Arizona Farm Bureau Federation
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December 16, 2019

U.S. Environmental Protection Agency
EPA Docket Center (EPA/DC), 28221T
1300 Pennsylvania Avenue, NW
Washington, DC 20460-0001

RE: Docket No. EPA-HQ-OPP-2011-0855-0133; Registration Reviews Draft Human Health and/or Ecological Risk Assessments for Paraquat Dichloride

To Whom It May Concern:

The Arizona Farm Bureau Federation represents farmers and ranchers from across Arizona. Our members produce an array of crops and livestock that contribute over $23.3 billion of economic impact to the state. Our comments below address the Environmental Protection Agency's (EPA) draft human health and ecological risk assessment of paraquat dichloride (paraquat) and the critical role this chemistry provides to the success of Arizona's agricultural crops. According to the Arizona Pest Management Center (APMC), paraquat is used on a broad range of Arizona crops; however, for most crops the reported usage is only on a small number of acres and not every year. The most consistent uses and reported acreage use are for cotton and fallow land. Annual use is also reported on alfalfa and lettuces, but on a few hundred acres per year. Crops with less regular uses include beans, cole crops, cucurbits, grapes, grasses and tree nut crops.

Paraquat is a non-selective herbicide used to control broadleaf and grass weeds. Weeds are an ever-persistent problem in crop production. If weeds are not managed quickly and effectively, they can choke out a crop by competing for light, nutrients, and moisture and serve as a refuge for insects and diseases. In the case of fallow fields effective weed control impacts the success of a future crop. One of the most consistent uses of paraquat in Arizona is in fallow fields where it is used to reduce weed seed banks. Data from APMC from 2010 to 2018 shows the use of paraquat on fallow land averaged about 6,000 acres per year.

In cotton paraquat is used as a desiccant to help prepare the crop for harvest by dehydrating and killing leaves. It is typically applied after a defoliant to remove remaining leaves and/or kill juvenile growth or young tissue at the growing points of the mainstem and lateral branches.[1] Paraquat is one of several desiccants available to Arizona cotton growers and its use is not widespread. According to USDA's National Agricultural Statistics Service, Arizona in 2017 harvested 174,000 acres of cotton valued at

[1] Wang, Guangyao (Sam), Randy Norton and Shawna Loper. "Choosing Harvest Aid Chemicals for Arizona Cotton." University of Arizona Cooperative Extension AZ 1556. January 2012. Available online at: https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1556.pdf

$200.5 million[2]. Of this total production, Dr. Peter Ellsworth or University of Arizona estimates that as much as 15 to 20% is treated with paraquat most years.[3] Importantly, there are specific situations in which the use of paraquat is critical to growers for achieving an adequate level of defoliation prior to harvest. Any time weather conditions result in regrowth of top bolls, or situations where there is a freeze following the first defoliant application, paraquat is the only effective choice for our growers. This is owed to both its outstanding efficacy and its fast-acting effects on the plant. Additionally, it allows a grower to quickly harvest following application, which can make the difference between turning a profit and taking a loss in some situations. Both farmers and pest control advisors acknowledge the importance of maintaining the availability of paraquat as a desiccant as it is a cost-effective option compared to other desiccants on the market.

A crop that has seen a recent spike in the usage of paraquat is pecans. According to Dr. William McCloskey, University of Arizona Extension Weed Scientist, there is a need for more herbicide diversity in weed management programs to reduce the risk of developing herbicide resistant weed populations and paraquat is an effective alternative.[4] Dr. McCloskey has identified glypohosate resistance in palmer amaranth in the pecan growing regions of Arizona, as well as resistance in hairy fleabane in pecan orchards. Paraquat and glufosinate are two alternatives to glyphosate that cause little harm to pecan leaves and do not translocate to the nuts, roots, or other plant parts. Additionally, he notes, both products can be used in conditions where glyphosate might cause damage to trees.

Paraquat is an important crop protection tool for many growers in our state and has been used for many years. Any major restrictions on its use as a crop protection tool would result in negative economic impacts as weed resistance pressures grow. For those reasons, we urge the EPA to continue to allow use of this important herbicide for Arizona crop production.

Sincerely,

Stefanie A. Smallhouse

Stefanie Smallhouse, President
Arizona Farm Bureau Federation

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[2] USDA-NASS. Arizona Agricultural Statistics 2018. United States Department of Agriculture, National Agricultural Statistics Service. Available online at: https://www.nass.usda.gov/Statistics_by_State/Arizona/Publications/Annual_Statistical_Bulletin/2018/AZAnnualBulletin2018.pdf

[3] Personal communication with Dr. Peter Ellsworth, December 11, 2019.

[4] Blake, Cary. "Gaining the edge against weeds in Arizona pecan orchards." Farm Progress. September 1, 2017. Available online at: https://www.farmprogress.com/tree-nuts/gaining-edge-against-weeds-arizona-pecan-orchards