Cal-IPC POSITION STATEMENT updated 2019.05.20

The Use of Glyphosate for Invasive Plant Management

Cal-IPC Position

Cal-IPC promotes science-based invasive plant management as a vital part of protecting California's biodiversity.

Cal-IPC has a policy stating that herbicides are an important and appropriate tool in the Integrated Pest Management (IPM) toolbox for managing invasive plants. When herbicides are used for strategic invasive plant management in a wildland setting, the applications are typically small and of limited duration. Strategic efforts remove invasive plants that would otherwise spread and require more extensive intervention in the future. Cal-IPC does not take a position on larger-scale ongoing application of herbicides for other uses such as agriculture and landscaping.

Cal-IPC follows the precautionary principle, which applies to both invasive plants and to chemicals introduced into the environment. Our judgment is that applications of approved herbicides for controlling invasive plants pose a significantly lower risk to the wildland environment and people than do the invasive plants, which can severely impact wildlife habitat, fire and flood patterns, and water use.

The best-available scientific information at this time says that the herbicide active ingredient glyphosate, when used for invasive plant management projects in accordance with its label and with appropriate personal protective equipment and best practices, is low-risk for wildlife, applicators and the public.

Some land managers may not be allowed to use glyphosate. We caution that removing tools from the IPM toolbox will result in decreased effectiveness and increased costs, which in turn will result in less conservation unless expenditures are increased.

Background

[See references section at the end of this document for links to key resources mentioned here.]

In 2015, the World Health Organization's International Agency for Research on Cancer (IARC) classified glyphosate, the active ingredient in RoundUp herbicide, as "probably carcinogenic to humans." This category is used when there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals. This category includes a range of substances and activities, including red meat and working the night shift.

IARC classification designates a substance's carcinogenic potential without considering real-world exposure potential. The World Health Organization and the United Nation's Food and Agriculture Organization, in a joint meeting in 2016, concluded that "long-term dietary exposure [to glyphosate]… is unlikely to present a public health concern" and "short-term dietary exposure to glyphosate residues is unlikely to present a risk to consumers."

Other agencies have reached different conclusions from IARC, including the US Environmental Protection Agency (EPA) and the European Food Safety Authority. In its 2016 Issue Paper on glyphosate,

the US EPA concluded that the best descriptor based on the science is that glyphosate is "not likely to be carcinogenic to humans" at doses relevant to human health risk. The September 2016 issue of the journal *Critical Reviews in Toxicology* published comprehensive reviews by expert panels, concluding that glyphosate is "unlikely to pose a carcinogenic risk to humans."

In December 2016, experts convened by the US EPA as a Scientific Advisory Panel to review EPA's earlier Issue Paper were split in their opinion. Some agreed with the US EPA Issue Paper's conclusion that glyphosate is not likely to be carcinogenic to humans, especially at reasonably foreseeable dose-rates, while other panel members thought it would be more accurate to say that there is "suggestive evidence of carcinogenic potential." Panelists noted that crucial data were equivocal, and that additional data on cancer morbidity and/or mortality from studies of glyphosate-exposed workers would be desirable.

In California, the IARC classification triggered the California Office of Environmental Health & Hazard Assessment (OEHHA) to mandate that products containing glyphosate receive a Prop. 65 warning label as a "known carcinogen." This went into effect in 2017. OEHHA has established a "no significant risk level" (NSRL) for glyphosate of 1.1 mg/day based on lifetime dietary exposure tests with rodents, with the results scaled up for humans.

To correlate this NSRL to a typical exposure scenario for a land manager applying glyphosate we can use the US Forest Service's risk assessments and worksheets on pesticide use. For direct foliar spray of glyphosate they estimate a typical exposure of 0.003 mg/day per kg of body weight when using a concentration of 1 lb active ingredient/acre (a standard rate). Using these figures, a 70-kg (155-lb) applicator would be exposed to 0.2 mg/day.

In April 2019, the US EPA proposed an interim registration review decision for glyphosate. They concluded that there is no risk to human health at allowable exposure rates and request public comment.

References

WHO/FAO 2016 Report on Pesticide Residues: https://www.who.int/foodsafety/areas_work/chemical-risks/JMPR_2016_Report_May.pdf?ua=1

OEHHA Notice of Proposed Rulemaking on Regulatory Levels Posing No Significant Risk: https://oehha.ca.gov/proposition-65/crnr/notice-proposed-rulemaking-amendment-section-25705-specific-regulatory-levels

Cal-IPC Policy on Integrated Weed Management: http://www.cal-ipc.org/wp-content/uploads/2017/10/Cal-IPC-Policy-on-IWM.pdf

Cal-IPC Best Management Practices for Wildland Stewardship: Protecting Wildlife When Using Herbicides for Invasive Plant Management: http://www.cal-ipc.org/resources/library/bmp-wildland-stewardship/

Glyphosate-General Fact Sheet. National Pesticide Information Center, Oregon State University. http://npic.orst.edu/factsheets/glyphogen.html

International Agency for Research on Cancer (IARC), Monograph on Glyphosate. 2015. https://www.iarc.fr/featured-news/media-centre-iarc-news-glyphosate/

University of California Weed Research and Information Center, *Weed Control in Natural Areas in the Western United States* (2013).

US EPA, Glyphosate Issue Paper: Evaluation of Carcinogenic Potential, September 12, 2016: https://www.epa.gov/sites/production/files/2016-09/documents/glyphosate_issue_paper_evaluation_of_carcincogenic_potential.pdf

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US EPA, Glyphosate webpage: https://www.epa.gov/ingredients-used-pesticide-products/glyphosate

US EPA, Proposed Interim Registration Decision for Glyphosate Review, April, 2019: https://www.epa.gov/newsreleases/epa-takes-next-step-review-process-herbicide-glyphosate-reaffirms-no-risk-public-health, https://www.epa.gov/ingredients-used-pesticide-products/proposed-interim-registration-review-decision-and-responses-0

US Forest Service, Pesticide-Use Risk Assessment Documents and Worksheets: https://www.fs.fed.us/foresthealth/protecting-forest/integrated-pest-management/pesticide-management/pesticide-risk-assessments.shtml