

Pesticide Research Institute Legal & Policy Research • Sampling • Data Analysis & Mapping • Technical Writing

Does it Really Matter What Herbicide You Use?

The short answer is YES. Every herbicide has different characteristics, but so do your sites. The question you have to answer is "What is the most appropriate weed-control method for my particular site? Considerations include:

- Is the site near a water body, so that runoff of herbicide is possible?
 - Mobility: Does the herbicde adsorb to soils strongly or weakly?
 - Persistence: How long does it last in the environment?
 - Is the water a drinking water supply?
- Will you be attempting to re-vegetate the site?
 - Persistence: How long does the herbicide last in the environment?
 - Example of Oust applied by BLM for cheatgrass in Idaho
- Are there endangered species (plants or animals) in the area?
 - Toxicity of the herbicide to specific taxa
 - o Exposure potential
- Do people live nearby or visit the site frequently?
 - How might they come in contact with the herbicide you apply?
 - How can you prevent this?
- Will the herbicide be effective for the target plant species?
 - Broadleaf vs grasses
 - Deep-rooted vs. seedlings
 - Aquatic vs. terrestrial
- Are there steps you can take to minimize risks?
 - Application timing to avoid nesting season, breeding season, rainy season
 - Posting treated areas to avoid exposures to the general public
 - o Using mechanical methods of weed removal near water bodies
 - Targeted treatments vs. broadcast treatments
 - Always wearing PPE and taking precautions to avoid applicator exposure

Herbicide Risk Comparisons for BMP Manual

- A comparison of herbicide risks for the primary herbicides used in vegetation management
- Scenarios for applicator exposure, the general public, birds, mammals, fish, aquatic invertebrates, amphibians, aquatic and terrestrial plants.
- Based on the USFS risk assessment methods (developed originally by Syracuse Environmental Research Associates and modified by PRI)

Accidental Exposures (per event) General Handling Exposure (per day worked) Four Two One Exposure Cut-stump Foliar lbs/acre lbs/acre lb/acre Category (5%, 20% or 50% solution) (1%, 2% or 5% solution) applied applied applied Backpack Cut-stump Cut-stump Foliar Cut-stump Exposure Contaminated Gloves **Contaminated Gloves** Worker Worker Worker Worker Scenario 1 min 1 hr 1 min 1 hr 6-8 hrs 6-8 hrs 6-8 hrs 6-8 hrs Time exposed worked worked worked worked worn worn worn worn Probability I/I HP/HP HP/HP HP/HP HP/HP Pr / Pr I/IPr / Pr 100,000 10,000 Hazard Quotient 1,000 100 10 1 **•** 0.19 0.1 0.095 0.080 0.05 0.047 0.025 0.012 • 0.013 0.01 0.0071 0.0035 $\begin{array}{c} 0.0022 \\ 0.0009 \end{array}$ 0.0018 0.001 0.0005 0.0002 9E-05 4E-05 0.0002 0.0001 4E-05 1E-05 0.00001 4E-06 4E-06 0.000001 挋:09 ٠ 0.0000001

0.00000001

Estimated Risks for Workers from Glyphosate Exposures

Estimated Risks for Workers from Triclopyr BEE Exposures



Estimated Risks for Aquatic Wildlife Exposed to Glyphosate vs. Triclopyr-Contaminated Water from Spills to Puddles, Pools, and Woodland Creek

