

Agri-Business / Cropland. Are we ready for a 2,4-D Ban? (Initial Release Monday 1/12/2009 12:00PM, amended 1/20/2009)

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A recent Montana 'Agricultural Alert' has announced the Natural Resources Defense Council's (NRDC) request sent to EPA on November 6th, 2008 to ban 2,4-D ([Ag Alert on 2,4-D Ban](#)). The implications of such an action are widespread and may hit closer to home than we think. 2,4-D is one of the most common ingredients in home and garden pesticides and is one of the most widely used agricultural herbicides worldwide, with a total of 46 million pounds used annually in the United States, with use distributed as follows:

-24% in pasture / rangeland	-3% in summer fallow
-8% in spring wheat	-3% in hay other than alfalfa
-7% in winter wheat	-3% in roadways
-6% in field corn	-19% in lawn by homeowners with / without fertilizer
-4% in soybean	-7% in lawns / garden by lawn care operators / contractors

Wheat is the #1 field crop in Montana, with 5,059,916 acres harvested in 2007. Combine this with nationwide estimates (http://www.epa.gov/oppsrrd1/REDs/factsheets/24d_fs.htm; [2007 NASS Montana Report](#)) of 2,4-D applications covering 51% of all spring wheat and 15% of all winter wheat acres nationally, and we can start to see the impact that the loss of 2,4-D may have on our local agricultural economy.

This broad-spectrum and economical weed control chemical was created under the leadership of [Judah Hirsch Quastel](#). Dr. Franklin D. Jones in 1945 patented this pesticide in 1945, and it was later registered for use in the United States in 1947. Since that time 2,4-D has become the most widely used herbicide worldwide and has registrations for use on crops, aquatic areas, non-crop, federally protected areas, and turf grass.

Arguments against Banning 2,4-D

2,4-D has gained negative press in recent years, at times with individuals relaying only cursory information on 2,4-D with little scientific evidence to support the context of their arguments. Beware of negative press that focuses on punch lines.

"It shows up in about ½ of all surface water samples". This statement posted on November 6th, 2008 by the NRDC may be accurate in certain locales, but this may be misleading to the public. Scientists do agree, it is not the presence alone that makes a poison, but the dose. This is the premise of 'toxicity'. Beware of statements relaying presence alone as a cause for alarm. EPA does have thresholds established which take into account the exact dose that would pose a problem. 2,4-D may be found at very low levels without being over EPA thresholds.

"2,4-D is an Agent Orange Chemical that doesn't belong on lawns". This statement was also released on November 6th, 2008 by the NRDC, and is also misleading. For instance, in response to the statement "2,4-D is an Agent Orange Chemical", keep in mind 2,4-D is a component of the chemical formulation known as 'Agent Orange', however what this author didn't mention is that Agent Orange also contained a chemical known as 2,4,5-T. The manufacturing of 2,4,5-T was later correlated

with the production of dioxins which have been associated with cancer. 2,4-D was never the main culprit linked to the detrimental effects of 'Agent Orange'.

In response to the inference that 2,4-D is a carcinogen, Jim Gray, Executive Director for the Industry Task Force II on 2,4-D Research Data, said "Extensive research, independent scientific reviews and regulatory evaluations worldwide have consistently found that authorized uses of 2,4-D do not pose risks of concern for human health or the environment." This is following 21 years of research and agency review which has found no correlation between 2,4-D and cancer at rates that are authorized. In addition, the World Health Organization and European Union Commission do not report 2,4-D to be carcinogenic. An evaluation by the U.S. Department of Agriculture (NAPIAP Report 1-PA-96) stated that the impacts of removing 2,4-D from use would cost the U.S. \$1.7 billion annually in production and control expenses. Canadian estimates range as high as \$321 million annually (See the Industry Task Force on 2,4-D website at www.24d.org).

Arguments for Banning 2,4-D

Currently, 2,4-D is not registered for use on lawns and gardens in Sweden, Denmark, Norway, Kuwait, Quebec-Canada, and severely restricted in Belize. The International Agency for Research on Cancer (IARC) has classified 2,4-D as a class 2B carcinogen (possibly carcinogenic) on humans. In addition, the EPA has reported concern over 2,4-D's endocrine disruption potential which may result in various human health risks. This concern was due to developmental toxicity observed in rats following exposure to 2,4-D and its amine salts and esters.

One study has indicated an association of increased birth malformations in high wheat counties which site increased chlorophenoxy herbicide (class of chemicals which 2,4-D is a part of) use. Another *isolated* study associated increased risk of breast cancer with 2,4-D, malathion, and chlordane use in Hispanic agricultural workers in California.

NRDC's official arguments for the ban of 2,4-D state (To access the complete NRDC petition see ([NRDC petition - comments](#))):

- 1) EPA disregarded data on neurotoxicity to 2,4-D exposure
- 2) EPA underestimated dermal absorption that is enhanced by alcohol consumption, DEET, and sunscreen.
- 3) EPA Failed to incorporate information on endocrine disrupting effects into it's reassessment of 2,4-D
- 4) EPA disregarded information on mutagenic effects
- 5) EPA disregarded information on adverse developmental effects towards children.

In conclusion, a non-biased approach which assesses the pro's and con's of banning 2,4-D is necessary. EPA is accepting public comments until 23rd February on this issue. Comments should include docket # EPA-HQ-OPP-2008-0877. For detailed instructions see <http://edocket.access.gpo.gov/2008/E8-30527.htm>.

FOR FURTHER INFORMATION CONTACT: For more information regarding the full federal register notice see <http://edocket.access.gpo.gov/2008/E8-30527.htm>. The full NRDC petition to ban 2,4-D is also available online at [NRDC petition - comments](#). To see the Industry Task Force II website on 2,4-D research data go to www.24d.org. If you have further questions contact the MSU Pesticide Safety Education Program office (Cecil Tharp, 406-994-5067, ctharp@montana.edu).