

Pesticide Information Request Response
Arid Southwest IPM Network
Arizona Pest Management Center
Data Request: 2,4-Dichlorophenoxyacetic Acid (2,4-D)
February 23, 2009

Subject: EPA is seeking comments on a petition Natural Resources Defense Council (NRDC), requesting that EPA revoke all tolerances and cancel all registrations for 2,4-D.

Date Sent: January 6, 2009

Comments Due: February 23, 2009

Summary: The petitioner, NRDC, claims that EPA cannot make a finding that there is a reasonable certainty of no harm from dietary residues of 2,4-D and, therefore, that the Agency must revoke all tolerances established under section 408 of FFDCA, as amended by FQPA.

As a part of the petition, NRDC claims that the Agency did not consider the full spectrum of potential human health effects associated with 2,4-D in connection with EPA's reassessment of the existing 2,4-D tolerances, and EPA's environmental risk assessment including:

1. Information on the endocrine disrupting effects of 2,4-D.
2. Information on the neurotoxicity related to 2,4-D exposure.
3. Information that products containing 2,4-D are mutagenic.
4. Data showing that dermal absorption of 2,4-D is enhanced by alcohol consumption, sunscreen, and DEET which the EPA's exposure assessment failed to include.
5. Information about adverse developmental effects at doses below those included in EPA's risk assessment for exposure of infants to 2,4-D in breast milk.

Process: Al Fournier of the Arizona Pest Management Center (APMC) forwarded this request to members of the Arid Southwest IPM Network, which includes AZ, NM, NV and Southern CA stakeholders. We also sent specific requests, via phone and email, to individuals with specific knowledge or experience with 2,4-D in agricultural and urban weed management. Most of our contacts lacked expertise on toxicological issues related to the NRDC petition. However, we compiled data and comments about the use and value of 2,4-D for weed control in the arid Southwest region. No information was provided on 2,4-D use in New Mexico.

Arizona

Information on 2,4-D use in Arizona is incomplete, due to limitations on reporting requirements. For example, herbicides ground-applied by growers (not custom applicators) need not be reported to the Arizona Department of Agriculture (ADA) and so are not recorded in our pesticide use reporting (PUR) database. According the 2001-2005 PUR data, the primary crops reportedly treated with 2,4-D in Arizona were wheat, barley, turfgrass and other grasses, tritacale, corn, pasture, alfalfa, oats and sorghum

grain (milo). The 2006 Arizona Agricultural Statistics Bulletin (the most recent report in which pesticide use data are available) indicates that 6,191 Arizona agricultural acres were treated with 2,888 lbs of 2,4-D for an average use rate of about 0.5 lb per acre. Dr. Bill McCloskey, University of Arizona weed specialist, suspects that this is an underestimate of our use since irrigated pastures in Santa Cruz and Cochise counties are usually treated by growers with their own spray rigs and 2,4-D remains a low cost, effective broadleaf weed control chemical in this situation (cheaper than dicamba and newer auxin mimics that are under development by Dow and Dupont).

The herbicide 2,4-D has registered uses in cereal grains, corn, fallow land and crop stubble, orchard floors of dormant tree fruits and nuts, forests, rangeland and established grass pastures, non-cropland, grasses grown for seed or sod, ornamental turf and aquatic areas and some of these uses are important in Arizona. The movement of invasive (and often noxious) weed species into Arizona crop production areas and range and wild lands are increasing as are the incidences of herbicide resistant weeds in croplands in the southwest. This herbicide is a valuable tool in vegetation management that needs to be retained in our chemical weed control toolbox as herbicide resistance, climate change and globalization increase the threat of invasive weed species in our food, fiber and recreational and esthetic wild land areas.

2,4-D is a component of many pre-mix weed control products that are commonly used for broadleaved weed control programs in turfgrasses in urban, suburban and rural areas. It is not widely used as a regular calendar treatment that is broadcast applied on a property from wall-to-wall, but is used as a spot treatment where susceptible broadleaved weeds appear. It has and continues to provide effective and economic weed control options for turf managers.

We cannot comment on toxicology issues related to 2,4-D.

Arizona Sources: 1080 Pesticide Use Reporting database (data compiled by Dr. Al Fournier); 2006 Arizona Agricultural Statistics Bulletin published by the USDA National Agricultural Statistics Service, Arizona Field Office; Dr. Bill McCloskey, University of Arizona weed specialist; Kai Umeda, area agent and turf management expert.

Nevada

We cannot speak to residue issues, but we do have a few insights into the importance and uses of 2,4-D in Nevada.

2,4-D is widely used in our state due to its low application rate, low cost, rapid breakdown in the soil, safety to applicators, and broad range of uses. 2,4-D is used to control broadleaf weeds in grasses. Nevada is comprised of nearly 60 million acres of rangeland and 2,4-D is a commonly used tool that allows land managers to control troublesome noxious, poisonous, and invasive weeds while protecting native range grasses. 2,4-D has a similar use in meadows and pasture where cattle and horse producers use 2,4-D to protect their livestock and the environment from the negative

effects of weeds. In the hay industry, Nevada is home to the production of high-quality cool-season grass hays that are shipped throughout the U.S. 2,4-D is the tool on which these growers rely to ensure that harvested and transported material is free of poisonous and non-native, invasive weeds that can be transported to a new area and cause harm to livestock and the environment. Other situations in which 2,4-D is important in Nevada is in the turf industry and to farmers who produce small grains, corn, teff, and native grass seed.

In short, 2,4-D has long filled a critical niche in weed management in Nevada. The loss of this tool would deliver a serious blow to our efforts to manage problematic weeds in our state.

Nevada Sources: Earl Creech, Extension Weed Specialist, University of Nevada; Jay Davison, Northeast/Central Area Plan & Soils Specialist.

**Southeastern California
(Imperial, Riverside and San Bernadino Counties)**

2,4-D is still a useful tool for our growers in southeastern California. 2,4-D is mostly used on small grain crops (wheat and oats), bermudagrass and other monocots such as corn and sorghum. It is also used on some other crops such as citrus and turf and has non-agricultural uses. It is used in alfalfa as 2,4-DB. It is used in these crops during the cool season for broadleaf weed control, mostly winter annuals such as mustards, prickly lettuce, sowthistle, lambsquarters, goosefoot, clover, pigweed, etc. We also use some 2,4-D for citrus, right-of-way, landscape, and fallow ground weed control. Below is a listing of use by location, pounds of product and crop acreage treated for a combination of Imperial, Riverside and San Bernardino counties in Southern California for 2,4-D compounds in 2007. As you can see it is still important to southeastern California.

2,4-D Herbicide use in Southeastern California* by Pounds and acreage in 2007.

Crop/Ag Land	lb/acre	Acres	Non-crop	lb used
Alfalfa	15,322	36,231	Right-of-way	385
Barley	85	120	Landscape	2,683
Bermudagrass	8,787	7,488		
Citrus	5,606	3,311		
Corn	222	225		
Oat	639	2,251		
Pastureland	531	622		
Potato	7	210		
Sudangrass	507	674		
Sugarcane	60	62		
Wheat	14,349	13,375		
Totals	52,531	65,904		3,068
Tri-County total lb	55,599			

*Imperial County, Riverside County and San Bernardino County

Southern California Sources: Data prepared by Eric Natwick, Director/Entomology Advisor, UC ANR Cooperative Extension Imperial County, based on California Department of Pesticide Regulation (CDPR) data, in collaboration with Brent Boutwell.