



**Response to EPA Proposed Interim Decision for Oxadiazon:
Uses on Arizona Turfgrass**

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Re: Oxadiazon, Comments on EPA Proposed Interim Decision
Docket ID: EPA-HQ-OPP-2014-0782

The Arizona Pest Management Center 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 society at large. 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 oxadiazon, EPA Docket number EPA-HQ-OPP-2014-0782, on behalf of Arizona stakeholders. Our comments combine stakeholder input received from University of Arizona Extension Agents and Specialists, licensed pest management professionals from Arizona, and reported pesticide use data from the Arizona Pest Management Center Pesticide Use Database.

The Arizona golf industry is a strong contributor to the state economy with a total economic contribution of \$3.9 billion in sales in 2014, including golf facility operations, golf tourism, and golf-related businesses (Duval et al. 2016).

Oxadiazon is a pre- and early post-emergence herbicide used for selective control of many annual broadleaf and grass weeds. The only reported uses of oxadiazon in the Arizona Pest Management Center (APMC) Pesticide Use database are for turfgrass applications made on golf courses (Fournier et al. 2017). Under state statute, certain golf course pesticide applications have required reporting since 2015.

EPA's Proposed Interim Decision for oxadiazon includes several restrictions on turf uses. Herein, we describe how the herbicide is used on golf and recreational turf in Arizona, and respond to specific proposed changes.

According to Kai Umeda, Area Extension Agent for Turfgrass Science, University of Arizona, Maricopa County Cooperative Extension, oxadiazon is an important and effective herbicide, particularly useful for control of goosegrass on golf courses, sod farms, and professional sports turf facilities. A single application of oxadiazon (granular formulation) in mid-April at the maximum label rate is recommended for preemergence control of goosegrass in turfgrasses. This provides control of June-emerging goosegrass. Oxadiazon is used in tandem with other herbicides applied following emergence, to control goosegrass escapes.

Arizona pesticide use data suggests that the majority of golf course applications are made at the maximum rate of 4 lbs. a.i./A. Experience suggests that the maximum use rate is needed to maintain a reasonable level of control of goosegrass in Desert Southwest turf—lower rates result in inadequate control. Even with full-rate pre-emergent applications, follow-up applications with post emergent herbicides are generally needed to control escaped weeds. There are also concerns that lower rates and reduced efficacy can lead to resistance issues in the future (Umeda, personal communication). One application per year is sufficient for desert golf and recreational turf, but we request that EPA consider maintaining the current maximum single use rate.

Oxadiazon is currently used on golf course fairways, tees and roughs. Broadcast application of the granular formulation is used. The granular material is effective and easier to handle than the liquid formulation. Spot treatments are not recommended, because they are not efficient for pre-emergent control. Restrictions on liquid applications, cancellation of WSP products and single end-use products are not problematic for us. Similarly, restrictions on liquid backpack applications and prohibition of mechanically-pressurized handgun applications on all sites except for fairways area not seen as problematic, based on current practices.

We do not take issue with EPA's proposed decision to ban the use of oxadiazon on golf course greens. However, we would like to maintain uses on tees and roughs. Tees take a lot of damage from golfers, and resulting divots invite weed infestations. Roughs, because they often are not well maintained, can harbor weed infestations which can spread to other parts of the golf course, if they are not properly managed. An optional approach might be for EPA to consider a limitation on the percent of golf course acres treated with oxadiazon, while allowing superintendents and turf managers some flexibility to the treat roughs, fairways and tees as needed, within those limitations.

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



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Reference

Duval, D., A. Kerna, G. Frisvold, K. Umeda and R. Li. 2016. Contribution of the Golf Industry to the Arizona Economy in 2014. University of Arizona Cooperative Extension.
<https://cals.arizona.edu/arec/sites/cals.arizona.edu/arec/files/publications/AZ%20Golf%20Economic%20Contribution%202014.pdf>