

Pyraclostrobin Use in the Desert Southwest
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Comments submitted by the Arizona Pest Management Center, University of Arizona

Information Request: Pyraclostrobin registration review, open comment period.

Source: USDA Office of Pest Management Policy via Western IPM Center

Request Date: June 30, 2014

Response Date: August 25, 2014

Process:

The Arizona Pest Management Center (APMC) requested input from Extension specialists, plant pathologists, crop consultants, pest control advisors and Arid Southwest IPM Network contacts in AZ, CA, NM and NV. We also queried the APMC Pesticide Use Database, which contains uses reported to the Arizona Department of Agriculture since 1991. We have summarized important stakeholder comments below.

Arizona

Summary

Pyraclostrobin is the active ingredient in Cabrio, registered on several vegetable crops in the desert southwest and also in Headline, used in cotton, wheat, corn and other field crops. It is also included in some pre-mix products, including Pristine (pyraclostrobin + boscalid), which has uses in melons and some vegetable crops as well in Arizona. In vegetable crops, this active ingredient has an important role in downy mildew and powdery mildew control, including critical late season uses in spring lettuce. In cotton, wheat and other agronomic crops, some pest managers use Headline seeking yield enhancement in the absence of known pathogens, although many have abandoned the practice.

A search of the Arizona Pest Management Center (APMC) Pesticide Use Database from 2006 – June 2014 revealed uses of pyraclostrobin on over 30 crops, including field crops, vegetables, melons, grasses, seed crops and tree crops. Most significant crops in terms of acres treated are lettuce, cotton, wheat and corn.

Vegetable Uses

Dr. Mike Matheron, Extension Plant Pathologist at University of Arizona, provided information on pyraclostrobin use in a number of vegetable crops, as follows. He indicated it is a valuable chemistry for management of several important diseases on a variety of vegetable crops grown in Arizona. Its continued availability in the future is very important to the industry.

- Lettuce and Leafy Greens: According to the APMC Pesticide Use Database, over 2,000 acres each of leaf lettuce and head lettuce were treated with Cabrio in 2013. This is an

important tool for downy mildew and powdery mildew control on lettuce, spinach and other leafy greens. In a recent trial, performance in controlling downy mildew on lettuce was good (at a level in this trial comparable with other good downy mildew materials such as Presidio and Revus).

- Onion diseases: Is used to manage diseases caused by *Alternaria* and *Stemphylium*. Also used for downy mildew control. He was unable to comment on efficacy, as he has not tested it on onions.
- Melon diseases: Powdery mildew would be the main target disease on all types of melons in Arizona. Efficacy in several fungicide trials is in the moderate range. It is a good mixing or rotational partner with other fungicides with different modes of action for resistance management. Pyraclostrobin (Cabrio) is in the same FRAC group as azoxystrobin (Quadris) and trifloxystrobin (Flint). For powdery mildew on melons, pyraclostrobin is superior to the other two fungicides.
- Broccoli, cauliflower, and cabbage diseases: Downy mildew would be primary target disease on these crops. Dr. Matheron is uncertain of its relative efficacy compared to other downy mildew materials.
- Pepper diseases: Powdery mildew would be an important disease target here.

Two Pest Control Advisors (PCAs) based in Yuma, AZ provided a good overview of its use and important role in lettuce disease management. They use Cabrio for powdery mildew control, applying it after the disease shows up. It is most important on spring lettuce, where it can be used close to harvest because of short worker safety re-entry interval. Also, unlike other fungicides, it does not leave a visible spray residue on the crop. It is often the last fungicide applied in lettuce, 7 to 10 days before harvest. Also, because it is registered and used in both leaf and head lettuce, there is no problem with cross-contamination of a spray between adjacent head and leaf lettuce fields. Both PCAs indicated it is a very important product for the Arizona lettuce industry.

Cotton and Wheat

Pyraclostrobin is the active ingredient in Headline Fungicide, which is registered for “disease control and plant health” in a number of agronomic and tree fruit crops. BASF provided EPA with data to support the plant health claim at time of registration. In Arizona cotton, corn and wheat typically have a high number of acres treated (about 1,500a, over 10,000a, and 1,200a respectively in 2013). I was unable to get comments from PCAs on the uses in corn. Interviews with several Arizona PCAs revealed that cotton and wheat applications have been used in the absence of known pathogens, with the intention of enhancing crop yields. Of 4 PCAs I spoke with from 3 different cotton-growing regions of the state, 3 have discontinued this practice. Reasons cited for discontinuing use include narrow profit margins in these crops, increased pest management costs due to brown stink bug control and not seeing a clear economic benefit to the application.

California

Chemical use data from the California Department of Pesticide Regulation (CDPR) for pyraclostrobin use on cotton in Southwestern California in 2012 indicated highest use (lbs. a.i. applied and acres treated) in Riverside County. A Blythe-based PCA I spoke with indicated that Headline applications for yield enhancement were a driver of use, but also indicated that use has declined the past couple of years to the point where his growers are not generally using it.

CA County	Lbs. A.I. applied	Acres treated
Fresno	82.26 lbs.	706
Imperial	385.9 lbs.	3,752
Riverside	1,748.67 lbs.	17,810

New Mexico

Dr. Natalie Goldberg, Extension Plant Pathologist at New Mexico State University commented that the strobilurin fungicides in general are very useful tools when used appropriately – by label rates and with resistance management in mind. She indicated that strobilurin fungicides are used by many New Mexico growers on peppers, cucurbits and other high value crops, but had no information on pyraclostrobin specifically. Cary Hamilton, Director and State Liason for the IR-4 Program at New Mexico State University gathered information on pyraclostrobin use in NM and learned that Headline is used much more than Cabrio. Last year, a major distributor sold between 800 to 1000 gallons of the product. Headline use in cotton is important in the southeastern part of the state. The product is also very important in the peanut industry in Eastern NM, where they have a large processing plant and a grading plant. A crop consultant who works with the chili industry in New Mexico indicated that Cabrio EG and also Priaxor (a pre-mix of pyraclostrobin and fluxapyro) are recommended for use by chili producers. He stated, “We used Cabrio when it first came out and decided that it was the weaker member of the strobilurins and have primarily used Quadris (azoxystrobin) since that time.”

Nevada

Joy Paterson, IPM Educator, University of Nevada Cooperative Extension reached out producers to let them know about the registration review but received no comments in response.