

BULLETIN: POTENTIAL IMPACT OF GLYPHOSATE HERBICIDES ON AMPHIBIANS

Issue

Potential impacts on amphibians from the use of polyethoxylated tallow amine (POEA)-containing glyphosate herbicides when sprayed over small wetlands and bodies of temporary free-standing water.

Who this concerns

- Pest management professionals developing pest management plans and applying glyphosate herbicide for forestry uses
- Resource management professionals responsible for habitat and wildlife management in areas where glyphosate herbicides are used.

Issue Description

Recent scientific publications have demonstrated lethal and sub-lethal impacts of POEA-containing glyphosate herbicides on amphibians, in concentration that could result from the direct over-spraying of wetlands. These impacts arise primarily from the surfactant, POEA, used in current glyphosate herbicide formulations. The impact of the surfactant is generally presumed to be through disruption of membranes, but exact causal mechanisms are not currently known.

Current forestry practises permit the over-water spraying of glyphosate herbicides on wetlands that are smaller than 25 m² or a body of temporary free standing water if not classified as a wetland. This over-spraying could result in concentrations of glyphosate herbicides and their associated surfactants in concentrations that may be of concern to amphibian health.



Ministry of
Environment

Recommended Actions

Given this recent information, pesticide application professionals should make themselves aware of the potential risk to amphibians, as well as to the abundance and species of amphibians on treatment blocks with wetlands smaller than 25 m² or bodies of temporary free-standing water. This information should be factored into their management decisions to reach objectives while avoiding unreasonable adverse effect to amphibians that may be present.

These wetlands should be surveyed to determine amphibian usage. If amphibian usage is detected in these bodies of water, proponents should consider either delaying the timing of the application until the amphibians have metamorphosed and left the water bodies and/or, where possible, establish buffers around these water bodies to prevent over-spraying and drift into the surface water. If species at risk amphibians are present, ensure that all precautions are used to prevent any harm to them.

Further Information from the Ministry of Environment

Literature review of impacts of glyphosate herbicide on amphibians: What risks can the silviculture use of this herbicide pose for amphibians in B.C.?

<http://www.llbc.leg.bc.ca/public/PubDocs/bcdocs/442206/finishDownloadDocument.pdf>

Species and Ecosystems at Risk webpage

<http://www.env.gov.bc.ca/wld/serisk.htm>

B.C. Frogwatch Program

<http://www.env.gov.bc.ca/wld/frogwatch/>

The Conservation Framework

<http://www.env.gov.bc.ca/conservationframework/>