**Regulation shifting**

According to Organic Report in 2014 summer edition, the changing of US regulation since 2010 until 2014, especially for the of substances which allowed be used has added with 13 items are added, for example Pacific Kombu Seaweed which use in organic products when commercially unavailable in organic form. Substances removed since 2010 include sulfur dioxide as a rodenticide in crop production, and annatto extract color, all used in processed products. Furthermore, streptomycin and tetracycline, both allowed only for fire blight control in organic apple and pear production, will expire on October 21, 2014.

**Regulation**

Before starting business in organic product we need to pay more attention to the regulation that valid in the nation that we want to start business. We should concern about domestic regulation, however as a developed country and reputed as modern agriculture industry, United States regulation usually seen as guideline by the other countries.

The United States organization who regulate the farming, particularly organic farming is known as United States Department of Agriculture (USDA). This organization recognize four categories of organic products, the first one is crops, means: food harvested from plant, livestock feed, fiber, or any used substances to add nutrients to the field. Second is livestock means food coming from animals or in the production of food. Third is processed products which consist of all items that have been handled and packaged, processed, and packaged. The last is wild crops or plants from a growing site which not cultivated. For this regulation we are more focus on the crops regulation.

**Farming regulation**

This part will give the guidance for the process and methodology of organic farming, including handling requirement in producing organic product

A description of the monitoring practices and procedures to be performed and maintained, including the frequency for what they will be performed. It also discussed how to implement cultivation practices which maintain the chemical, physical and biological condition of soil, and minimize soil erosion as well.

One important thing from farming regulation is about the crop rotation*.* The practice of alternating the annual crops grown on a specific field in a planned pattern or sequence in successive crop years so that crops of the same species or family are not grown repeatedly without interruption on the same field.

The producer must implement a crop rotation, green manure, improve soil organic matter content, then providing pest management in crops, finally managing the deficient or excess plant nutrients and provide erosion control.

This regulation hope that having well defined boundaries to prevent the unintended application of a prohibited substance to the crop or contact with a prohibited substance that is not under organic management.

**Substance**

This part will regulate the criteria for any chemical substances, additive substances, synthetic and non-synthetic substances which allowed and prohibited substances, methods, and ingredients which used in organic farming.

The criteria in the evaluation of substances or ingredients for the organic production: Synthetic and non-synthetic substances considered for inclusion from the National List of allowed and prohibited substances.

The usage of synthetic substance used as a processing aid will consider these criteria: first is that this substance cannot be produced from a natural source and there are no organic substitutes. Then substance which is allowed if it don’t have adverse effects on the environment and has compatible with organic handling, and also the nutritional quality of the food is still maintained when the substance is used, and the substance itself doesn’t have an adverse effect on human health as defined by applicable Federal regulations. The other condition that synthetic substance allowed is the primary use is not as preservative. Moreover the substance is listed as generally recognized as safe (GRAS) by Food and Drug Administration (FDA). Another requisite is the substance that essential for the handling of organically produced agricultural products.

While Non-synthetics used in organic processing will be evaluated.

**Certification Process**

Certification process regulate how to get the label of “organic”. It will set in detail how the process to get the assessment and the certification to gain the label.

**Cost for certification**

The certification costs is depending on the certifying agent and the size, type and complexity from the farming operation. According to USDA website, the costs has range from few hundred to thousand dollars. Before applying they suggested to understand the fee structure and billing cycle. Generally, the fee is an application fee, annual renewal fee, assessment on annual production or sales, and inspection fees. The benefit of certification is after you are certified, the USDA Organic Certification gives Cost-Share Programs which farmer can reimburse operations up to 75 percent of their certification costs.

**Labelling and Certification**

In United Stated if we want to seek for organic products in the marketplace, consumers should find for the USDA Organic Seal or a certifier name on the label. The U.S. Department of Agriculture categorized four kind of organic labels. This labelling based on the percentage of organic content in that product. This means that not only the organic ingredients in processed products certified, but also the facilities that handle and process the products are inspected and certified as well.

Labelling for organic product

**1. 100 % ORGANIC**

Products produced using exclusively organic methods, containing only organic ingredients, are allowed to carry a label declaring “100 percent organic” and may use the USDA Organic Seal.



**2. ORGANIC**

Products produced using exclusively organic methods that contain at least 95% organic ingredients may use the USDA Organic Seal.



**3. MADE WITH ORGANIC**

Products with 70% to 95% organic ingredients may display "Made with organic [with up to three specified ingredients or food groups]" on the front panel. The USDA Organic Seal may not be used, however products in this category MUST be certified through the same USDA organic certification process that is required for "100% Organic" and "Organic" label.



**INGREDIENT PANEL**

Products with less than 70% organic ingredients can only list the organic items on the ingredient panel. The USDA Organic Seal must not be used. No organic claim is allowed on the front panel of the product.



Bibliography

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Appendix

## Synthetic substances allowed for use in organic crop production.

In accordance with restrictions specified in this section, the following synthetic substances may be used in organic crop production: *Provided,* That, use of such substances do not contribute to contamination of crops, soil, or water. Substances allowed by this section, except disinfectants and sanitizers in paragraph (a) and those substances in paragraphs (c), (j), (k), and (l) of this section, may only be used when the provisions set forth in §205.206(a) through (d) prove insufficient to prevent or control the target pest.

(a) As algicide, disinfectants, and sanitizer, including irrigation system cleaning systems.

(1) Alcohols: Ethanol and Isopropanol.

(2) Chlorine materials—For pre-harvest use, residual chlorine levels in the water in direct crop contact or as water from cleaning irrigation systems applied to soil must not exceed the maximum residual disinfectant limit under the Safe Drinking Water Act, except that chlorine products may be used in edible sprout production according to EPA label directions. Such as Calcium hypochlorite. Chlorine dioxide. And Sodium hypochlorite.

(3) Copper sulfate—for use as an algicide in aquatic rice systems, is limited to one application per field during any 24-month period. Application rates are limited to those which do not increase baseline soil test values for copper over a timeframe agreed upon by the producer and accredited certifying agent.

(4) Hydrogen peroxide.

(5) Ozone gas—for use as an irrigation system cleaner only.

(6) Peracetic acid—for use in disinfecting equipment, seed, and asexually propagated planting material. Also permitted in hydrogen peroxide formulations as allowed in §205.601(a) at concentration of no more than 6% as indicated on the pesticide product label.

(7) Soap-based algicide/demossers.

(8) Sodium carbonate peroxyhydrate (CAS #-15630-89-4)—Federal law restricts the use of this substance in food crop production to approved food uses identified on the product label.

(b) As herbicides, weed barriers, as applicable.

(1) Herbicides, soap-based—for use in farmstead maintenance (roadways, ditches, right of ways, building perimeters) and ornamental crops.

(2) Mulches. Newspaper or other recycled paper, without glossy or colored inks. Plastic mulch and covers (petroleum-based other than polyvinyl chloride (PVC)). Biodegradable biobased mulch film as defined in §205.2. Must be produced without organisms or feedstock derived from excluded methods.

(c) As compost feedstocks—Newspapers or other recycled paper, without glossy or colored inks.

(d) As animal repellents—Soaps, ammonium—for use as a large animal repellant only, no contact with soil or edible portion of crop.

(e) As insecticides (including acaricides or mite control).

(1) Ammonium carbonate—for use as bait in insect traps only, no direct contact with crop or soil.

(2) Aqueous potassium silicate (CAS #-1312-76-1)—the silica, used in the manufacture of potassium silicate, must be sourced from naturally occurring sand.

(3) Boric acid—structural pest control, no direct contact with organic food or crops.

(4) Copper sulfate—for use as tadpole shrimp control in aquatic rice production, is limited to one application per field during any 24-month period. Application rates are limited to levels which do not increase baseline soil test values for copper over a timeframe agreed upon by the producer and accredited certifying agent.

(5) Elemental sulfur.

(6) Lime sulfur—including calcium polysulfide.

(7) Oils, horticultural—narrow range oils as dormant, suffocating, and summer oils.

(8) Soaps, insecticidal.

(9) Sticky traps/barriers.

(10) Sucrose octanoate esters (CAS #s—42922-74-7; 58064-47-4)—in accordance with approved labeling.

(f) As insect management. Pheromones.

(g) As rodenticides. Vitamin D3.

(h) As slug or snail bait. Ferric phosphate (CAS # 10045-86-0).

(i) As plant disease control.

(1) Aqueous potassium silicate (CAS #-1312-76-1)—the silica, used in the manufacture of potassium silicate, must be sourced from naturally occurring sand.

(2) Coppers, fixed—copper hydroxide, copper oxide, copper oxychloride, includes products exempted from EPA tolerance, *Provided,* That, copper-based materials must be used in a manner that minimizes accumulation in the soil and shall not be used as herbicides.

(3) Copper sulfate—Substance must be used in a manner that minimizes accumulation of copper in the soil.

(4) Hydrated lime.

(5) Hydrogen peroxide.

(6) Lime sulfur.

(7) Oils, horticultural, narrow range oils as dormant, suffocating, and summer oils.

(8) Peracetic acid—for use to control fire blight bacteria. Also permitted in hydrogen peroxide formulations as allowed in §205.601(i) at concentration of no more than 6% as indicated on the pesticide product label.

(9) Potassium bicarbonate.

(10) Elemental sulfur.

(11) Streptomycin, for fire blight control in apples and pears only until October 21, 2014.

(12) Tetracycline, for fire blight control in apples and pears only until October 21, 2014.

(j) As plant or soil amendments.

(1) Aquatic plant extracts (other than hydrolyzed)—Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction.

(2) Elemental sulfur.

(3) Humic acids—naturally occurring deposits, water and alkali extracts only.

(4) Lignin sulfonate—chelating agent, dust suppressant.

(5) Magnesium sulfate—allowed with a documented soil deficiency.

(6) Micronutrients—not to be used as a defoliant, herbicide, or desiccant. Those made from nitrates or chlorides are not allowed. Soil deficiency must be documented by testing.

(i) Soluble boron products.

(ii) Sulfates, carbonates, oxides, or silicates of zinc, copper, iron, manganese, molybdenum, selenium, and cobalt.

(7) Liquid fish products—can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.

(8) Vitamins, B1, C, and E.

(9) Sulfurous acid (CAS # 7782-99-2) for on-farm generation of substance utilizing 99% purity elemental sulfur per paragraph (j)(2) of this section.

(k) As plant growth regulators. Ethylene gas—for regulation of pineapple flowering.

(l) As floating agents in postharvest handling.

(1) Lignin sulfonate.

(2) Sodium silicate—for tree fruit and fiber processing.

(m) As synthetic inert ingredients as classified by the Environmental Protection Agency (EPA), for use with nonsynthetic substances or synthetic substances listed in this section and used as an active pesticide ingredient in accordance with any limitations on the use of such substances.

(1) EPA List 4—Inerts of Minimal Concern.

(2) EPA List 3—Inerts of unknown toxicity—for use only in passive pheromone dispensers.

(n) Seed preparations. Hydrogen chloride (CAS # 7647-01-0)—for delinting cotton seed for planting.

(o) As production aids. Microcrystalline cheesewax (CAS #'s 64742-42-3, 8009-03-08, and 8002-74-2)-for use in log grown mushroom production. Must be made without either ethylene-propylene co-polymer or synthetic colors.

The following non-synthetic substances may not be used in organic crop production: Ash from manure burning, Arsenic. Calcium chloride, brine process is natural and prohibited for use except as a foliar spray to treat a physiological disorder associated with calcium uptake. Lead salts. Potassium chloride—unless derived from a mined source and applied in a manner that minimizes chloride accumulation in the soil. Sodium fluoaluminate (mined). Sodium nitrate—unless use is restricted to no more than 20% of the crop's total nitrogen requirement; use in spirulina production is unrestricted until October 21, 2005. Strychnine. Tobacco dust (nicotine sulfate).

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