockroaches were strapped upside down to a metal podium with their heads thrust under a guillotine-like plate. Dental cement further held their tiny faces in place.

Despite the setup, the cockroaches were not so uncomfortable that they refused to bite down on the sensor tip of a device for measuring mandible strength. Two of the roaches clamped down so hard

on the sensor that they actually chipped their distal teeth, resulting in their data being disqualified from the study.

From the eight remaining insects, the researchers were able to collect data on 300 different bites. They also filmed each of the bites to determine mandible kinematics. The team then used the combined data to calculate the amount of stress each bite exerted on the roaches' jaw muscles. The roach bites were surprisingly strong—relating bite force to body weight, a roach bite is about five times more powerful than a human chomp, on average. (PCT Online, November 18, 2015) <http://www.pctonline.com/article/cockroach-bite-ferocity>

## **US EPA REBUFFS BID FOR CHLORPYRIFOS BAN DEADLINE**

The US EPA wants a federal appeals court to reject a request by environmentalists to impose a legal deadline on when the Agency should make a final decision on its proposal to ban the organophosphate insecticide, chlorpyrifos. The Agency contends that the US Court of Appeals for the Ninth Circuit has already considered the concerns of the Natural Resources Defense Council (NRDC) and Pesticide Action Network North America (PANNA) by issuing a court order that effectively required it to issue a proposal to revoke food tolerances for chlorpyrifos.

The new request for another court-ordered deadline is essentially an “attempt to get a second bite of the apple”, the EPA says, arguing that the groups have little right to ask the Court to compel it to act by a specific date. If the groups believe that the EPA's future actions are "taking an amount of time that is unreasonable under the circumstances, they would always have the option of bringing a new mandamus petition at that time", the Agency says in its November 6th filing with the appeals court.

"However, there is no factual basis for the Court to grant such relief at this time."

### **Legal fight lingers**

The disagreement continues a long-running dispute over the fate of the popular insecticide, suggesting that the legal fight may be far from over.

US farmers use an estimated 5-6 million lbs (2,270-2,700 tonnes) of the insecticide annually on almonds, apples, citrus fruits, maize, strawberries and other crops and many are frustrated that it may soon be outlawed. The pesticide industry, notably Dow AgroSciences and industry association CropLife America, have called the proposal to potentially ban the insecticide unwarranted.

The EPA announced last month that it would likely issue a final rule revoking tolerances for chlorpyrifos. When food exposures are "combined with estimated exposure from drinking water in certain watersheds, EPA cannot conclude that the risk from aggregate exposure meets the Federal Food, Drug and Cosmetic Act safety standard", the Agency explained.

The proposal came in response to a court-ordered deadline that required the Agency to formally deny or reject a petition filed in 2007 by the NRDC and PANNA. The petition called for a ban on chlorpyrifos because of concern about possible neurological harm from the insecticide to children and farmworkers.

The EPA said that a final rule was likely by the end of 2016, citing its past experience developing a prior revocation rule for the insecticide, carbofuran. But the Agency noted that its timetable was uncertain, citing two other key reasons. First, it needs to finish its analysis of exposures to chlorpyrifos through drinking water and additional information on adverse neurological effects. Second, the EPA says that it will likely have to respond to “voluminous and complex” public comments on its proposal and "cannot know" if it may need to conduct additional scientific analyses to address the comments.

Such uncertainty "along with other extraordinary circumstances, such as a possible lapse in Agency appropriations, could affect EPA's estimated timeline", the Agency told the Court.

#### Deadline request

But the NRDC and PANNA argue that the EPA should not be afforded any flexibility. The 2007 petition "sought an end result – revocation of all tolerances and cancellation of all uses – not a proposal", the groups write in a November 4th filing with the Court. "Given EPA's history of missed deadlines and broken promises, PANNA asks this Court to order EPA to complete the revocation process and issue a final and full response to the 2007 petition by EPA's current intended completion date, December 31st 2016."

The request goes further, noting that the EPA has proposed delaying the final revocation rule's effective date until 180 days after publication and has "indicated a willingness to consider" extending that deadline. "This delay in the effective date is designed to allow users to exhaust existing chlorpyrifos stocks, which will perpetuate chlorpyrifos contamination of drinking water and human exposures," according to the environmentalist groups.

The effective date could be further delayed, the petitioners note, because affected parties can file administrative objections to a final revocation order and the EPA could decide to stay the effective date until those objections are resolved. "If objections are filed, it is not until the Administrator rules on the objections that the revocation becomes subject to judicial review," according to the environmentalists. "Because further delays are built into EPA's proposed revocation rule and the objection process, PANNA asks the Court to direct EPA to resolve any objections within six months after they are filed."

The groups conclude that the relief they want is justified "in light of the pattern of missed deadlines and what this Court called 'egregious' delay" when it issued the order in August requiring the Agency to act.

#### Uncertainty remains

The EPA says that the requests are baseless and should be rejected "on both procedural and substantive grounds". "While speed is of course an important goal, that goal must also be balanced against the Agency's overriding obligation to fully and fairly consider all public comments and scientific issues, the scope of which simply cannot be predicted with certainty at this time," the EPA says. It adds that it has complied with the Court's August order and "for this reason alone, this action should simply be terminated".

The bid to impose a time limit on responding to any objections is "beyond the scope of this litigation", the Agency argues. "If objections are filed to the final revocation rule and petitioners believe that EPA is unreasonably delaying responding, their remedy would be to file a petition for writ of mandamus as to that separate, future action." (Pesticide & Chemical Policy/AGROW, November 13, 2015)

## **USDA, INDUSTRY BACK CUMULATIVE RISK PLAN**

The USDA and the pesticide industry have weighed in with support for the US EPA's draft guidance on how the Agency will screen pesticides for cumulative risk assessments (CRAs), but say that the new framework should be revised to fully consider exposures. At issue is new guidance that stems from language in the 1996 Food Quality Protection Act that requires the EPA to consider cumulative exposures to pesticides that have common mechanisms of toxicity.

The Agency has previously issued two guidance documents intended to help it assess the cumulative effects of exposures to pesticides from food, drinking water and residential sources.

A 1999 document detailed how the EPA establishes common mechanism groups and guidance issued in 2002 laid out its process for conducting CRAs. The existing process results in "highly refined" CRAs, according to the EPA, but requires an "extensive amount of resources, large amounts of toxicology and exposure data, and may involve sophisticated modeling".

The "level of refinement" provided by its current approach "is not necessary or even feasible for all existing pesticide classes", the EPA said in its August proposal.

The proposal aims to revise how the EPA prioritizes chemical groups that pose a risk to the public, explaining the way the Agency will screen groups of pesticides for cumulative evaluation using a two-step approach. The Agency intends to first evaluate available toxicological information, conducting a weight-of-evidence analysis using the mode of action or adverse outcome pathway framework to determine if the evidence supports a common toxicological profile. Depending on the strength of that evidence, the EPA will either conduct a screening-level exposure analysis before moving onto a full CRA or will immediately proceed to a full CRA.

The head of the USDA's Office of Pest Management Policy (OPMP) praised the EPA's overall effort, but questioned the discrepancy in the two approaches. "We remind EPA that even for groups of chemicals whose toxicity is established, a risk to the public can only exist when there is also actual and sufficient human exposure to the chemicals," OPMP director Sheryl Kunickis wrote in comments to the EPA. "Therefore, we suggest that a screening-level exposure analysis be conducted for all candidate and established common mechanism groups before a full cumulative risk assessment is commissioned."

The industry association, CropLife America (CLA), also voiced some concern about exposure information, urging the EPA to include "additional steps to ensure that all existing data for exposure refinement be included in the assessment prior to

new toxicological testing requirements". The group wants the EPA to consider label restrictions and use patterns of pesticides with a candidate common mechanism group during its screening assessments.

But CLA also says that it "generally support[s] the straight-forward approach" outlined by the EPA. "We appreciate the goal of avoiding both unnecessary complexity and additional resources by EPA and registrants alike, when a screening level assessment provides assurance of meeting EPA's established protection goals," CLA said in its comments on the plan. "The framework also provides a tiered approach for use of additional information and further refinement, as needed, rather than prematurely and unnecessarily eliminating products due to over cautious or simplistic calculations."

Environmental groups, however, argue that the EPA's proposal fails to address "true cumulative risk." The EPA should expand its concept of cumulative risk beyond the mode of action/adverse outcome pathway to include chemicals that contribute to a common adverse health outcome, according to the Natural Resources Defense Council. "Restricting the CRA to common mechanisms of toxicity is only adequate if all agents in a mixed exposure act solely through the single defined mechanism -- a presumption that is rarely if ever true," the group said in comments backed by 28 other environmentalist organizations.

Agents that act on different pathways leading to toxic or carcinogenic effects "may increase risks qualitatively and/or quantitatively to levels greater than that of individual agents", the NRDC argues. "These synergistic effects are not addressed in the single-mechanism risk assessments that the pesticide office continues to do." (Pesticide & Chemical Policy/AGROW, November 5, 2015)

## **BED BUGS DROVE WOMAN TO SET APARTMENT FIRE**

A Detroit woman apologized for a massive Nov. 3 fire that she and authorities said was accidentally started by her efforts to eradicate bed bugs from her apartment, The Detroit Free Press reported.

The fire tore through Ramblewood Apartments, destroying the 48-unit complex. Sherry Young was injured along with four others, including three firefighters, the newspaper reported.

Young told the newspaper she had doused herself with rubbing alcohol before it was ignited by a stove and oven. She said she had turned on the stove and oven the previous day to heat up her apartment, on advice from a neighbor, as part of the effort to kill the bed bugs. (PCT Online, November 17, 2015) <http://www.pctonline.com/article/bed-bug-fire-Detroit-apartment-complex>

## **NEW EUROPEAN STUDY SEEMS TO SUPPORT GLYPHOSATE SAFETY**

Looking at any international news over the past few years, it might seem as if the European Union (EU) is decidedly against modern production agricultural practices. For many years now, various EU countries have banned the production/sale of biotech crops to their consumers largely based upon public sentiment vs. sound science. And earlier this year, the International Agency for Research on Cancer (IARC) released a report labeling the popular herbicide glyphosate as “probably carcinogenic to humans.” Since then, numerous environmental groups in the EU have called for a suspension of glyphosate use in their countries pending further assessment. This campaign claims

to have over 1.4 million signatures from concerned EU consumers supporting this effort.

To casual observers, it must seem as if good news regarding modern agricultural practices would never appear from any group within the EU block of 28 countries.

Until now, that is. In early November, a new glyphosate safety study was released by the European Food Safety Authority (EFSA), based in Parma, Italy. Somewhat surprisingly, this one didn't automatically condemn the herbicide.

“This has been an exhaustive process – a full assessment that has taken into account a wealth of new studies and data,” said Jose Tarazona, head of the pesticides unit at the EFSA. “Regarding carcinogenicity, it is unlikely that this substance is carcinogenic.”

EFSA scientists, who worked with experts from EU countries, said their study differed from IARC's by only considering glyphosate. The IARC study assessed groups of related chemicals as well as glyphosate.

The group is nonetheless proposing a limit on the maximum safe daily dose for the consumption of glyphosate residue over a period time of time of 0.5 milligrams per kilogram of body weight. These recommendations will now go to EU policymakers, who have until June 2016 to reapprove or suspend glyphosate for use.

It's nice to finally see some positive news for modern agriculture coming out of the EU. Although glyphosate critics are already lining up against the EFSA report findings, this finally gives proponents of the herbicide something to cling to.

“It confirms the previous evaluations of glyphosate by regulatory authorities around the world, which have consistently conclude that the application of glyphosate poses no unacceptable risk,” said Richard Garnett, chair of the Glyphosate Task Force, in a statement. (CropLife.com, November 23, 2015)

## US STUDY FINDS NATIVE BEES EXPOSED TO PESTICIDES

US researchers have found that native US bees are exposed to an array of pesticides, including neonicotinoid insecticides suspected in the decline of commercial and wild honey bees. The new study, conducted by the US Geological Survey (USGS), is the first ever of pesticide residues on field-caught bees and adds to concern about the possible harm to pollinators from agricultural chemicals.

The researchers say that their findings raise questions about the potential for unintended pesticide exposures where various land uses overlap or are in proximity to one another. But they acknowledge there are more questions than answers about the impacts of pesticides on the estimated 4,000 native bee species found across the US. There is little information on exposures to native bee species or on how toxic pesticides are to native bees at levels typically found in the environment.

The study is a first attempt to start filling in some of those gaps. The researchers collected native bees from wheat fields and grasslands in the north-eastern region of the state of Colorado in 2013 and 2014. A total of 54 composite samples were tested for 122 different pesticides and 14 chemicals formed by the breakdown of pesticides.

Nineteen pesticides and breakdown products were detected in native bees from all sites sampled, with the neonicotinoid insecticide, thiamethoxam, the most frequently found. Typically used as a seed treatment, thiamethoxam was detected in 46% of the composite bee samples. Not all of the bee samples had pesticides as 15 of the 54 samples tested negative for the chemicals included in the study.

“We found that the presence and proximity of nearby agricultural fields was an important factor resulting in the exposure of native bees to pesticides,” says USGS scientist Michelle Hladik, the report’s lead author. “Pesticides were detected

in the bees caught in grasslands with no known direct pesticide applications.”

The study did not investigate the effects of pesticide exposures to native bees, but the researchers noted that previous research has shown adverse effects on bees at the levels of exposure they found. The USGS is designing follow-up research to further investigate adverse effects at the exposure levels detected in the study, which was published in the journal, *Science of the Total Environment*.

“This foundational study is needed to prioritise and design new environmental exposure experiments on the potential for adverse impacts to terrestrial organisms,” says Mike Focazio, programme co-ordinator for the USGS Toxic Substances Hydrology Program. “This and other USGS research is helping support the overall goals of the White House Strategy to Promote the Health of Honey Bees and Other Pollinators by helping us understand whether these pesticides, particularly at low levels, pose a risk for pollinators.” (Pesticide & Chemical Policy/AGROW, November 6, 2015)



## CEU Meetings

### **Date: December 1-2, 2015**

Title: 70<sup>th</sup> Annual Oklahoma Turfgrass Conference  
Location: Wes Watkins Center, OSU Stillwater OK  
Contact: David Gerken (405) 945-3352  
Course #: OK-15-131

|        |              |
|--------|--------------|
| CEU's: | Category(s): |
| 7      | 3A           |
| 7      | 10           |

### **Date: December 2-3, 2015**

Title: Kansas Pest Control Association Winter Conference 2015  
Location: Kansas City KS  
Contact: Joseph Davidson (785) 233-5659  
Course #: OK-15-142

|        |              |
|--------|--------------|
| CEU's: | Category(s): |
| 1      | 2            |
| 2      | 3A           |
| 8      | 7A           |
| 8      | 7B           |
| 2      | 8            |

### **Date: January 11-14, 2016**

Title: Helena 2016 Starting Point Applicator Training  
Location: St. Charles MO  
Contact: Marcia Moore (901) 537-7265  
Course #: OK-15-

|        |              |
|--------|--------------|
| CEU's: | Category(s): |
| 9      | 1A           |

### **Date: January 20-21, 2016**

Title: Red River Crops Conference  
Location: Southwest Technology Center Altus, OK  
Contact: Gary Strickland (580) 482-0823  
Course #: OK-15-089

|        |              |
|--------|--------------|
| CEU's: | Category(s): |
| 4      | 1A           |
| 4      | 10           |

## ODAFF Approved Online CEU Course Links

Technical Learning College

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

Green Applicator Training

<http://www.greenapplicator.com/training.asp>

All Star Pro Training

[www.allstarce.com](http://www.allstarce.com)

Wood Destroying Organism Inspection Course

[www.nachi.org/wdocourse.htm](http://www.nachi.org/wdocourse.htm)

CTN Educational Services Inc

[http://ctnedu.com/oklahoma\\_applicator\\_enroll.html](http://ctnedu.com/oklahoma_applicator_enroll.html)

Pest Network

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

Univar USA

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

Southwest Farm Press Spray Drift Mgmt

<http://www.pentonag.com/nationalsdm>

SW Farm Press Weed Resistance Mgmt in Cotton

<http://www.pentonag.com/CottonWRM>

Western Farm Press ABC's of MRLs

<http://www.pentonag.com/mrl>

Western Farm Press Biopesticides Effective Use in Pest Management Programs

<http://www.pentonag.com/biopesticides>

Western Farm Press Principles & Efficient Chemigation

<http://www.pentonag.com/Valmont>

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

<http://www.state.ok.us/~okag/cps-ceuhome.htm>

## ODAFF Test Information

Pesticide applicator test sessions dates and locations for December 2015/January 2016 are as follows:

| December |           | January |           |
|----------|-----------|---------|-----------|
| 1        | Goodwell  | 5       | McAlester |
| 3        | Tulsa     | 8       | OKC       |
| 4        | OKC       | 14      | Tulsa     |
| 7        | Atoka     | 22      | OKC       |
| 9        | Lawton    | 28      | Tulsa     |
| 11       | OKC       |         |           |
| 14       | McAlester |         |           |
| 17       | Tulsa     |         |           |
| 17       | Enid      |         |           |
| 18       | OKC       |         |           |

Altus: SW Research & Extension Center  
16721 US HWY 283

Atoka: KIAMICHI TECH CENTER 1301  
W Liberty Rd, Seminar Center

Enid: Garfield County Extension Office,  
316 E. Oxford.

Goodwell: Okla. Panhandle Research &  
Extension Center, Rt. 1 Box 86M

Hobart: Kiowa County Extension Center  
Courthouse Annex, 302 N. Lincoln

Lawton: Great Plains Coliseum,  
920 S. Sheridan Road.

McAlester: Kiamichi Tech Center on  
Highway 270 W of HWY 69

OKC: OSU OKC Room ARC 196,  
400 N. Portland. (New Location)

Tulsa: NE Campus of Tulsa Community

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| <h1>Pesticide Safety<br/>Education Program</h1> |
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