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H.798

Introduced by Representatives Webb of Shelburne, Anthony of Barre City,
Austin of Colchester, Brumsted of Shelburne, Burke of
Brattleboro, Cina of Burlington, Coffey of Guilford, Conlon of
Cornwall, Demrow of Corinth, Dolan of Waitsfield, Hooper of
Randolph, Jerome of Brandon, Killacky of South Burlington,
LaLonde of South Burlington, Lanpher of Vergennes,
McCullough of Williston, Ode of Burlington, Ralph of
Hartland, Scheu of Middlebury, Sullivan of Burlington, Till of
Jericho, Toleno of Brattleboro, Townsend of South Burlington,
Walz of Barre City, and Yantachka of Charlotte

Referred to Committee on

Date:

Subject: Agriculture; forestry; biochar; water quality; agricultural waste
storage

Statement of purpose of bill as introduced: This bill proposes to authorize the
use of biochar in agricultural waste storage facilities for the purposes of odor
control and nutrient retention. The bill also requires the Secretary of
Agriculture, Food and Markets to submit to the General Assembly a report
recommending additional uses of biochar in farming in Vermont. Similarly,
the bill would require the Commissioner of Forests, Parks and Recreation to

1 report to the General Assembly regarding the feasibility of establishing or
2 enhancing the production of biochar in the State.

3 An act relating to the use of biochar

4 It is hereby enacted by the General Assembly of the State of Vermont:

5 Sec. 1. FINDINGS

6 The General Assembly finds that:

7 (1) Biochar is a carbon-rich solid produced by the thermochemical
8 conversion of organic matter through a process called pyrolysis.

9 (2) The production and use of biochar can have a significant, positive
10 impact in the areas of energy, agriculture, and the environment.

11 (3) Biochar has been shown to increase soil fertility by improving
12 nutrient and water retention, lowering density, and increasing microbial
13 activity, thereby improving water quality by reducing soil erosion and nutrient
14 runoff.

15 (4) The use of biochar in liquid manure or bedded pack effectively binds
16 ammonium and ammonia, thereby increasing the plant-available nitrogen when
17 spread on fields, along with a significant decrease in or elimination of odor.

18 (5) The addition of biochar to bedded pack and liquid manure has been
19 shown to reduce emissions of methane and nitrous oxide, both potent
20 greenhouse gases.

1 (6) Biochar can be produced from many forms of organic matter
2 including: whole trees, residual forest materials, wood chips, wheat straw,
3 spoiled hay, food processing waste, demolition waste, sewage sludge, invasive
4 species, and many other forms of agricultural and municipal waste.

5 (7) The production of biochar could enhance rural economic
6 development and employment, including providing a market for low-grade
7 wood harvested in Vermont.

8 (8) To fully realize the soil health and odor control benefits of the use of
9 biochar in agriculture, the State should authorize the addition of biochar to
10 agricultural waste storage facilities and the use of biochar as a soil amendment.

11 (9) To determine the feasibility of biochar production in the State as a
12 potential contributor to rural economic development, the State should require
13 the Commissioner of Forests, Parks and Recreation to analyze the feasibility of
14 establishing a biochar production facility or industry in Vermont.

15 (10) To better understand all of the potential uses of biochar in
16 agriculture, the State should require the Secretary of Agriculture, Food and
17 Markets to recommend additional beneficial uses of biochar for farming in
18 Vermont.

19 Sec. 2. 6 V.S.A. § 4802 is amended to read:

20 § 4802. DEFINITIONS

21 As used in this chapter:

1 (1) “Agency” means the Agency of Agriculture, Food and Markets.

2 (2) “Farming” has the same meaning as used in 10 V.S.A. § 6001(22).

3 * * *

4 (5) “Manure” means livestock waste in solid or liquid form that may
5 also contain bedding, spilled feed, water, or soil.

6 (6) “Secretary” means the Secretary of Agriculture, Food and Markets.

7 * * *

8 (8) “Waste” or “agricultural waste” means material originating or
9 emanating from a farm that is determined by the Secretary or the Secretary of
10 Natural Resources to be harmful to the waters of the State, including:
11 sediments; minerals, including heavy metals; plant nutrients; pesticides;
12 organic wastes, including livestock waste, animal mortalities, compost, feed
13 and crop debris; waste oils; pathogenic bacteria and viruses; thermal pollution;
14 silage runoff; untreated milk house waste; and any other farm waste as the term
15 “waste” is defined in 10 V.S.A. § 1251(12).

16 * * *

17 (10) “Biochar” means material derived from thermochemical conversion
18 of biomass in an oxygen-limited environment containing at least 60 percent
19 carbon.

1 Sec. 3. 6 V.S.A. § 4815 is amended to read:

2 § 4815. WASTE STORAGE FACILITY

3 (a) No person shall construct a new waste storage facility or expand or
4 modify a waste storage facility in existence on July 1, 2006 unless the facility
5 meets the standard established for such facilities by the Natural Resources
6 Conservation Service of the U.S. Department of Agriculture or an equivalent
7 standard. If an equivalent design standard is used, the design and construction
8 shall be certified by the Secretary of Agriculture, Food and Markets or a
9 licensed professional engineer operating within the scope of his or her
10 expertise.

11 * * *

12 (c) As used in this section, “waste storage facility” means an impoundment
13 made for the purpose of storing agricultural waste by constructing an
14 embankment, excavating a pit or dugout, fabricating an inground and
15 aboveground structure, or any combination thereof.

16 (d) Biochar may be added to a waste storage facility for the purposes of
17 odor control of agricultural waste in the facility or for the purposes of
18 increasing nutrient retention of agricultural waste applied to fields.

19 Sec. 4. AGENCY OF AGRICULTURE, FOOD AND MARKETS; REPORT
20 ON USE OF BIOCHAR IN FARMING

21 (a) As used in this section:

1 (1) “Biochar” means material derived from thermochemical conversion
2 of biomass in an oxygen-limited environment containing at least 60 percent
3 carbon.

4 (2) “Farming” has the same meaning as in 10 V.S.A. § 6001(22).

5 (b) On or before January 15, 2021, the Secretary of Agriculture, Food and
6 Markets shall submit to the House Committee on Agriculture and Forestry and
7 the Senate Committee on Forestry a report recommending additional uses of
8 biochar in farming in Vermont. The report shall address:

9 (1) how biochar may be used as a soil amendment to improve soil
10 health, retain carbon, or reduce nutrient runoff;

11 (2) how biochar may be used in the preparation or production of fuel or
12 power from agricultural products or wastes;

13 (3) how biochar may be used as commercial feed in the State, including
14 any legislative or regulatory amendments necessary to use biochar as
15 commercial feed; and

16 (4) any other recommendation that the Secretary deems relevant
17 regarding the use of biochar in farming in Vermont.

18 Sec. 5. COMMISSIONER OF FORESTS, PARKS AND RECREATION;

19 REPORT ON BIOCHAR PRODUCTION IN THE STATE

20 (a) On or before January 15, 2021, the Commissioner of Forests, Parks and
21 Recreation shall submit to the House Committee on Agriculture and Forestry

1 and the Senate Committee on Agriculture a report analyzing the feasibility of
2 establishing or enhancing the production of biochar in the State. The report
3 shall:

4 (1) summarize existing biochar production in the State;

5 (2) summarize the biochar production process, including the equipment
6 necessary, production process, wood supply required, and the amount of land
7 needed for production;

8 (3) summarize the existing State and regional markets for the use of
9 biochar, including any recommendations for expanding State and regional
10 markets for biochar;

11 (4) analyze whether wood products harvested in Vermont, including soft
12 woods, are currently being used in biochar production; and

13 (5) recommend whether or not the State should enhance or incent the
14 development of a biochar production facility or industry in Vermont.

15 (b) "Biochar" means material derived from thermochemical conversion of
16 biomass in an oxygen-limited environment containing at least 60 percent
17 carbon.

18 Sec. 6. EFFECTIVE DATE

19 This act shall take effect on passage.