

Background Information 2020 MAWD Resolution

Proposing District: Riley Purgatory Bluff Creek Watershed District

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Resolution Title: RESOLUTION to ban the use of pesticides and herbicides that are known carcinogens on residential and commercial lawns

Background that led to the submission of this resolution:

Riley Purgatory Bluff Creek Watershed District seeks to address groundwater health challenges through the strategies included in its 2018 10-Year Watershed Management Plan to promote the sustainable management of groundwater resources. The District recognizes that groundwater can be contaminated by fertilizer and pesticide applications, and that surface water and groundwater resources are interdependent. (10-Year Plan, 2.3.6.2, 2-21). While these relationships are challenging to quantify, contaminated water from one source can impact the water quality of the other. The District is focused on prevention of groundwater contamination through best management practices, recognizing that groundwater clean-up, when feasible, is both expensive and complex.

Pesticides and herbicides used on both commercial and residential lawns have been linked to human health problems, and some studies have connected pesticides and herbicides with carcinogenic properties, including promotion of tumors.¹ A variety of pesticide and herbicide products pose health concerns, and some pesticides include known endocrine-disrupting compounds that affect how natural hormones function in the body and interfere with the body's regulation of the endocrine system.²

There are two primary pathways to pesticide and herbicide exposure, both directly and via drinking water through groundwater contamination. Contaminated surface water moving through the soil carries pollutants into groundwater resources, resulting in an underground plume of polluted groundwater that may become unsuitable for drinking water.³ In Minnesota, pesticides shown to disrupt hormone activity have been detected in surface waters.⁴

¹ Dich, J., Zahm, SH, Adami, HO. (1997). Pesticides and Cancer. *Cancer Causes Control*. May; 8(3), 420-43.

² Swackhamer, D. et al. (2010). Understanding Sources of Aquatic Contaminants of Emerging Concern. LCCMR Project Addendum. Available online: https://www.lccmr.leg.mn/documents/peer_review/2010/addendums/subd_5a_swackhamer_v1.pdf.

³ See Joyce Latimer, Mike Goatley, Greg Evanylo, Bonnie Appleton. (2009). Groundwater Quality and the Use of Lawn and Garden Chemicals by Homeowners. Virginia Tech and Virginia State University: Virginia Cooperative Extension. Available online: <https://www.pubs.ext.vt.edu/426/426-059/426-059.html>.

⁴ Swackhamer, D. et al. (2010). Understanding Sources of Aquatic Contaminants of Emerging Concern. LCCMR Project Addendum. Available online: https://www.lccmr.leg.mn/documents/peer_review/2010/addendums/subd_5a_swackhamer_v1.pdf.

Some municipalities in Canada have restricted pesticide use for aesthetic purposes, including on golf courses, due to health effects concerns including the relation between surface-applied pesticide exposure and occurrence of cancer.⁵ A 2006 study reviewing medical literature on herbicide and pesticide exposure notes that “the balance of epidemiological research suggests the 2,4-D [a common herbicide used to kill weeds in grass] can be persuasively linked to cancers, neurological impairment and reproductive problems. These may arise from 2,4-D itself, from breakdown products or dioxin contamination, or from a combination of chemicals.”⁶ The University of Texas MD Anderson Cancer Center also notes that, although evidence is limited, the International Agency for Research on Cancer linked certain herbicides, such as those containing glyphosate (2,4-D) with an increased risk of cancer.⁷ According to the non-profit group Beyond Pesticides, of the 36 most commonly used lawn care pesticides registered prior to 1984, “14 are probable or possible carcinogens, 15 are linked with birth defects, 21 with reproductive defects, 24 with neurotoxicity, 22 with liver or kidney damage, and 3 are sensitizers and/or irritants.”⁸ Additionally, “[a] child in a household using home and garden pesticides is 6.5 times more likely to develop leukemia than in a home that does not.” A 2012 National Institute of Health study of companion animals exposed to lawn care products demonstrated an association between use of specific law care products and a greater risk of canine malignant lymphoma.⁹

Ideas for how this issue could be solved:

We have identified one potential solution:

1. Ban the use of carcinogenic pesticides and herbicides on residential and commercial lawns and encourage adoption of alternatives such as PRFCT lawns.

Anticipated support or opposition from other governmental units?

Minnesota Department of Health lists pesticides as a chemical of special concern to children’s health and many be interested in partnering on legislation. The Minnesota Department of Agriculture offers voluntary turfgrass pesticide use Best Management Practices “to bring awareness to homeowners and lawn care companies on proper and judicious use of pesticides for homeowners, lawn care companies, and golf course managers to help protect water resources, humans, and non-target organisms including pollinators.” These BMPs include using non-chemical pest control methods.

This issue is of importance to (check one):

⁵ Loren D. Knopper & David R.S. Lean. (2010) Carcinogenic and Genotoxic Potential of Turf Pesticides Commonly used on Golf Courses. Journal of Toxicology and Environmental Health, Part B. Vol. 7, 2004: 4, 267-279. Available online: <https://www.tandfonline.com/doi/full/10.1080/10937400490452697?scroll=top&needAccess=true>.

⁶ Meg Sears, C. Robin Walker, Richard HC van der Jagt, Paul Claman. (2006) Pesticide assessment: Protecting public health on the home turf. Pediatrics & Child Health, vol. 11: 4, 229-234. Available online: <https://academic.oup.com/pch/article/11/4/229/2648275>.

⁷ Kellie Bramlet. (2016) Lawn Care and Your Cancer Risk. University of Texas MS Anderson Cancer Center. Available online: <https://www.mdanderson.org/publications/focused-on-health/lawncare-cancer-risk.h26Z1590624.html>.

⁸ Beyond Pesticides. Commonly Asked Wuestions About Chemical Lawn Care. Available online: <https://www.beyondpesticides.org/programs/lawns-and-landscapes/overview/faq-chemical-lawn-care>.

⁹ Takashima-Uebelhoer BB, Barber LG, Zagarins SE, Procter-Gray E, Gollenberg AL, Moore AS, Bertone-Johnson ER. (2012) Household chemical exposures and the risk of canine malignant lymphoma, a model for non-Hodgkin’s lymphoma. 112:171-176. Available online: <https://www.ncbi.nlm.nih.gov/pubmed/22222006>.

The entire state	X
Only our region	
Only our district	

**Resolution to Ban the Use of Pesticides and Herbicides that are Known Carcinogens on
Residential and Commercial Lawns**

Whereas watershed districts engage in conserving the state's natural resources "by land use planning, flood control, and other conservation projects by using sound scientific principles for the protection of the public health and welfare and the provident use of the natural resources." Minn. Stat. 103D.201, subd. 1;

Whereas human and environmental health concerns arise from the use of health harming and potentially carcinogenic pesticides and herbicides on commercial and residential lawns because surface application exposes humans and animals to potential carcinogens, and surface water carries pesticide and herbicide pollution through soil and into groundwater sources that can affect drinking water and environmental health;

Whereas eliminating the use of specific pesticides and herbicides on lawns will reduce surface interaction with these health-harming, potential carcinogens, and limit their entry into groundwater;

Whereas the Minnesota Department of Health lists pesticides as a chemical of special concern to children's and the Minnesota Department of Agriculture promotes turfgrass pesticide use BMPs including using non-chemical pest controls;

Therefore, be it resolved that the Minnesota Association of Watershed Districts will seek legislation in partnership with the Minnesota Department of Health and Minnesota Department of Agriculture to achieve the following:

- a) Ban the use of carcinogenic pesticides and herbicides on residential and commercial lawns.