

Beyond Toxics' Assessment of Pesticide Use in the Oregon Weed Grant Program, a Program Funded by the Oregon Lottery, State and Federal Funds

Purpose: The purpose of this report is to analyze the amount and purpose of public funds spent on pest control on state-owned and managed public property. Beyond Toxics supports the adoption of an Integrated Pest Management Policy for Oregon State agencies and universities. Integrated Pest Management (IPM), as practiced by federal agencies and as used in other states, counties and cities, improves pest management, increases efficiency and cost effectiveness of government services, reduces toxicity in the environment, reduces human health risks, and improves government performance in the area of environmental justice and community right-to-know.

Background: A bill to require state agencies to form an Interagency Integrated Pest Management Coordinating Committee under the leadership of the State IPM Coordinator was introduced by Representative Ben Cannon in the 2011 Oregon Legislature. To underscore the importance of the bill, a report on current agency Integrated Pest Management practices was prepared for the Oregon House of Representatives in 2010 by Dr. Paul Jepson (Director, Oregon State University Plant Protection Center) and Lisa De Bruckeyere (Director, Oregon Invasive Species Council). The report concluded that, while Oregon's state agencies are doing many things well, there remain significant gaps in coordination, training, metrics and toxics reduction efforts in pest treatment programs.

Methodology used for this draft report: Public records requests were submitted to three state agencies asking for spray records and expenditures for pest control using public dollars or performed on public property during the years 2008-to the present: Department of Administrative Services, Oregon Department of Agriculture, and Oregon Department of Forestry. To date, Beyond Toxics paid over \$1500 and received some records from Oregon Department of Agriculture (ODA), mostly pertaining to the Oregon Weed Grants Program, and for the years 2008-2011; ODF is compiling records for spray operations on state forests and will supply records if we can pay the fees and charges; DAS was unable to locate pesticide spray records. We received and analyzed 627 pesticide spray records from data maintained by the Oregon Department of Agriculture covering the years 2008-2011. We do not have confirmation that the 627 records comprise the full set of records associated with public funding and invasive weed control.

Summary of Data Analysis:

1. Public Funding

- A. In November, 1998, voters approved an initiative directing 15 percent of lottery net proceeds to go to parks, salmon habitat restoration and watershed enhancement programs. Oregon lottery funds were the source of millions of dollars in funding for the Weed Grant Program each biennium for the years 2008-2011¹:
 - i. 2007 -2009 – \$2.3 million
 - ii. 2009-2011 – \$2.5 million

- iii. 2011-2013 – \$2.5 million
- B. Lottery Funds are appropriated according to Oregon State Constitution Article XV, Section 4(3)ⁱⁱ: “Legislative Assembly shall make appropriations for the benefit of any of the following public purposes: creating jobs, furthering economic development, financing public education in Oregon or restoring and protecting Oregon’s parks, beaches, watersheds and native fish and wildlife.”
- C. Not all the Weed Grant projects that were evaluated by Beyond Toxics appear to meet the purpose and requirements of Lottery Funds allocation.

2. Questionable Science

In the more than 625 pesticide spray records we analyzed, Beyond Toxic was unable to find a system of metrics or a pattern of chemical use indicating the responsible application of science or the responsible spending of public funds. It seems that the State of Oregon is spending millions of dollars to use highly toxic chemicals on weeds, however, is not tracking the impacts and effectiveness of these treatments. The Oregon Department of Agriculture Plant Division Annual Reports, in the main, are narrative descriptions of treatment programs that repeat the same wording year after year, and provide little numerical, trend data or statistical assessment.

Example: In each of the four years of records Beyond Toxics analyzed for data and trends, the State of Oregon purchased and sprayed increasing amounts of 2,4-D.

- 2,4-D use increased by 52% from 2008 to 2011 in the weed grants program.
- 2,4-D is listed on the Oregon Department of Environmental Quality’s Priority Toxics Focus List and is classified as a Pollutant of Interest, a Groundwater Program Toxics Monitoring Priority Chemical and is on the Oregon Willamette Toxics Monitoring Program Target Analyte List.ⁱⁱⁱ
- 2,4-D (and the entire family of phenoxy herbicides) is classified as possibly carcinogenic by the International Agency for Research on Cancer and is associated with low sperm counts.
- 2,4-D is banned in Norway and Sweden and is banned for landscaping in the Canadian province of Ontario.

3. As President Ronald Reagan said, “Trust, but verify.”

The public has the right to be assured that public good is resulting from the use of public funds. In the data provided to Beyond Toxics by the State, we were unable to discern how the use of toxic chemicals in the weed grants program is evaluated for human health safety as well as for the requirements for allocation of Lottery funding, specifically restoring and protecting watersheds and native fish and wildlife.

Example: Beyond Toxics used the Environmental Impact Quotient formula (EIQ) developed by Cornell University to evaluate the relative toxicity and potential environmental damage of the chemicals used in the weed program.^{iv} Scores on the EIQ scale for the data analysis ranged from 0 - 1800 with a mean score of 29 (using the salt form of the active ingredient per the pesticide label). Significant toxicity is determined by the highest EIQ scores. Of the top eight most toxic and potentially harmful pesticide applications during the years 2008-2011, three applications were carried out in the yards of homes in downtown Bend within a densely populated neighborhood. The target weed was Orange Hawkweed, an ornamental plant that was obtained from a nursery and planted in ornamental landscaping by unsuspecting homeowners. Beyond Toxics found no assessment about the necessity to use the pesticide treatment, no assessment of alternative strategies, no assessment of proximity to edible garden plants and no assessment of possible exposure scenarios for children and pets. Following the discovery of Orange Hawkweed in Bend, the 2010 ODA Plant Division Annual Report stated nearly 50 additional sites were discovered, “mostly around homes.” There is no data on how weeds found at those residential sites were controlled nor were there indications about future plans to address a weed that is commonly found in ornamental landscaping. We may *trust* that workers or contractors are using the most effective, safe and environmentally sound pest control methods, but there must also be *verification*.

4. General Findings:

A. Top Counties with the Most Number of Spray Applications

- i. Twenty-six Oregon counties had weed grant projects involving the use of pesticides.
- ii. The top four counties to receive pesticide applications to control weeds were, in order, Douglas, Josephine, Klamath and Lane counties.
- iii. Douglas County received the most pesticide applications (over 200).
- iv. Josephine and Klamath Counties received approximately 75 pesticide applications.
- v. Lane County received approximately 50 pesticide applications.

B. Counties with the Most Pounds of Chemical Applied

- i. Lane County had the most pounds of active pesticide ingredient sprayed. Josephine County had the second most pounds applied.

C. Top Ten Pesticides Sprayed:

- i. The top ten active pesticide ingredients used from 2008-2011:
 1. Glyphosate (*on the DEQ Priority Toxics Focus List*)
 2. Picloram
 3. 2,4-D (*on the DEQ Priority Toxics Focus List*)
 4. Clopyralid
 5. Aminopyralid
 6. Triclopyr
 7. Chlorsulfuron
 8. Imazapyr
 9. Metsulfuron
 10. Dicamba
- ii. Four of these pesticides are banned or partially banned in other states or countries
 1. Picloram
 2. 2,4-D (*on the DEQ Priority Toxics Focus List*)
 3. Clopyralid
 4. Aminopyralid
- iii. Three are associated with life-changing health impacts
 1. Picloram is contaminated with HCB, a Group B probable carcinogen
 2. Chlorsulfuron and Dicamba are suspected reproductive toxicants
- iv. Four are categorized as “Bad Actor” chemicals because of emerging concerns over data on human health risks, high toxicity or persistence in the environment.
 1. Clopyralid
 2. Chlorsulfuron
 3. Imazapyr
 4. Dicamba

D. The pesticide product most frequently used in the publicly funded weed grant program was

Tordon 22K which has the active ingredient picloram. It was used a total of 250 times in 2008, 2010 and 2011.

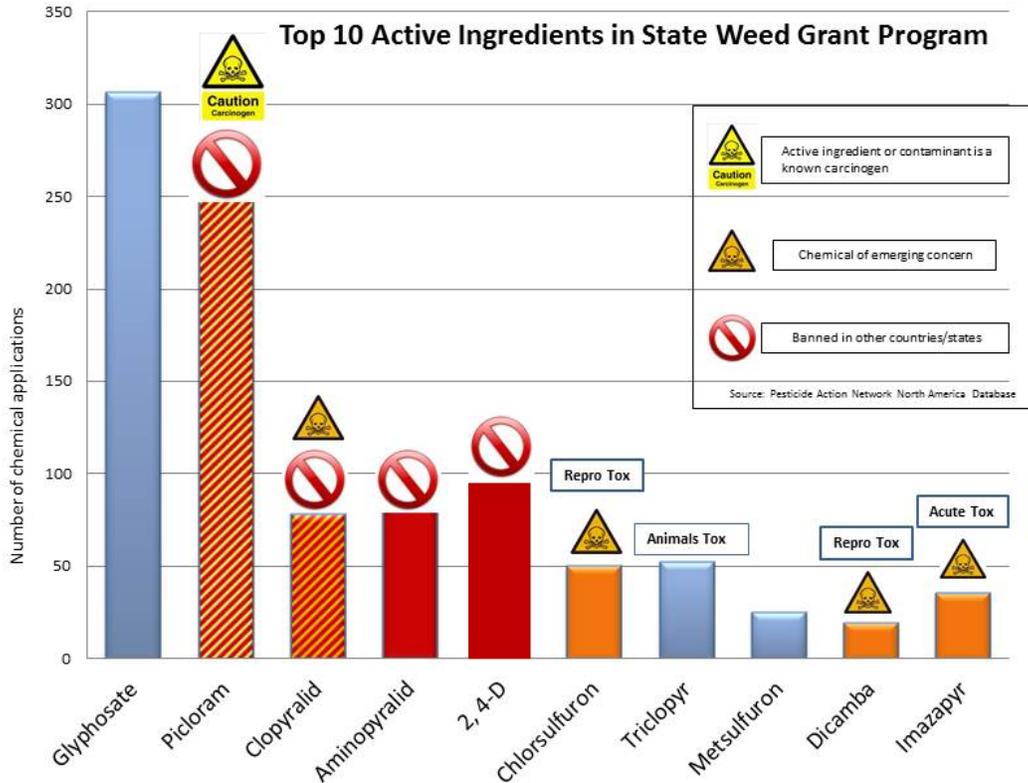
- i. Picloram is highly mobile in water and causes ecosystem damage.
- ii. Picloram is known to easily leach through permeable soils, contaminate ground water, and to persist in the environment.
- iii. Picloram contains the contaminant hexachlorobenzene (HCB), which is classified by the US EPA Agency as a Group B2 probable human carcinogen

- iv. Picloram is banned in California and Sweden and is banned for certain uses in Canada, New York and Washington (particularly for use anywhere near protected ground water).
- v. Picloram can persist in soils for as long as 5 years after use, and is known to contaminate compost and manure, which in turn damages newly planted crops.
- vi. Picloram was used most frequently in Douglas County.
- vii. A 2010 picloram application in Klamath County near La Pine, paid for by public funding, resulted in significant ground water and drinking water contamination. These residents rely on well water for their families. As a result of the use of picloram, some families lost the use of their domestic wells, lost hundreds of mature Ponderosa pine trees, fruit trees and ornamental landscaping, and their family members suffered illness. They have incurred hundreds of thousands of dollars in property damage.
- viii. In the 1990s, both the Environmental Effects Branch and the Environmental Fate and Ground Water Branch of the US Environmental Protection Agency (EPA) recommended that the use of picloram be discontinued. The EPA governing body has not yet followed the recommendation of its staff.

Recommendations

Beyond Toxics makes the following recommendations, based in part on the recommendations made to the House Environment and Water Committee of the Oregon Legislature in a report presented on December 14, 2010:

1. Convene the Interagency IPM Coordinating Committee, and direct the State IPM Coordinator (a funded position at Oregon State University) to provide guidance for semi-annual meetings of the Interagency IPM Coordinating Committee and to develop IPM training and model strategies for state-owned properties;
2. Adopt and implement state policy/practices that measure progress toward reducing pesticides in the environment to protect people who use public facilities, in particular children and pregnant women because of their special vulnerability; to safeguard wildlife populations and endangered species; to protect native and endangered plants; to protect drinking water and ground water, aquatic systems, estuarine and marine environments;
3. Adopt safe pesticide management strategies based on IPM to promote a sustainable, green economy and protect state workers. Incorporate IPM best management practices, reduced toxic alternatives, monitoring and metrics in all invasive species control programs.
4. Insure public oversight by creating two permanent public representative positions on the Interagency IPM Coordinating Committee reserved for environmental protection and environmental justice advocates.
5. Provide legislative oversight by requiring IPM progress reports to the Legislature every 4 years based on verification, monitoring, metrics and analysis.
6. Acknowledge through the legislative process that IPM is progressive and science-based requiring:
 - a. Continuous learning and training, adoption of new ideas
 - b. Continuous innovation, capacity building
 - c. Need to engage and involve stakeholders and incorporate local knowledge
 - d. Communication, elimination of borders and silos, employment of new technologies



Source: Oregon Department of Agriculture

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ⁱ Source: Oregon Department of Agriculture Plant Division Reports 2008, 2009, 2010, 2011.

ⁱⁱ <http://www.oregon.gov/ODA/plant/Pages/index.aspx>

ⁱⁱⁱ Oregon State Constitution Article XV, Section 4(3) accessed at

<http://bluebook.state.or.us/state/constitution/constitution15.htm>

ⁱⁱⁱ <http://www.deq.state.or.us/toxics/docs/2-16-10/DEQFocusList.pdf>

^{iv} The EIQ was devised to compare the environmental impact of different pesticides and pest management programs. Factors such as toxicity (dermal, bird, chronic, bee, fish, beneficial arthropod), soil half-life, systemicity, leaching potential, plant surface half-life, surface loss potential, and farm worker, consumer, and ecological effects are all considered when calculating an EIQ for a particular pesticide. The result is a single number describing the EIQ of a pesticide active ingredient. Accessed on 3/1/2013 at <http://ipmguidelines.org/Turfgrass/Chapters/CH01/default-14.aspx>