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Memo

To: _____
From: Katharine Hinson, President/Science, SymSoil, Inc
CC: Peter Hirst, Elizabeth Pearce
Date: June 25, 2018
Re: Materials used in SymSoil™ manufacturing

PROPRIETARY AND CONFIDENTIAL INFORMATION

At the end of this memo is full text of §205.203 the Organic Production and Handling Requirement for the **National Organic Program (NOP)**. This is the section of the regulations which relates to **Soil fertility and crop nutrient management practice standards**. Bottom line is that the 205.203 soil standards, specifically 203(c) Compost, apply this situation and Sym Soil can meet these standards.

SymSoil uses no materials which are synthetic nor prohibited by NOP in our compost.

The recipe is confidential, and the amounts are adjusted as the materials go through their thermophilic composting process. This memo covers information which is a significant to the company's current intellectual property.

SymSoil is a combination of commercially available compost and an inoculum based upon indigenous microbes, which we have cultivated. Our Mother Culture compost is manufactured using a thermo composting process near Watsonville and Guerneville.

The following is a list of all raw materials used in the mother culture or the inoculum:

- Duck manure
- Cow manure
- Horse manure
- Chicken manure
- Goat manure
- Alpaca manure
- Alfalfa hay
- Timothy hay
- Wheat straw
- Spent brewery grains
- Wheat bran
- Rice bran
- Alfalfa meal*
- Fish meal*
- Oyster shell*
- Fir wood chips
- Blood meal*
- Nettle leaf

- Rice straw
- Grape pomace
- Coffee grounds
- Fish Powder (Down to Earth Brand)*
- Organic Gem Fish Hydroslate*
- Fish Powder (Down to Earth Brand)*
- Alfalfa Meal (Down to Earth Brand)*
- Soybean Meal (Down to Earth Brand)*
- Corn Meal
- Oat Flour
- Yucca Extract
- Worm castings
- Alfalfa meal*
- Santa Ynez wood shavings
- Redwood litter
- Insect Frass
- Kelp Meal*
- Crab Meal*
- Insect Frass
- Nutritional Yeast (Starwest Botanicals)
- Ground Nettle (Starwest Botanicals)
- Ground Comfrey (Starwest Botanicals)
- Terrafresco Worm Castings
- Organic blackstrap molasses
- Alaskan Humus (Denali Gold)
- KIS Organics Fungal Compost
- Kelp meal*

*OMRI CERTIFIED

This is combined with Jepson Prairie, Recology's OMRI certified compost and a biochar sourced from Oregon Biochar Solutions. These were blended in Vacaville by Recology.

§205.203 Soil fertility and crop nutrient management practice standard.

(a) The producer must select and implement tillage and cultivation practices that maintain or improve the physical, chemical, and biological condition of soil and minimize soil erosion.

(b) The producer must manage crop nutrients and soil fertility through rotations, cover crops, and the application of plant and animal materials.

(c) The producer must manage plant and animal materials to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances. Animal and plant materials include:

(1) Raw animal manure, which must be composted unless it is:

(i) Applied to land used for a crop not intended for human consumption;

(ii) Incorporated into the soil not less than 120 days prior to the harvest of a product whose edible portion has direct contact with the soil surface or soil particles; or

(iii) Incorporated into the soil not less than 90 days prior to the harvest of a product whose edible portion does not have direct contact with the soil surface or soil particles;

(2) Composted plant and animal materials produced through a process that:

(i) Established an initial C:N ratio of between 25:1 and 40:1; and

(ii) Maintained a temperature of between 131 °F and 170 °F for 3 days using an in-vessel or static aerated pile system; or

(iii) Maintained a temperature of between 131 °F and 170 °F for 15 days using a windrow composting system, during which period, the materials must be turned a minimum of five times.

(3) Uncomposted plant materials.

(d) A producer may manage crop nutrients and soil fertility to maintain or improve soil organic matter content in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients, pathogenic organisms, heavy metals, or residues of prohibited substances by applying:

(1) A crop nutrient or soil amendment included on the National List of synthetic substances allowed for use in organic crop production;

(2) A mined substance of low solubility;

(3) A mined substance of high solubility: *Provided*, That, the substance is used in compliance with the conditions established on the National List of nonsynthetic materials prohibited for crop production;

(4) Ash obtained from the burning of a plant or animal material, except as prohibited in paragraph (e) of this section: *Provided*, That, the material burned has not been treated or combined with a prohibited substance or the ash is not included on the National List of nonsynthetic substances prohibited for use in organic crop production; and

(5) A plant or animal material that has been chemically altered by a manufacturing process: *Provided*, That, the material is included on the National List of synthetic substances allowed for use in organic crop production established in §205.601.

(e) The producer must not use:

(1) Any fertilizer or composted plant and animal material that contains a synthetic substance not included on the National List of synthetic substances allowed for use in organic crop production;

(2) Sewage sludge (biosolids) as defined in 40 CFR part 503; and (3) Burning as a means of disposal for crop residues produced on the operation: *Except*, That, burning may be used to suppress the spread of disease or to stimulate seed germination.