

To: Senate Natural Resources and Energy

From: Representative Amy Sheldon

Date: April 8, 2015

RE: Healthy Soils

Soil is a living system, and healthy soils should look, smell, and feel alive. Healthy soil can increase production, increase profits and protect natural resources, such as air and water. An unhealthy, poorly functioning soil appears lighter in color, is compacted or has poor structure, and contains limited roots and living things.

Increase production: Healthy soils typically have more organic matter and soil organisms which improve soils structure, aeration, water retention, drainage and nutrient availability. Organic matter holds more nutrients in the soil until the plants need them.

Increased profits: Healthy soils may require fewer passes over fields because they are only minimally tilled and they aren't over-reliant upon excessive nutrient inputs to grow crops. Healthy soils can increase farmer's profit margins by reducing labor and expenses for fuel, fertilizer and pesticides.

Natural Resource Protection: Healthy soils hold more available water. The soil's water-holding capacity reduces runoff that can cause flooding, and increases the availability of water to plants during droughts. Good infiltration and less need for fertilizers and pesticides keep nutrients and sediment from loading into lakes, river and streams. Groundwater is also protected because there is less leaching from healthy soils. Additionally, fewer trips across fields with farm machinery mean fewer emissions and better air quality.

The above information is excerpted from the Vermont NRCS web page handouts on soils – found at the bottom of this page: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/vt/soils/health/>

In short, healthy soils are:

1. Less prone to erosion
2. Store more water
3. Require less fertilizer

Attached is some draft language for you to consider inserting into S49.

1. Soil Health Standard under Required Agricultural Practices—6 V.S.A. § 4810a

(a) On or before July 1, 2016, the Secretary of Agriculture, Food, and Markets shall amend by rule the required agricultural practices in order to improve water quality in the State, assure practices on all farms eliminate adverse impacts to water quality, and implement the small farm certification program required by section 4858a of this title. At a minimum, the amendments to the required agricultural practices shall:

* * *

(11) Establish standards for improving and managing healthy soils in order to improve the capacity of soil to retain water, improve flood resiliency, reduce sedimentation, reduce reliance on fertilizers and pesticides, and prevent agricultural stormwater runoff;

2. Soil Amendment Best Management Practices for Stormwater Control—10 V.S.A. § 1264

(f) Rulemaking. The Secretary shall adopt rules to manage regulated stormwater runoff. At a minimum, the rules shall:

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(12) Establish best management practices for improving healthy soils in order to improve the capacity of soil to retain water, improve flood resiliency, reduce sedimentation, and prevent stormwater runoff;

3. Definition of Healthy Soil

A. Section 30: Stormwater: 10 V.S.A. § 1264(b)

(b) Definitions. As used in this section:

* * *

(8) “Healthy soil” means soil that has a well-developed, porous structure, is chemically balanced, supports diverse microbial communities, and has abundant organic matter.

B. Section 2: Agricultural Water Quality Definitions 6 V.S.A. § 4802.

§ 4802. ~~DEFINITION~~ DEFINITIONS

~~For purposes of As used in this chapter, the word “secretary,” when used by itself, means the secretary of agriculture, food and markets;~~

(3) “Healthy soil” means soil that has a well-developed, porous structure, is chemically balanced, supports diverse microbial communities, and has abundant organic matter.