## Alternatives to the Use of Roundup and Glyphosate containing products for Weed Control

May 30, 2017, Diane Emerson, Michael Laurie, mlaurie@mindspring.com, 206-406-7153

Reasons to avoid	Source of Information
	Source of initiation
Roundup/Glyphosate	
It probably causes cancer in	World Health Organization,
humans	https://www.scientificamerican.com/article/
	widely-used-herbicide-linked-to-cancer/
Endocrine disrupter,	Web site of Beyond Pesticides,
reproductive effects, kidney	http://www.beyondpesticides.org/
and liver damage,	/assets/media/documents/
sensitizer/irritant	Health%20Effects%2030%20Lawn%20Pesticides.pdf
High human toxicity hazard,	Public Health and Social Services web site of
moderate bird and aquatic	Thurston County, Washington,
toxicity	http://www.co.thurston.wa.us/health/
	ehipm/terrestrialreview.html
Glyphosate enhances the	Scientists Anthony Samsel and Stephanie Seneff,
damaging	in an article in the science journal
effects of other food borne	Entropy, April 18, 2013,
chemical residues and	http://www.mdpi.com/1099-4300/15/4/1416
environmental toxins in	
humans. Consequences are most	
of the diseases and conditions	
associated with a Western diet,	
which include gastrointestinal	
disorders, obesity, diabetes, heart	
disease, depression, autism,	
infertility, cancer and Alzheimer's	
disease.	
Toxic to frogs	Scientists R. M. Mann and J. R. Bidwell in the Archives of
	Environmental Contamination and Toxicology, 1999,
	https://link.springer.com/article/10.1007/s002449900460
Moderate to highly toxic to	Ministry of Environment, British Columbia, June 2008
amphibians	http://a100.gov.bc.ca/pub/eirs/finishDownloadDocument.
	do;jsessionid=XZKgZtvRfHMH04L1szxDgppj1Pv8Lp6wl5X1h
	P59vZ0rnJ19h01Q!1516634674?subdocumentId=4840

Methods and	Products to Avoid
Products to Use	
Black Plastic – double layer laid over gravel driveways for a couple of weeks in spring or summer	Green Thumb Weed and Grass Killer RTU
<b>Boiling Water</b> poured on weeds in sidewalk cracks. Best if a hot sunny day.	Ortho Ground Clear Vegetation Killer Concentrate
Concern® Weed Prevention Plus®* (Corn Gluten Meal). Use BEFORE weed seeds sprout, to prevent them from sprouting	Ortho Ground Clear Vegetation Killer RTU
Flame Weeders for patios, paths, and emerging weeds prior to planting your veggies. Best when weeds are well watered, not wilted.	Hi-Yield Kill-Zall II Weed & Grass Killer Concentrate
<b>Goats and Sheep</b> can be hired to eat blackberries, ivy, holly, etc.	Hi-Yield Kill-Zall II Weed & Grass Killer RTU
Grow a Multi-Layered garden which will shade out some weeds	Roundup Extended Control Weed & Grass Killer Plus Weed Preventer Concentrate
Hand Weeding tools. Have salesperson show you their latest and most effective; long handled hori-hori, etc.	Roundup Extended Control Weed & Grass Killer Plus Weed Preventer II
Hire Teenagers to hand weed	Roundup Max Control 365 Concentrate
<b>Mulch:</b> Bark, wood chips, other mulch	Roundup Max Control 365 RTU
Preen® Organic Vegetable Garden Weed Preventer (Corn Gluten Meal) Use BEFORE weed seeds sprout, to prevent them from sprouting	Roundup Weed & Grass Killer Concentrate Plus
Vinegar Spray, 20% or more acetic acid, on seedlings and new growth, please use eye protection.	Roundup Weed & Grass Killer III RTU
Water deeply but infrequently, if your soil is at least 4 inches deep	Roundup Weed & Grass Killer Super Concentrate
Water with drip irrigation to stop watering weeds	Roundup Wild Blackberry Plus Vine & Brush Killer Concentrate Roundup Wild Blackberry Plus Vine & Brush Killer
	RTU Winfield Cornerstone Plus Herbicide

For more information on safe pesticides, see <a href="http://gardengreen.webs.com/">http://gardengreen.webs.com/</a>