



## *Arizona Farm Bureau Federation*

325 S. Higley Rd, Suite 210  
Gilbert, AZ 85296

November 29, 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-2014-0048 and EPA-HQ-OPP-2014-0051; Registration Reviews Draft Human Health and/or Ecological Risk Assessments for Several Pesticides – Fenamidone and Pyraclostrobin

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 assessments of fenamidone (EPA-HQ-OPP-2014-0048) and pyraclostrobin (EPA-HQ-OPP-2014-0051) and the critical role these chemistries provide to the success of a number of Arizona's agricultural crops.

Fenamidone and pyraclostrobin are both fungicides. Fenamidone is of particular importance in combating downy mildew in lettuce and vegetable crops. The most significant use of this product in Arizona is on lettuce and spinach, and it is also used to a lesser extent in cole crops and cole and onions for seed. Pyraclostrobin is an active ingredient in two different products registered for use in Arizona crops: Carbio is registered on several vegetable crops (but primarily used in lettuce crops) and Headline is registered for use in cotton, wheat, corn, and other field crops. Carbio is used to combat downy mildew and powdery mildew, primarily in lettuce. For cotton, corn, and other field crops, Headline is used for disease prevention and its ability to enhance yields.

Downy mildew and powdery mildew are both fungal diseases which injure plant tissues and reduce yields. These fungal diseases both mar and damage the surface leaves. Although they may not kill plants, in the case of lettuce, significant cosmetic damage makes the product unmarketable. Given that 95% of the leafy vegetables consumed in the U.S. from November to March are produced in Arizona, controlling these fungal diseases is significantly important. Fungicides are an effective management tool for controlling downy and powdery mildew and in turn protecting yields.

Because fungi are adaptable organisms and can become resistant to fungicides, ensuring both fenamidone and pyraclostrobin continue to be available is important for maintaining a robust fungicide resistance management program. According to Mike Matheron, University of Arizona Extension Plant pathologist, such a program should rotate among products with different modes of action to delay development of resistance to active ingredients within a pathogen population.<sup>1</sup>

---

<sup>1</sup> Matheron, Michael. "Biology and Management of Downy Mildew of Lettuce." College of Agriculture and Life Sciences Cooperative Extension, az1682, September 2015. Available online at

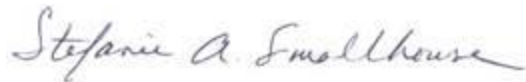
While fenamidone and pyraclostrobin use is limited to only a percentage of the total vegetable and lettuce acres on an annual basis, they are important components of a fungicide resistance program and should remain as an option for growers. According to USDA National Agricultural Statistics Service, in 2018, Arizona produced 75,600 acres of lettuce valued at \$891 million and a combined 20,300 acres of broccoli, cauliflower and cabbage valued at over \$172 million.<sup>2</sup>

Fungicide use of pyraclostrobin in corn, cotton and grain crops is not only necessary to combat disease, but also to improve plant health and increase yields. At least one pest control advisor in central Arizona attributed yield increases of one ton/acre minimum and three tons/acre average as a result of the use of Headline. As for cotton and wheat, growers and pest control advisors alike note its utility for plant health and its ability to provide increased stress tolerance to heat and drought.

As in lettuce and vegetable production, pyraclostrobin is only used on a minority percentage of Arizona's corn and cotton acreage. However, according to data collected by the Arizona Pest Management Center usage has been increasing consistently in corn, and to a lesser extent in cotton, a trend which may be due to the positive yields and/or efficacy of the product.

Fenamidone and pyraclostrobin are important crop protection tools for many growers in our state and have been used for many years without evidence of an unreasonable risk to human or environmental health. All crops grown in Arizona on which fenamidone and pyraclostrobin are used would be negatively impacted if it were no longer available or if major restrictions were put on its use as a crop protection tool. For those reasons, we urge the EPA to continue to allow their use.

Sincerely,



Stefanie Smallhouse, President  
Arizona Farm Bureau Federation

---

[https://desertagsolutions.org/sites/desertagsolutions.org/files/az1682-2015%20downy%20mildew%20of%20lettuce%20Cooperative%20Extension%20Publication\\_MM.pdf](https://desertagsolutions.org/sites/desertagsolutions.org/files/az1682-2015%20downy%20mildew%20of%20lettuce%20Cooperative%20Extension%20Publication_MM.pdf)

<sup>2</sup> USDA-NASS. 2019. 2018 State Agriculture Overview. United States Department of Agriculture, National Agricultural Statistics Service. [https://www.nass.usda.gov/Quick\\_Stats/Ag\\_Overview/stateOverview.php?state=ARIZONA](https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=ARIZONA)