



Response to EPA Proposed Interim Decision for Cycloate

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Re: Cycloate, Comments on EPA Proposed Interim Decision
EPA Docket ID: EPA-HQ-OPP-2015-0288

To Whom It May Concern:

The Arizona Pest Management Center (APMC) is host to the University of Arizona's expert IPM scientists, including Ph.D. entomologists, weed scientists and plant pathologists with expertise in the strategic tactical use of pesticides within IPM programs that protect economic, environmental and human health interests of stakeholders and the society at large. Through cooperative agreements with Arizona Department of Agriculture (ADA), the APMC obtains use of, improves upon, and conducts studies with ADA's Form 1080 data. Growers, pest control advisors and applicators complete and submit these forms to the state when required by statute as a record of pesticide use. These data contain information on 100% of custom-applied (i.e., for hire) pesticides in the state of Arizona. Grower self-applied pesticide applications may be under-represented in these data. In coordination with the Western Integrated Pest Management Center, we contribute to federal comments on issues of pest management importance to stakeholders throughout the desert southwest including Arizona, New Mexico, Nevada, Colorado and the southeast desert regions of California.

At this time, we wish to respond to the Agency's Proposed Interim Decision for the herbicide cycloate, EPA Docket number EPA-HQ-OPP-2015-0288, on behalf of Arizona and Imperial County, California agricultural stakeholders. Our comments combine stakeholder input received from University Extension Specialists, licensed pest management professionals from Arizona and California, and reported pesticide use data submitted to the Arizona state regulatory agency and captured in the Arizona Pest Management Center Pesticide Use Database.

Also, we wish to incorporate by reference comments submitted by the Arizona Pest Management Center on January 4, 2021, in response to draft risk assessments for cycloate, Docket ID# EPA-HQ-OPP-2015-0288-0046.

Cycloate use in Arizona and Imperial County, California

According to a knowledgeable crop consultant, Imperial County, CA beet production is primarily Round-up Ready sugar beets, with about 25,000 acres in Imperial Valley. They grow perhaps 500 acres of table beets. Because sugar beets are Round-up Ready, these growers generally do not use cycloate, only glyphosate. In the same region, there is about 7,000 acres of spinach. In Arizona, (primarily Yuma County) and the adjacent area of Imperial County, California (Winterhaven/Bard), cycloate is an extremely important tool for early weed control in spinach and beets. In Arizona, cycloate is used almost exclusively in these crops, based on reported pesticide use data (Fournier 2017).

Cycloate is one of only two herbicides available for use on spinach in Arizona. In addition to Ro-Neet (cycloate), Dual Magnum (S-Metolachlor) is registered for use on spinach under a Special Local Needs (SLN, 24-c) label, and has a 40-day PHI. Both herbicides are effective, and pest control advisors indicate that both herbicides are needed by growers. They are used in rotation when spinach is planted back to back, for resistance management. By some estimates, cycloate is used on roughly 20% of Arizona spinach acres, though some growers rely on it for all their production.

One pest control advisor (PCA) who works extensively with the beet industry estimates table/garden beet acres in Yuma County, AZ and adjacent region of Winterhaven and Bard in Imperial County, CA at somewhere between 1,000 and 2,000 acres. Some of these beets are harvested for the root, while others are harvested for the leaf-tops, used in Spring Mix (bagged salad). In local vernacular, beets harvested for the leaf-tops are referred to as “garden beets.” They are grown in dense plantings of leafy varieties. Beet leaf tops are often used in place of Swiss chard in salad mix, because the leaves are attractive, and beets are easier to grow than chard. Although we also produce “table” beets in our region (harvested for the root), the larger portion of production is geared toward leaf harvesting for bagged salad mix. According to one knowledgeable PCA, cycloate is used on 100% of table & garden beet acres on the Arizona side of the border. While beets are grown in Winterhaven and Bard, CA, as noted in our earlier comments (Fournier & Dixon 2021), nearly all cycloate use on beets occurs on the Arizona side of the border with California. S-Metolachlor is strongly preferred on the California side, and Dual Magnum has an indemnified label for this use.

Proposed Pre-Harvest Intervals

For both table and garden beets, cycloate is applied pre-plant or at-planting for weed control in beets. Root harvesting for table beets occurs roughly 60 days after planting, while leaf-top harvesting occurs based on a strict protocol from the buyers to harvest when leaves are at their most attractive. This can be anywhere from 25 to 60 days after planting, depending on temperature and variety. In previous comments submitted by the Arizona Pest Management Center (Fournier & Dixon 2021), we indicated a 60-day window between planting and harvest for “beets” in Arizona. However, at that time we had failed to distinguish between table beets and garden beets when querying stakeholders—a miscommunication on our part. We wish to inform EPA of this error, and of the general prominence of beet acreage dedicated to leaf harvesting in our region. For this reason, **the proposed preharvest interval of 60-days is not workable for our growers for “garden beets” (harvested for leaf-tops), however it is**

manageable for “table beets” (harvested for the root). It may be useful for EPA to distinguish between these two categories in its risk assessment and final decision for cycloate.

EPA should also note that cycloate is used at low rates on both spinach and beets to prevent foliar damage. Our analysis of pesticide use data indicated that 73% of all reported applications on spinach are at or below the rate of 40 fl. oz/acre, less than half the maximum label rate for spinach. In beets (all types combined), the median use rate for Ro-Neet is 32 fl. oz/acre. Our analysis of pesticide use data shows 88% of reported applications are at or below the rate of 40 fl. oz/acre, which is less than half the maximum label rate for beets (Fournier 2017). We request that these lower use rates be factored into EPA’s risk analyses, if they have not yet been considered.

EPA’s proposed preharvest intervals for spinach (at 21-days) and for sugar beets (at 120-days) are workable for our growers, based on when cycloate is applied and days to harvest for these crops.

Plant-Back Intervals

Based on available feedback from stakeholders, we did not identify any concerns with EPA’s proposed plant-back intervals.

Proposed Application Method Restriction: Impregnated Fertilizer

Based on available feedback from stakeholders, we did not identify any concerns with EPA’s proposed application restrictions related to impregnated fertilizer. This does not appear to be a common practice.

Soil Restriction for Sugar Beets and Table Beets

EPA requested feedback from end-users on potential impacts of its proposed soil restriction for sugar beets and table beets. Preliminary investigation and discussion with University of Arizona experts and local pest control advisors point to some potential concerns related to the label language and its practical implementation on the ground.

The proposed label language reads as follows in the Proposed Interim Decision:

Do not use on sandy or coarse-textured soil where the water table occurs at a depth of 30 feet or less from the surface.

Sandy and course soils are common, though not universal, in the Yuma production region, where nearly all conventional beets are currently grown in Arizona. Growers and the pest control advisors who provide pesticide use recommendations are well aware of soil types, but it would be helpful for EPA to clarify “course-textured soils” in more common agronomic terminology.

According to Barry Tickes, recently retired weed expert and County Agent / County Director with University of Arizona Cooperative Extension, water table depth in Yuma County can

fluctuate considerably throughout the year, based on water use and other factors. Although the water table generally is not close to surface, a distance of fewer than 30 feet from the surface is not uncommon in some parts of the Yuma Valley. His impression is that more spinaches than beets are grown in the lower areas.

According to Dr. Channah Rock, Water Quality Extension Specialist with the University of Arizona, water table levels in production areas in the Yuma region can range from very shallow to very deep, depending on the region. The Bard district (CA side) and much of the Wellton area (AZ side) are very shallow. There is an active program by which groundwater is pumped out of certain production areas to enable farming, because otherwise, groundwater concerns would impede our ability farm in parts of the Yuma region.

Our concern with EPA's proposed language for the soil restriction stems mainly from the acknowledgement that pest control advisors and most growers do not know the depth of the water table below a field at any given time. The exception would be for certain fields with a very high water table, which is made apparent based on how long it takes a field to dry following irrigation. But in practical terms, in most areas, water table depth simply is not common knowledge.

The U.S. Geological Survey maintains information, including maps of soil types, and, in some cases, groundwater level data. However, it is unclear from our review whether this information is maintained up-to-date by routine sampling, and whether these data are available to the public. If such a resource exists, and is reliable, perhaps a link made available to end-users on the product label could assist with the practical implementation of the proposed soil restrictions for beets, should the restriction prove necessary.

Plantings of table/garden beets are usually between 2 and 10 acres, with most fields at the smaller end of that range. This fact of small localized fields, combined with low use rates for cycloate on beets (noted earlier) would suggest that amounts of potential cycloate penetration into ground water might expected to be extremely minimal. Bear in mind also that all fields in Yuma, AZ, and indeed most fields statewide, are laser-leveled, which also would be expected to minimize runoff. We hope these factors can be considered in EPA's assessment of risk, as well as the general lack of viable pre-emergent herbicide alternatives for beet producers in Arizona.

In Imperial Valley, CA, the situation is different. Because they grow mainly Roundup Ready sugar beets, they currently have little cycloate use on beets, according to a crop advisor from that region who works with the beet industry. The current use pattern suggests minimal impact of the proposed soil restriction in their region, However, crop advisors have promoted the value of cycloate use as a rotational practice in Roundup Ready sugar beets, in support of resistance management. To date, very few sugar beet growers have adopted this, but this could change in the future. Despite limited use, a local crop consultant emphasized the importance of maintaining access to cycloate, particularly for the table beet market.

Thank you for the opportunity to comment. Please contact me if you have any questions.



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