April 21, 2014

Dear Dr. Anderson,

Catherine Verrall and I appreciate your taking time to answer our letter of Sept. 5, 2013. However, we disagree with your reasons for persisting in “active weed control”.

You may find it interesting to know that public spaces in much of eastern Canada are maintained with chemical pesticide-free methods, including the Parliament buildings in Ottawa. It is a joy for me to feel safe in walking on lawns on the Plains of Abraham or many of the beautiful parks and gardens in Quebec City, Montreal, Ottawa or London, Ontario. There are many very successful ‘organic’ lawn care companies in provinces and municipalities that have passed pesticide laws or bylaws.

 Apparently, the City of Regina playing fields have been maintained without use of chemical herbicide or insecticide for many years, through more attention on maintaining healthy turf, including the use of aeration. On March 7, 2013, the City of Regina Public Works Committeeapproved capital expenses to help the city of Regina maintain one half of their parks with no herbicides. Perhaps it already does, or soon will extend to the grounds of Government House.

The world is moving on towards responsible stewardship, and it will be wonderful when Luther College, as a respected religious and educational institution, would join the movement.

You mention weed tangles being a danger to athletes. For a long time weed tangles, or rather slipping on weeds causing injury, have been one the list of pesticide industry’s propaganda justification for spraying. However, I understand that no research has been able to find any actual case of injury due to slipping on weeds. (6) Although the risk cannot be much lower than zero, regularly mowing should take care of any worries left.

I got interested in the issue of pesticides 28 years ago, when I became chemically sensitive after several large exposures to chemicals, including several pesticide exposures. I became so sensitive to pesticides that even driving by a lawn sprayed with herbicides during the previous 2 weeks would cause severe symptoms including sensory paralysis, extreme loss of weight, inability to keep food in, neuropathy and dyslexia among other symptoms. I was close to death on many occasions. This has led me to research scientific research on pesticides and their health and environmental costs, then to the foundation of the Saskatchewan Network for Alternatives to Pesticides (SNAP), a Saskatchewan registered non-profit, with

I would like to deal with the scientific reasons that make herbicides a bad choice.

The research on which pesticide registration is based is called regulatory science, and done by pesticide companies. Dr Meg Sears, CCHE and I, as well as others have reviewed the PMRA’s re-evaluation of 2,4-D and found it inadequate.(1) Some of the main points are as follows:

1. The tests mandated for pesticide registration have not changed since 1984 in spite of many scientific advances.
2. For instance, the PMRA still does not mandate tests for endocrine disruption, in spite of the fact 2,4-D mimics a hormone. Their pesticide evaluations are based on the “*the dose makes the poison*”, the process described in the 2008 re-evaluation note (2) you sent. This concept is widely put in question now that “*there is universal consensus that endocrine effects are caused by chemicals at concentrations normally found in the environment.*” (3) Because “The effects of low doses cannot be predicted by the effects observed at high doses", the reality of endocrine disruption and the proportion of tested chemicals producing these effects puts into question the current regulatory approach based on the belief that 'the dose makes the poison'. (3)
3. The PMRA does not recognize low dose effects and has not updated their evaluation process. As illustrated in 2008 re-evaluation note you sent (2), the only approach they know of dealing with increased risk is by reducing exposure, which point 2 above makes totally irrelevant and inadequate for evaluating safety.
4. There were many more questions about the choice and validity of studies considered in, and those excluded from the re-evaluation, and how they have been performed.

Should we accept the validity of the PMRA decision process, there remains many questions:

1. *2,4-D* formulations are also the largest source of *2,7-DCDD* (the unregulated dioxin that comes with *2,4-D*). (7)
2. *2,4-D* formulations for turf still widely contain untested ***Diethanolamine*** *salt* (*DEA*) of *2,4-D,* known to be more toxic. (3,1) in spite of The 2008 main 2,4-D re-evaluation document (5) stating “*‘Registrants’ sales of all products containing the DEA form of 2,4-D have already been discontinued*”(5), *DEA* was explicitly excluded from the 2005 re-evaluation because no toxicity studies had been submitted, with the comment that further reductions in frequency and concentration of use, and increased buffer zones may come into effect when the DEA studies would finally be submitted. The 2008 2,4-D information note you sent still mentions that DEA still suffers from “a lack of adequate data for assessment.”(2)
3. The re-evaluation brought a decrease in use frequency, concentration used and an increase in buffer zones which still does not account for the presence of DEA in turf formulations.
4. When the government decideson reductions in use and/or increased buffer zones, it takes several years before these regulations are protective of the public. The label of a pesticide is the legal document describing how to use the product. Anyone with a bag previously purchased can legally follow the previous instructions which are no longer protective.
5. *2,4-D* for lawn care is used in formulation with *mecoprop* and *dicamba,* and is described in the *2,4-D* re-evaluation as ‘*synergistic’* with those herbicides. However, there are no government requirements to provide studies on health effects of mixtures. No such studies have been submitted by industry, and few independent studies performed.
6. The PMRA value assessments do not consider alternative management approaches to a problem, just comparisons with available other chemicals with similar mechanisms. *2,4-D* is therefore considered essential by this thinking; and value trumps health issues any time with the PMRA, as well as in our society.
7. At least two of the toxicology experts sitting on the ‘*Independent Science Advisory Panel*’ to review *2,4-D* were not independent scientists, but own a testing laboratory doing ‘regulatory science’ at University of Guelph. They are also widely known as spokespeople for CropLife Canada, the pesticide industry umbrella organization. Hardly an objective panel.
8. These are only the main points. The revolving door between the pesticide industry and the PMRA is also well known.

On the positive side, natural lawn care methods are being used and described by many lawn care practitioners. They are widely and successfully used on lawns up to several acres in size in the US and Canada. Natural lawn care methods are also being taught.

An Overview of natural lawn care methods can be found on the program page of the Saskatchewan Network for Alternatives to Pesticides site: *Organic Land Care Training for Municipal Officials or Transitioning Landscapers (*8), a class I developed for the Green Trades conference in November 2010. In Massachusetts, Chip Osborne has turned around weed-covered playing fields strictly with good turf management in 3 years. Paul Tukey wrote the Organic Lawn Care Manual, an excellent reference available at the Regina Public Library. His site, [http://Safelawns.org](http://safelawns.org/), is excellent. This training also links to up to date resources, suggests testing laboratories, an effective natural fertilizer, as well as cost comparisons. (The references to steam weeding and organic landscape alliance need to be updated though.)

Common herbicides used on lawns.

In conclusion, please consider that I have first hand experience with the health effects of pesticides, including the herbicides commonly used on lawns. The re-evaluation of *2,4-D* on which you base your decision is faulty because the process the PMRA uses is now found to be outdated and widely put in question because “The effects of low doses cannot be predicted by the effects observed at high doses". Furthermore, natural turf health management methods are widely used and successful in maintaining healthy low weed concentration turf.

We hope that Luther College will give a try to alternative turf management with the understanding that it may take a few years to build turf health.

I would be delighted to further talk with you and the appropriate staff about this issue.

Sincerely,

Paule Hjertaas,

President and spokesperson for The Saskatchewan Network for Alternatives to Pesticides.

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References

1. <http://www.snapinfo.ca/issues/24-d>
2. <http://www.hc-sc.gc.ca/cps-spc/pubs/pest/_fact-fiche/24d/index-eng.php> for on-line version
3. <http://www.snapinfo.ca/info/health/endocrine-disruption>
4. PMRA label search done on April 17, 2014
5. [http://www.24d.org/governmentreviews/CANADA-PMRA-RVD-2008-11-May-2008.pdf top of p.7](http://www.24d.org/governmentreviews/CANADA-PMRA-RVD-2008-11-May-2008.pdf%20top%20of%20p.7)
6. [It's All About Healthy Sports Fields!](http://www.flora.org/healthyottawa/fs-1.htm) <http://www.flora.org/healthyottawa/fs-1.htm>
7. [PMRA premature in re-registering 2,4-D](http://tinyurl.com/6yv4hn)
8. <http://www.snapinfo.ca/programs/programs>