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February 10, 2016

Susan Lewis, Registration Division
(7505P), Office of Pesticide Program
OPP Docket, Environmental Protection Agency Docket Center (EPA/ DC), (28221T)
1200 Pennsylvania Ave. NW.
Washington, DC 20460–0001

Re: Sulfoxaflor; Receipt of Application for Emergency Exemption;
Docket #: EPA–HQ–OPP–2014–0643

Dear Ms. Lewis,

The Pollinator Stewardship Council, American Honey Producers Association, American Beekeeping Federation, and other commercial beekeepers join with the Texas Beekeepers Association and express our concerns about applying Sulfoxaflor upon a pollinator attractive crop in Texas.

Honey bees do collect pollen from grain sorghum, as well as honeydew from aphids when in a nectar dearth. The Ninth Circuit Court found in their review of the initial registration of Sulfoxaflor that important data concerning the effects upon honey bees from Sulfoxaflor was incomplete. The EPA needs to follow its mission to "protect human health and the environment," and follow the Court's directive to secure additional data concerning the risks of Sulfoxaflor to honey bees before permitting its use.

Sorghum: A Pollinator attractive crop
According to the USDA report on the "Attractiveness of Agricultural Crops to Pollinating Bees" sorghum attracts honey bees and other pollinators."[1] A 2005 study found *"a number of honey bees, wild bees or solitary bees and one beetle species were observed on sorghum flowers."* [2] In this same study it was shown

> *" . . . A. mellifera specimens carried the greatest amount of pollen, followed by the medium-sized Halictidae and the small-sized Halictidae. The beetle A. atromaculatus carried the least amount of pollen. (In the honey bees, the pollen was glued to the hind leg but also loosely attached to body hairs, as in Halictidae species.)"*[3]

This research concluded *"The impact on beekeepers active in the vicinity of transgenic sorghum fields and their honey production will have to be investigated within this new perspective."*

Research in Nebraska on sorghum found "*Most bee activity on sorghum flowers will occur early in the morning, especially when dew is present. Dew facilitates collection of the dry, powdery pollen of sorghum and other wind pollinated plants."*[4]

Sorghum pollen supplements a honey bee's diet when other plants are in bloom. Sorghum is just one of many natural, diverse pollen and nectar sources honey bees need to maintain strong immune systems, and therefore strong colonies of honey bees.

Sulfoxaflor label and honey bees

The label for the active ingredient Sulfoxaflor clearly states the concerns of applying Sulfoxaflor when the crop is in bloom and bees are foraging:

> *"This product is highly toxic to bees exposed through contact during spraying and while spray droplets are still wet. This product may be toxic to bees exposed to treated foliage for up to 3 hours following application.*
>
> *Toxicity is reduced when spray droplets are dry.*
>
> *Risk to managed bees and native pollinators from contact with pesticide spray or residues can be minimized when applications are made before 7:00 am or after 7:00 pm local time or when the temperature is below 55° F at the site of application.* [However, this risk mitigation is false, as pollinators forage from sunrise to sunset, and at temperatures less than 55 degrees F.]
>
> *Refer to the Directions for Use for crop specific restrictions and additional advisory statements to protect pollinators.*
>
> *Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters."* [5]

As the Nebraska research stated honey bees will collect dew in the early morning hours. If Sulfoxaflor is applied before 7 a.m., it will still be wet, it will be within the "dew," and kill bees. The label directions, meant to protect pollinators, are in direct opposition to research concerning honey bee activity on sorghum. If a pesticide applicator applies Sulfoxaflor to a wet, dew soaked flower, the flower will remain toxic until the sun evaporates the dew and the pesticide.

Sulfoxaflor and pest resistance

The Sulfoxaflor label states an additional concern of continual use of this chemical:

> *"Insect biotypes with acquired resistance to Group 4C insecticides may eventually dominate the insect population if Group 4C insecticides are used repeatedly in the same field or area, or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species."* [6]

The University of Tennessee, Institute of Agriculture provides directions to controlling the sugarcane aphid:

> *"The core of this program is to plant early, use an insecticide seed treatment, avoiding unnecessary insecticide applications that may disrupt populations of beneficial insects, increase your scouting efforts, and make well timed and quality insecticide applications as needed. Some observations suggests aphid populations were higher where stands were thin, so they also suggest avoiding thin stands or using a narrower row spacing."*[7]

However, the Mississippi State University extension warns:

> *"We are very worried about resistance development with Transform and it will be critical to rotate in Sivanto and hopefully Centric this year (pending exemption). At this time chemical rotation of different Modes of Action appears to be the only resistance management tool we have until breeders develop commercially resistant germplasm."*[8]

Sulfoxaflor has been granted twenty-five Section 18 emergency use requests since 2012 for the sugarcane aphid in Tennessee, Alabama, Arkansas, Florida, Georgia, Kansas, Kentucky, Louisiana, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, and Texas.[9]

During these previous Section 18 exemptions what data did EPA collect concerning the impact upon pollinators? The two Extension documents warn of aphid infestations increasing when beneficial insects were killed due to Sulfoxaflor and tank mixes with pyrethroids. Also, concerning to this Section 18 exemption is sorghum seeds are coated with "thiamethoxam or clothianidan to increase the action"[8] against the aphids. These neonicotinoid seed coating additions also increase the risks to pollinators and other beneficial insects.

EPA's bee kill incident reporting and pollinator data is ineffective in all of the states that permitted Section 18 emergency use of Sulfoxaflor. EPA is therefore unable to make an informed decision on the effect of Sulfoxaflor on these pollinator attractive crops. There is research being conducted by the USDA Agricultural Research Services which will examine the sub-lethal effects of Sulfoxaflor; important to understand as we work to protect beneficial insects so they can assist in controlling pests.

The objective of this research pertains to pollinator attractive crops and protection of pollinators.

> *"Alfalfa seed growers must defend their crop plants from pest insects while providing an environment that encourages insect pollination of their plants. Recent trends in plant pest control have led to the widespread deployment of systemic pesticides that may contaminate pollen and nectar at the same time they protect other plant tissues. Although residual toxins in pollen and nectar are typically below lethal concentrations, the effects of sublethal concentrations are poorly known. This study focuses on Sulfoxaflor (trade name Transform WG, Dow Agroscience), which is under consideration for use in alfalfa fields, and this study seeks to determine its effects on the alfalfa leafcutter bee (ALB). This highly integrated study will examine the effects of pesticide treatment on both the pest and pollinator at different treatment levels, and examines sublethal effects on pollinators. The goals are to determine: the concentration of Sulfoxaflor in alfalfa plants that control pea aphid populations, the longevity of adult alfalfa leafcutter bees foraging on Sulfoxaflor-treated plants, the Sulfoxaflor concentration that reaches bee provisions when adults forage on treated plants, and the survival, brain development, body size and other physiological performance measures of bees that arise from two generations of foraging on treated plants."*[10]

This research would provide relevant scientific-data to advise an informed decision of the use and impact of Sulfoxaflor upon pollinators in the real-world. In the spirit of cooperation promoted by the National Strategy to Promote the Health of Honey Bees and Other Pollinators, EPA should wait for scientific data from fellow federal agencies concerning the impact of Sulfoxaflor upon pollinators before issuing another Section 18 exemption of a bee toxic labelled pesticide.

The Sulfoxaflor label "*Advisory Pollinator Statement: Notifying known beekeepers within 1 mile of the treatment area 48 hours before the product is applied will allow them to take additional steps to protect their bees"*[11] continues to be an ineffective and inefficient mitigation method. It allows applicators of the product to ignore pollinator protection practices as outlined in the label and Extension documents. Protecting beneficial insects will help maintain aphid controls, and require less pesticide applications.

The pesticide label should require that applications follow the directions for crops that require pollination. Sorghum has such a short bloom time, applications should be made after bloom. Placing a foliar application of a bee toxic pesticide upon a crop grown from a seed coated with a bee toxic pesticide creates cumulative toxic exposures for pollinators. While honey bees are not necessary for sorghum pollination, they and the plant, mutually benefit.

We do not believe the criteria for an "emergency exemption" has been met according to the guidelines set by EPA. *"Emergency exemptions can be requested by a state or federal agencies when a serious pest problem jeopardizes production of agricultural goods or public health but no pesticides are*

currently registered for that situation. They submit information describing the pest emergency and request permission to use a specific pesticide even though it is not currently registered for that use."[12]

An Ecological and Environmental Risk Assessment, one of five aspects of a "multi-disciplinary evaluation" to determine Section 18 emergency use must be conducted with a special emphasis on risks to honey bees. Additionally, to issue another emergency exemption for Sulfoxaflor for the twenty-sixth time since 2012, EPA needs to provide proof of significant economic loss of the crop.

> *"Significant economic loss means that, compared to the situation without the pest emergency despite the best efforts of the affected persons, the emergency conditions at the specific use site identified in the application are reasonably expected to cause losses meeting any of the following criteria:*
>
> *(1) For pest activity that primarily affects the current crop or other output, one or more of the following:*
>
> *(i) Yield loss greater than or equal to 20%.*
>
> *(ii) Economic loss, including revenue losses and cost increases, greater than or equal to 20% of gross revenues.*
>
> *(iii) Economic loss, including revenue losses and cost increases greater than or equal to 50% of net revenues."*[13]

The losses to beekeepers of their livestock integral to pollinating the nation's food supply must also be considered when analyzing "economic loss" due to the <u>use</u> of Sulfoxaflor.

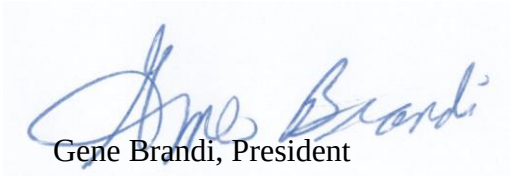
We all join with the Pollinator Stewardship Council, and the Texas Beekeepers Association in questioning the validity of this twenty-sixth emergency use request for Sulfoxaflor to control the sugarcane aphid on sorghum. The Ninth Circuit Court of Appeals "vacated and remanded" the registration of Sulfoxaflor due to inadequate research of the pesticides' impact upon pollinators. We, the undersigned encourage EPA to follow the Court's directive, their own emergency exemption guidelines, and decline this emergency exemption for Sulfoxaflor.

Sincerely,

Bret Adee,
President, Pollinator Stewardship Council

Chris Moore, President
Texas Beekeepers Association

Darren Cox, President
American Honey Producers Association



Gene Brandi, President
American Beekeeping Federation

Clint Walker, Walker Honey Farm, LLC
Dave Hackenberg, Hackenberg Apiaries
Steve Ellis, Old Mill Honey Company
Jeff Anderson, California-Minnesota Honey Farms
Manley Bigalk, Golden Ridge Honey Farm, Inc.
Hiatt Honey, LLC

References

[1]**Attractiveness of Agricultural Crops to Pollinating Bees for the Collection of Nectar and/or Pollen 2015**, United States Department of Agriculture, http://www.ree.usda.gov/ree/news/Attractiveness_of_Agriculture_crops_to_pollinating_bees_Report-FINAL.pdf

[2] **Indications of Bee Pollination in Sorghum and its Implications in Transgenic Biosafety, MR Schmidt1,*** and **G Bothma2** (1. Institute of RiskResearch, University of Vienna, Tuerkenschanzstr. 17/8,1180 Vienna, Austria; 2. Agricultural Research Council –Roodeplaat, Vegetable and Ornamental Plant InstituteVOPI, Biotechnology Division, Private Bag X293,Pretoria, 0001, Gauteng, South Africa)**,** http://www.markusschmidt.eu/pdf/ISMN-46_05_Schmidt_Bothma.pdf

[3] Ibid.

[4] **G98-1347 Protecting Bees When Using Insecticides,** Marion D. Ellis**,** *University of Nebraska - Lincoln*, mellis3@unl.edu**,** Frederick P. Baxendale**,** *University of Nebraska - Lincoln*, fbaxendale1@unl.edu**,** David L. Keith**,** *University of Nebraska--Lincoln*, http://pesticidestewardship.org/PollinatorProtection/Documents/Bees_Insecticides_Neb1998.pdf

[5] Specimen Label *Transform WG*, Dow AgroSciences LLC, 9330 Zionsville Road, Indianapolis, IN 46268, Label Code: D02-396-001, Initial printing, LOES Number: 010-02282, EPA accepted 05/06/13

[6] Ibid

[7] **The University of Tennessee Institute of Agriculture, Sorghum – Thinking About Sugarcane Aphid Control in 2015,** Author: Scott Stewart, IPM Extension Specialist, http://news.utcrops.com/2015/03/sorghum-thinking-sugarcane-aphid-control-2015/#sthash.Idyn0pVX.dpuf

[8] **Management Guidelines for Sugarcane Aphids in MS Grain Sorghum 2015, By** Angus Catchot, Extension Entomologist, Jeff Gore, Research and Extension Entomologist and Don Cook, Research Entomologist February 24, 2015 16:42, http://www.mississippi-crops.com/2015/02/24/management-guidelines-for-sugarcane-aphids-in-ms-grain-sorghum-2015/#sthash.q3SCROYP.qQcEYtDN.dpuf

[9] Section 18 search requests to EPA http://iaspub.epa.gov/apex/pesticides/f?p=SECTION18BKUP:6:::NO:::

[10] **USDA- Agricultural Research Services Research Project:** Lethal and Sublethal Effects of a Systemic Pesticide on Alfalfa Leafcutter Bees, **Location: Pollinating Insects-- Biology, Management and Systematics Research ,** Project Number: 2080-21000-015-24 , Project Type: Specific Cooperative Agreement , Start Date: Sep 01, 2014 , End Date: May 30, 2017, http://www.ars.usda.gov/research/projects/projects.htm?accn_no=427395

[11] Specimen Label *Transform WG*, Dow AgroSciences LLC, 9330 Zionsville Road, Indianapolis, IN 46268, Label Code: D02-396-001, Initial printing, LOES Number: 010-02282, EPA accepted 05/06/13

[12] **EPA, Pesticide Emergency Exemptions**, http://www.epa.gov/pesticide-registration/pesticide-emergency-exemptions#intro

[13] Code of Federal Regulations, Title 40, Chapter 1, Subchapter E, PART 166—EXEMPTION OF FEDERAL AND STATE AGENCIES FOR USE OF PESTICIDES UNDER EMERGENCY CONDITIONS, Subpart A, General Provisions, §166.2 Types of exemptions. http://www.ecfr.gov/cgi-bin/text-idx?SID=dcb4e604ce325c91bbf1e019108eefb9&node=pt40.24.166&rgn=div5#se40.24.166_13