



Dinotefuran: Response to EPA Proposed Interim Decision for Arizona and the Desert Southwest

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Comments submitted by the Arizona Pest Management Center, University of Arizona

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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 the 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 insecticide dinotefuran, on behalf of stakeholders. In doing so, we wish to incorporate by reference three previously submitted EPA comments from 2017, identified by the docket ID number below. The entirety of our comments combine stakeholder input received from University of Arizona Extension Specialists, surveys and telephone interviews with licensed pest management professionals from Arizona and New Mexico, and reported use data for dinotefuran from the Arizona Pest Management Center Pesticide Use Database.

Prior Comments, incorporated by reference:

- Neonicotinoid Insecticide Use and Pollinator Protection in Several Crops and Recreational Turf in Arizona and New Mexico. University of Arizona, Arizona Pest Management Center. Jul 24 2017. Docket ID: **EPA-HQ-OPP-2011-0920-0100**.

Dinotefuran Use in Southwest Agriculture

Dinotefuran is primarily used on melons in Arizona, with several thousand acres treated annually, and to a lesser extent on other cucurbits (squash, pumpkins) lettuces and cole crops (cabbage, broccoli, cauliflower). Over the past 8 years, dinotefuran represents less than 10% of reported neonicotinoid uses across all crops, according to the Arizona Pest Management Center (APMC) pesticide use database (Fournier et al. 2017). Like other neonicotinoids, dinotefuran products provide very effective alternatives to broad-spectrum insecticides and help to preserve some natural enemies for biological control of insect pests in some crops, making this active

ingredient a valuable component of integrated pest management (IPM) programs. While much of the information we provide is derived from Arizona stakeholders and pesticide use data, many described use patterns are broadly representative of dinotefuran use and importance throughout the desert Southwest.

Lettuce / Brassica / Cole Crops

Arizona growers are one of the leading producers of fresh-market vegetables in the U.S., producing vegetables and melons at an estimated total economic contribution of over \$2.5 billion in 2015 (Kerna et al. 2016). This includes over 90% of all fresh lettuce consumed in the U.S. in the winter, valued at over \$891 million in 2018. Arizona produces fresh market broccoli, cauliflower and cabbage. In 2018, over 20,300 combined acres harvested were valued at over \$172 million (USDA-NASS 2019).

While neonicotinoids were used on 93% of fall head lettuce acres in 2018, and 89% of acres in spring 2019, dinotefuran foliar sprays on leafy vegetables are not common in the desert southwest. Venom/Scorpion were applied to less than 1% of lettuce acres last year, based on pest control advisor responses to Lettuce Pest Losses surveys (Palumbo 2019, WIPMC 2018). Dinotefuran has excellent activity against whiteflies (adults and nymphs) on leafy vegetables and is occasionally sprayed more than once on lettuce (Palumbo 2020).

The EPA's proposed label changes would reduce the maximum annual amount of dinotefuran (Venom/Scorpion) allowed from 0.268 lbs. ai/A per year to 0.23 lbs. ai/A per year. In leafy vegetables, the proposed label would reduce the maximum number of 3 oz/ac foliar applications of Venom from 2 to 1 application per crop season. In brassica/cole crops, a single 4 oz application would still be allowed. According to Dr. John Palumbo, Extension Entomologist and Research Scientist with University of Arizona, **the proposed label changes for reduced foliar uses of dinotefuran will have a negligible impact on leafy vegetables and brassica/cole crops grown in the desert Southwest** (Palumbo 2020).

Pollinator Language

The language in the table in Appendix B of the Proposed Interim Decision for dinotefuran, in connection with "all outdoor foliar spray uses," states the following. "For foliar spray application to crops not under contract pollinator services: Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen off unless the application is made in response to a public health emergency declared by appropriate State or Federal authorities." **These proposed changes would impact current language in the 'Bee Box' for all outdoor foliar spray uses of these products.** These changes were not discussed in the body of the PIDs, and are only present in the appendices of the PIDs for imidacloprid, clothianidin & thiamethoxam, and dinotefuran. The changes would broadly eliminate needed bloom applications for crops where previous exemptions were made. We hope that this language in the PID Appendix tables was mistakenly included, but ask that EPA clarify.

Who We Are

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 the society at large.

Dr. Al Fournier is Associate Director of the APMC / Associate Specialist in Entomology, holds a Ph.D. in Entomology, and has expertise in evaluating adoption and impact of integrated pest management and associated technologies. He works with the Western IPM Center, representing stakeholders in the desert Southwest states in EPA registration reviews. Dr. Peter Ellsworth is Director of the APMC, State IPM Coordinator for Arizona and Professor of Entomology / Extension IPM Specialist with expertise in developing IPM systems in cotton and other crops and measuring implementation and impact of IPM and pest management practices. Dr. John Palumbo is a Research Scientist in Entomology and an Extension Specialist working with the Arizona vegetable industry. Mr. Wayne Dixon holds a B.S. in Computer Information Systems and develops tools and data used in IPM research, education and evaluation, including management of the APMC Pesticide Use Database.

These comments are the independent assessment of the authors and the Arizona Pest Management Center as part of our role to contribute federal comments on issues of pest management importance and do not imply endorsement by the University of Arizona or USDA of any products, services, or organizations mentioned, shown, or indirectly implied in this document.

Our Data and Expert Information

Through cooperative agreements with Arizona Department of Agriculture, the Arizona Pest Management Center 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 addition, the Arizona Pest Management Center is host to scientists in the discipline of IPM, including experts in the usage of this and other compounds in our agricultural systems. We actively solicit input from stakeholders in Arizona including those in the regulated user community, particularly to better understand use patterns, use benefits, and availability and efficacy of alternatives. The comments within are based on the extensive data contained in the Arizona Pest Management Center Pesticide Use Database, collected summary input from stakeholders and the expertise of APMC member faculty.

Through the Crop Pest Losses and Impact Assessment program (WIPMC 2018), partially funded through the Western IPM Center, the Arizona Pest Management Center conducts annual surveys with state-licensed pest control advisors (PCAs), who are the primary pest management decision makers, in consultation with growers. The surveys, conducted at face-to-face meetings, provide detailed information on crop yield losses to specific insect pests, weeds and diseases, control costs, and pesticide use for the key crops, cotton and lettuce. Cotton data have been collected

since 1991 and lettuce data since 2005. Data are collected for all of Arizona and neighboring production regions of California, with typical responses representing up to 65% of acres planted in Arizona. These data provide detailed information on shifting pest trends, chemical use and costs, and often compliment and augment information from the APMC Pesticide Use Database, particularly for pesticide uses for which the state does not mandate reporting.

References

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