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Sent: Monday, October 21, 2019 3:37 AM
To: Parks, Linda; Supervisor Huber; Long, Kelly; Zaragoza, John; Bennett, Steve; ClerkoftheBoard, ClerkoftheBoard
Subject: Comment on Glyphosate

October 21, 2019

Dear Ventura County Supervisors,

The Report that County agencies use 1,830 gallons of glyphosate per year on 4,368 acres of County land is a concern. Finding that some agencies use none and some report using a great deal suggests that it is time for action to reduce or eliminate its use. LA County and many other jurisdictions not using Roundup or chemical herbicides is reason in itself to examine all uses. In this comment we cover the topics of external costs to the environment, failing efficacy due to resistance, and ignorance of risk from exposure.

The correlations about chronic disease and infertility from high levels of Roundup in the food and water supply for livestock and people are extremely disturbing and would involve much more extensive comment not directly related to the problem of use on the county's public land.

Impact of Roundup on the Environment

Roundup and related chemical herbicides function as broad-spectrum **antibiotics, chelating agents, and metabolic poisons** that have common, fundamental devastating effects throughout the food chain. Here are some of those impacts:

1. Roundup kills bacteria in and around all living organisms above and below ground when present at levels of approximately two teaspoons per acre.
2. Roundup kills beneficial fungi in the soil, which then selects for primary colonizer weeds that are harder to control.
3. Roundup kills beneficial endophytes in plants that protect plants against diseases.
4. Roundup ties up essential plant nutrients like zinc and manganese making plants prone to disease. A pertinent example is the many-fold increase in tree susceptibility to fusarium dieback vectored by shothole borers and citrus greening (HLB).
5. Roundup harms biochemical interactions that are essential for soil fertility, nitrogen fixation, carbon sequestration, and water infiltration. Land management for water infiltration is necessary to support vegetation as the prerequisite to carbon drawdown. There can be a more than four-fold increase in soil carbon in landscapes when 25 different plant species are interacting in an ecosystem compared with five species living together. Such recent discoveries present the opportunity to retrain our aesthetic values and set goals to create biodiverse landscape ecosystems. Some plants regarded as 'weeds' are part of a soil-building succession toward optimum water and carbon holding. Designing and implementing landscape installations for diversity includes designing most of the noxious weeds out of the system. Invading species of weeds characterize disturbed ecosystems, often because it is bare dirt, compacted, too much sand or clay. Rather than repeated use of herbicides to kill all of the soil indicators, it is more cost-effective in the long run to re-establish diversity and health to the ecosystem.

6. Roundup kills above ground habitat for pollinators, beneficial organisms, birds and small mammals. There are feed-through effects of Roundup on the predators we are striving to protect including in the Wildlife Corridors. Eating animals that ate Roundup may disrupt immune system function and cause cancer and infertility. Roadside spraying is of particular concern for the wildlife food chain. Climate mitigation, adaptation, and ecosystem benefits are goals that should attract volunteers for ecosystem restoration work. There is an urgent need to restore habitat for declining birds and insects.

Weed Resistance to Roundup

Weeds turn into super-weeds through repeated applications of Roundup. Fourteen weeds are resistant to Roundup now, and the problem gets worse each year. In Ventura County applicators on conservation land report resistance in arundo, mare's tail and purslane. There are reports that daubing cut arundo can cause part of the stub to die, but one side of the plant may branch out and resistant rhizomes remain intact. Mare's tail can become taller from being sprayed.

A cost-benefit analysis should compare the approach of non-toxic removal, followed by design and implementation of vegetation that maximizes ecosystem benefits. Well designed diverse landscapes have maintenance costs in the first two to four years and then become very low maintenance contrasted with continuing reliance on herbicides. The cost of repeated application of Roundup can be a waste of money, buying continuously reduced effectiveness and delaying sustainably designed landscapes.

Risks to Applicators

Bayer (previously Monsanto) says that Roundup is safe. The US EPA says that Roundup is safe when used according to the label without mentioning known carcinogenic and other health effects. Court evidence shows that EPA scientists knew about lab reports falsified by Monsanto to hide these negative effects. The EPA has been lying. California lists glyphosate as a carcinogen. The additives in Roundup result in 10 to 100 times more toxicity depending on the target organism. This information is not on the product label. The Ventura County Agriculture Commission repeatedly states that Roundup is safe when used according to the label even though it is not true. The California Invasive Plant Council states that "extensive research shows no significant health risks". Their meetings are sponsored by Monsanto, Dow and Dupont where their products are promoted. The fact that Long Beach Airport reports expectation of an indemnity from Bayer to protect against harms caused by Roundup illustrates that the liability is real and that the label is suspiciously incomplete.

Juries are awarding victims of non-Hodgkin lymphoma millions in punitive damages because of the incredible amount of evidence of willful cover-up of studies proving the risk of cancer and other harms. Some Pest Control Advisers continue recommending it, but do they assure appropriate training including about the risks that are not on the label? We hear that contract applicators have been observed not providing the protective gear required on the label. Training is necessary for how to pour the 9 to 18 ounces per tank into a measuring cup from a 2.5 gallon jug without spilling. It is hard work applying the average two backpacks in a day while also being careful of air direction and only applying on target plants.

We have recently heard of coworkers making fun of others who express concern about spilling on their bare skin. Training needs to be revised to make sure everyone knows that Roundup is in a more toxic class than the current label indicates, including how quickly it travels through the body from exposure on bare skin. A culture of ignorance, bravado, lies, and peer pressure characterizes the entire chain of accountability from the manufacturer to the end users.

We recommend that the county revive the Integrated Pest Management Committee and hold workshops for in-house, contract and community Pest Control Advisers. There should be public input during the committee meetings about development of policies and procedures with a focus on alternatives and particular training about how to design weeds out of the systems where Roundup is used and to optimize valuable climate mitigation, adaptation, and ecosystem benefits.

Sincerely,
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and
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