RULE-MAKING ORDER

(RCW 34.05.360)

CR-103 (7/10/97)

Agency: Department of Agriculture

(1) Date of adoption: October 23, 2000

☒ Permanent Rule
☐ Emergency Rule
☐ Expedited Adoption
☐ Expedited Repeal

(2) Purpose: Amendments to the Organic Crop Production Standards are being adopted for a number of reasons. One, they clarify the standards regarding genetic engineering, transplants, seeds, sprouts, and transitional requirements. Two, they more closely align Washington's organic standards with national and international organic standards. Three, the proposed amendments enhance organic integrity through the requirements for notification and non-chemical vegetation management. Fourth, the list of approved and prohibited materials are clarified and updated.

(3) Citation of existing rules affected by this order: Chapter 16-154 WAC
Repealed:
Amended: WAC 16-154-030, and 16-154-050 through 16-154-110
Suspended:

(4) Statutory authority for adoption: Chapter 15.86 RCW
Other Authority:

PERMANENT RULE ONLY (Including EXPEDITED ADOPTION)
Adopted under notice filed as WSR 00-17-115 on ~~June 9, 2000~~ August 17, 2000 (date).
Describe any changes other than editing from proposed to adopted version: See attachment

EMERGENCY RULE ONLY
Under RCW 34.05.350 the agency for good cause finds:
☐ (a) That immediate adoption, amendment, or repeal of a rule is necessary for the preservation of the public health, safety, or general welfare, and that observing the time requirements of notice and opportunity to comment upon adoption of a permanent rule would be contrary to the public interest.
☐ (b) That state or federal law or federal rule or a federal deadline for state receipt of federal funds requires immediate adoption of a rule.

Reasons for this finding:

EXPEDITED REPEAL ONLY
Under Preproposal Statement of Inquiry filed as WSR _____ on _____ (date)

(5.3) Any other findings required by other provisions of law as precondition to adoption or effectiveness of rule?:
☐ Yes ☒ No If Yes, explain:

(6) Effective date of rule:

Permanent Rules or Expedited Repeal	Emergency Rules
☐ 31 days after filing	☐ Immediately
☒ Other (specify) 1/1/ 2001*	☐ Later (specify) _____

***(If less than 31 days after filing, specific finding in 5.3 under RCW 34.05.380(3) is required)**

Name (Type or Print)
Jim Jesernig

Signature
James M Jesernig

Title
Director

Date
10/06/00

CODE REVISER USE ONLY

CODE REVISER'S OFFICE
STATE OF WASHINGTON
FILED

OCT 23 2000

TIME 1:17 PM

WSR 00-22-027

Note: If any category is left blank, it will be calculated as zero. No descriptive text.

Count by whole WAC sections only, from the WAC number through the history note. A section may be counted in more than one category.

The number of sections adopted in order to comply with:

Federal statute:	New	0	Amended	0	Repealed	0
Federal rules or standards:	New	0	Amended	0	Repealed	0
Recently enacted state statutes:	New	0	Amended	0	Repealed	0

The number of sections adopted at the request of nongovernmental entity:

New 0 Amended 0 Repealed 0

The number of sections adopted in the agency's own initiative:

New 2 Amended 8 Repealed 0

The number of sections adopted in order to clarify, streamline, or reform agency procedures:

New 0 Amended 0 Repealed 0

The number of sections adopted using:

Negotiated rule making:	New	_____	Amended	_____	Repealed	_____
Pilot rule making:	New	_____	Amended	_____	Repealed	_____
Other alternative rule making:	New	_____	Amended	_____	Repealed	_____

Attachment to CR-103

(4) Changes other than editing from proposed to adopted version:

Based on consideration of the comments received the adopted version is changed from the proposed version in the following areas:

WAC 16-154-030 (5) Definition of compost
The definition of compost has been changed to be consistent with the definition under RCW 15.54.270.

WAC 16-154-030 (17) Definition of fertilizer
The definition of fertilizer has been changed to be consistent with the definition under RCW 15.54.270.

WAC 16-154-030 (18) Genetic engineering
The definition of genetic engineering has been changed to improve the clarity and specificity of the definition. The adopted rule is consistent with the prohibition of genetic engineering in the proposed National Organic Program.

WAC 16-154-030 (19) Genetically engineered organisms
A definition of genetically engineered organisms has been added to improve the clarity of the rule.

WAC 16-154-030 (35) Addition of a definition for synthetic
A definition of synthetic has been included that is identical to the definition in the Federal Organic Food Production Act.

WAC 16-154-070 (1)(l) Allowance of waxed cardboard as compost feedstock
The adopted rule clarifies that waxed cardboard may be used as a compost feedstock as long as it does not exceed 0.75% by weight of the total feedstock amount. This is consistent with the Organic Trade Association's American Organic Standards and the Organic Materials Review Institute's organic standards.

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-030 Definitions. As used in this chapter:

(1) "Active ingredient" means any ingredient which will prevent, destroy, repel, control, or mitigate pests, or which will act as a plant regulator, defoliant, desiccant, or spray adjuvant.

(2) "Aged manure" means manure that has been piled or held for six months or more but which has not been composted.

(3) "Approved" means any material or practice which meets the required criteria or standards for use in organic food production.

((~~(3)~~)) (4) "Commercially unavailable" means the documented inability to obtain a production input or ingredient in an appropriate form, quality, quantity or variety to be feasibly used to fulfill an essential function in a system of organic farming, processing or handling.

(5) "Compost" means a material produced from the controlled aerobic degradation of organic waste materials. Natural decay of organic waste under uncontrolled conditions is not composting.

(6) "Composting" means a process in which organic materials are digested by microbial action.

(7) "Crop production aid" means any substance, material, structure or device that is used to aid a producer of an agricultural product except for fertilizers and pesticides.

(8) "Defoliant" means any substance or mixture of substances intended to cause the leaves or foliage to drop from a plant with or without causing abscission.

((~~(4)~~)) (9) "Department" means the department of agriculture of the state of Washington.

((~~(5)~~)) (10) "Desiccant" means any substance or mixture of substances intended to artificially accelerate the drying of plant tissues.

((~~(6)~~)) (11) "Director" means the director of the department of agriculture or his or her duly authorized representative.

((~~(7)~~)) (12) "EPA" means the United States Environmental Protection Agency.

(13) "EPA's List 1" means the United States Environmental Protection Agency's List 1 of other (inert) pesticide ingredients of toxicological concern. This list is available at EPA's website www.epa.gov/opprd001/inerts/lists.html.

(14) "EPA's List 2" means the United States Environmental Protection Agency's List 2 of other (inert) pesticide ingredients of suspected toxicological concern. This list is available at EPA's website www.epa.gov/opprd001/inerts/lists.html.

(15) "EPA's List 4A" means the United States Environmental Protection Agency's List 4A of other (inert) pesticide ingredients that are generally regarded as safe. This list is available at

EPA's website www.epa.gov/opprd001/inerts/lists.html.

(16) "EPA's List 4B" means the United States Environmental Protection Agency's List 4B of other (inert) pesticide ingredients that have sufficient data to substantiate they can be used safely in pesticide products. This list is available at EPA's website www.epa.gov/opprd001/inerts/lists.html.

(17) "Fertilizer" means a substance containing one or more recognized plant nutrients and that is used for its plant nutrient content or that is designated for use or claimed to have value in promoting plant growth, and shall include limes, gypsum, and manipulated animal and vegetable manures. It does not include unmanipulated animal and vegetable manures, organic waste-derived material, and other products exempted by the department by rule.

(18) "Genetic engineering" means techniques that alter the molecular or cell biology of an organism by means that are not possible under natural conditions or processes. Genetic engineering includes, but is not limited to, the intentional use of recombinant DNA technology, cell fusion, micro- and macro-encapsulation, gene deletion, introducing a foreign gene, and changing the positions of genes. It does not include breeding, conjugation, fermentation, hybridization, in-vitro fertilization and tissue culture.

(19) "Genetically engineered organisms" are those organisms produced through the intentional use of genetic engineering.

(20) "Growing medium" means any material that fungi may grow in.

(21) "Growing medium amendment" means a nutritional supplement added to the growing medium to enhance vigor and yields.

(22) "Inert ingredient" means an ingredient ((~~which~~)) in a pesticide formulation that is not an active ingredient.

((~~(8)~~)) (23) "Manure" means feces, urine, bedding, and other waste incidental to an animal. It does not include sewage sludge, biosolids or human waste products.

(24) "Material" means any pesticide, ((~~plant regulator, defoliant, desiccant,~~)) spray adjuvant, fertilizer, soil amendment, growth regulator, crop production aid, post-harvest material or other substance or mixture of substances which is intended to be used in agricultural production or post-harvest use.

((~~(9)~~)) (25) "Organic food" means any agricultural product, including meat, dairy and beverage, that (a) is marketed using the term organic or any derivative of organic in its labeling or advertising; (b) has had no applications of prohibited substances within three years prior to the harvest of the crop; and (c) is produced in compliance with standards defined in chapter 15.86 RCW and rules adopted thereunder.

(26) "Pesticide" means, but is not limited to:

(a) Any substance or mixture of substances intended to prevent, destroy, control, repel, or mitigate any insect, rodent, nematode, mollusk, fungus, weed, and any other form of plant or animal life or virus (except virus on or in living man or other animal) which is normally considered to be a pest or which the director may declare to be a pest;

(b) Any substance or mixture of substances intended to be used

as a plant regulator, defoliant, or desiccant;

(c) Any substance or mixture of substances intended to be used as a spray adjuvant; and

(d) Any other substances intended for such use as may be named by the director by regulation.

((~~(10)~~)) (27) "Plant regulator" means any substance or mixture of substances intended through physiological action, to accelerate or retard the rate of growth or maturation, or to otherwise alter the behavior of ornamental or crop plants but shall not include substances insofar as they are intended to be used as plant nutrients, trace elements, nutritional chemicals, plant inoculant, or soil amendments.

((~~(11)~~)) (28) "Practice" means the physical action of doing something.

(29) "Prohibited" means any material or practice which is disallowed in organic food production, handling, or processing.

((~~(12)~~)) (30) "Raw manure" means manure *that* is less than six months old and has not been composted.

(31) "Site" means a designated farm, field, orchard, block, pasture, paddock, garden, circle, plot or other contiguous area under the same management (e.g., organic or transitional). A site may contain multiple crops.

(32) "Soil amendment" means any substance that is intended to improve the quality of the soil.

(33) "Spawn" means a medium that has been colonized with the desired fungal mycelia. It is used to inoculate growing medium.

(34) "Spray adjuvant" means any wetting agent, spreading agent, deposit builder, adhesive, emulsifying agent, deflocculating agent, water modifier, or similar agent with or without toxic properties of its own intended to be used with any other pesticide as an aid to the application or to the effect thereof, and which is in a package or container separate from that of the pesticide with which it is to be used.

(35) "Synthetic" means a substance that is formulated or manufactured by a chemical process or by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral sources, except that such term shall not apply to substances created by naturally occurring biological processes.

(36) "Transition to organic food" means any agricultural product that:

(a) Is marketed using the term transition to organic or transitional in its labeling and advertising; and

(b) Satisfies all of the requirements of organic food except that it has had no applications of prohibited substances within one year prior to the harvest of the crop.

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-050 Organic crop production standards. (1) Buffer zones. Crops harvested and marketed as "organic," "organically grown," or "transition to organic" shall be grown, raised, or produced within the meaning of RCW 15.86.030 at least twenty-five feet from the nearest application of prohibited materials. Crops grown in the buffer zone may not be marketed as "organic" or "transition to organic."

(2) ((~~Soil building.~~

~~(a) In order for a crop to be considered "organically grown" a soil building program must be in place for at least three years, except for those crops grown hydroponically. In order for a crop to be considered "transition to organic" a soil building program must be in place for at least one year, except for those crops grown hydroponically.~~

~~(b) Upon request by the department producers of organic crops shall demonstrate their soil building programs and the department shall restrict producers from using the terms "organic," "organically grown," or "transition to organic" on crops grown without adequate soil building programs. An adequate soil building program includes using humic building materials such as manure, compost, cover crops, and rock minerals which build or maintain soil organic matter. Demonstration of soil building programs shall entail documentation of soil inputs and soil testing.~~

~~(3) Transplants.~~

~~(a) Annuals must be grown in an organic environment from seed through harvest. Annual transplants must be organically grown in order to meet the organic crop production standards.~~

~~(b) Nonorganically grown perennial transplants will be considered "organic" after they have been grown in organic soil for one year.~~

~~(4) Seeds. Untreated seeds and/or seeds treated with materials approved for organic food production are permitted for organic food production. The use of synthetic insecticides on or in seeds is prohibited. Seeds treated with fungicides may be used if the grower can demonstrate through written documentation that untreated seeds are unavailable. Strawberry crowns and potatoes are considered seeds for the purpose of this section.~~)) Boundaries of site: The boundaries of each site in organic or transition to organic production must be clearly and unambiguously identified along all borders. Identification may consist of flagging, fences, posts, signs, roads or other markers.

(3) Borders at risk: Organic and transition to organic crops produced in proximity to the aerial or airblast application of prohibited materials are considered borders at risk. The department may periodically sample crops grown in borders at risk to assure that pesticide drift does not affect the integrity of the organic crops.

(4) Roadside and right of way vegetation management: Nonchemical vegetation management agreements must be established

with road departments, railroads, irrigation districts, and other rights of way that are in proximity to organic and transition to organic food production, or, where no agreement is possible, adequate buffer zones must be established.

(5) Notification: Producers of organic and transition to organic crops must notify owners and/or managers of adjoining land that they are producing organic and/or transition to organic crops. The notification must state the location of the sites in organic and transition to organic food production. Notification must be made on an annual basis.

(6) Transitional requirements: Organic crops must have had no applications of prohibited materials to the crops or land for three years prior to the harvest of the organic crop. Transition to organic crops must have had no applications of prohibited materials to the crops or land for one year prior to the harvest of the transition to organic crop.

(7) Transplants and seedlings:

(a) Annual and biennial seedlings and transplants must be organically produced from seed.

(b) Perennial transplants must be grown on a certified organic site for at least twelve months prior to the harvest of an organic crop except for: Strawberries and fall bearing raspberries may be from a nonorganic source provided that organically grown transplants are commercially unavailable.

(8) Seeds: Seeds treated with prohibited materials are prohibited except for seeds treated with fungicides provided that untreated seeds are commercially unavailable. Garlic cloves, potatoes and crops with similar life cycles are considered seeds for the purpose of this section.

(9) Sprouts produced for human consumption must be produced from certified organic seeds.

(10) Genetic engineering: Genetically engineered organisms and their products are prohibited from being considered organic or transition to organic. Genetically engineered organisms must not be used as seeds or plant stock of any crops used in organic or transition to organic food production.

(11) Treated wood: Lumber treated with pentachlorophenol, creosote, and copper chromium arsenate is prohibited in raised beds and in greenhouses where there is contact with soil used to produce organic crops, except for: Raised beds and greenhouses that were installed three years prior to the harvest of organic crops.

NEW SECTION

WAC 16-154-053 Organic farm plan. Producers of organic and/or transition to organic food products must have an organic plan that consists of the following elements:

(1) Soil quality - The organic plan must contain provisions

designed to foster soil quality, primarily through the management of the organic matter of the soil. The producer must conduct a baseline assessment of soil quality. The baseline assessment must include measurement of percent organic matter, cation exchange capacity, pH, nitrogen, phosphorus, potassium, and copper. Each producer must conduct an assessment of soil quality at least once every three years.

(2) Pest management - The organic plan must contain provisions that include an integrated approach to pest management that stresses biointensive pest control and limits the use of botanical insecticides and copper compounds.

The principles of biointensive pest control are:

(a) Building prevention into pest management systems to lessen need for treatments.

(b) Identify and enhance the ability of beneficial organisms to directly control pest populations, compete with them for habitat, food and water, or repel them.

(c) Alter the pests' ability to reproduce or progress through its normal life cycle.

(d) Strengthen plant or tree defense mechanisms, and ability to overcome stress caused by pests and other environmental factors, through good cultural practices.

The department shall require producers to complete an organic plan and the plans shall be updated annually. The department shall restrict producers from selling, offering for sale or representing food products as organic and/or transition to organic food products when an organic plan is not implemented.

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-060 Records. ((~~All producers who sell farm products identified as organic shall keep accurate records of the location of the acreage used for growing such products and the additions, excluding water, made to the soil or applied to the plant or added to irrigation water. Such records shall be retained for two years after date of such sale.~~)) All producers who sell farm products identified as organic and/or transition to organic shall keep accurate records of:

(1) The location of the acreage used for growing such products;

(2) The materials applied, excluding water, made to the soil or applied to the plant or added to irrigation water. The records of materials applied shall include the date the material was applied, the quantity of the material applied, the application rate and the name of the material applied. Brand name materials must be identified by the complete brand name. Unbranded materials must be identified by type of material (e.g., chicken manure) and source

(e.g., XYZ poultry farm). This information must be recorded on the same day that the material was applied;

(3) Sales of all certified organic and transition to organic food products produced and sold by the farm;

(4) Yield records for all organic and transition to organic food products sold in the wholesale market or to processors;

(5) Any complaints received and actions taken to address those complaints;

(6) Such records shall be retained for five years;

(7) The department shall keep confidential any business related information obtained under this chapter and such information shall be exempt from public inspection and copying as provided in RCW 15.86.110 and 42.17.310 (1)(ff).

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-070 ((~~Materials list for organic food production--~~))Fertilizers, growth promoters, crop production aids and soil amendments. (1) Approved materials and practices. The following list of fertilizers, growth promoters, crop production aids and soil amendments are approved for use in organic crop production. Some approved materials have certain restrictions regarding their use. These restrictions are noted in the list. ALWAYS CAREFULLY READ THE LABEL AND ANY OTHER DOCUMENTATION. All materials must be applied with awareness and care for the environment and in compliance with all state and federal laws.

(a) Acetic acid. Used as a drip irrigation cleaner and as an adjuvant to adjust pH of solutions.

(b) Alfalfa meal.

(c) Algae.

((~~(b) Animal manure. Excessive use of animal manure can lead to nitrate contamination of ground water. Heavy nitrogen use can also lead to high nitrate levels in leafy greens. Raw manure may be applied to:~~

~~(i) Any green manure crop;~~

~~(ii) Any perennial crop;~~

~~(iii) Any crop not for human consumption; and~~

~~(iv) Any crop for human consumption, if such crop is harvested after a reasonable period of time after the most recent application of raw manure, but in no event shall such period be less than sixty days.~~

~~(c) Blood meal.~~

~~(d) Blue-green algae or cyanobacteria.~~

~~(e) Bone meal.~~

~~(f) Boron products.~~

~~(g) Biodynamic preparations.~~

~~(h) Chelates. Chelated micronutrient sprays may be used in~~

~~conjunction with soil and/or plant tissue tests. Amino acid, ligno-sulphate, citric acid, malic acid, tartaric acid, and other di- and tri- acid chelates are acceptable.~~

~~(i) Chilean nitrate (see sodium nitrate).~~

~~(j) Cocoa bean hulls. Needs to be tested for pesticide residues.~~

~~(k) Compost.~~

~~(l) Cottonseed meal. Needs to be tested for pesticide residues.~~

~~(m) Cyanobacteria or blue-green algae.~~

~~(n) Diatomaceous earth. Use a dust mask when applying to prevent lung irritation.~~

~~(o) Dolomite. May cause buildup of magnesium.~~

~~(p) Enzymes. Acceptable if derived microbiologically from natural materials and not fortified with synthetic plant nutrients.~~

~~(q) Epsom salts or magnesium sulphate.~~

~~(r) Fish emulsions. Forms which are "fortified" with urea or other synthetic plant nutrients are prohibited. Phosphoric acid used as a stabilizer in fish emulsion cannot exceed one percent by weight of P_2O_5.~~

~~(s) Fish meal.~~

~~(t) Gibberellic acid. Acceptable if made without synthetic substances.~~

~~(u) Grape, apple, and other pomaces.~~

~~(v) Greensand.~~

~~(w) Guano, bat, or bird.~~

~~(x) Gypsum.~~

~~(y) Hoof and horn meal.~~

~~(z) Humates. Humates are usually natural deposits which are mined and may contain high trace mineral contents. Acceptable if derived from leonardite, lignite, or coal.~~

~~(aa) Humic acid derivatives. These are extracts of humates which may be made with either natural or unnatural processes. These are only acceptable if derived from natural sources and not fortified.~~

~~(bb) Iron sulfate.~~

~~(cc) Kelp extracts.~~

~~(dd) Kelp meal.~~

~~(ee) Kieserite.~~

~~(ff) K-mag or sul-po-mag.~~

~~(gg) Leather meal or tankage. Needs to be tested for heavy metals.~~

~~(hh) Limestone.~~

~~(ii) Manure. See (b) animal manure.~~

~~(jj) Microbial soil inoculants.~~

~~(kk) Mined materials.~~

~~(ll) Mulches. Plastic mulches must not be incorporated into soil.~~

~~(mm) Mushroom compost. Needs to be tested for pesticide residues.~~

~~(nn) Peat moss. Unfortified forms only.~~

~~(oo) Perlite.~~

~~(pp) Phosphate rock.~~

~~(qq) Potassium sulfate.~~

~~(rr) Rock phosphate.~~

~~(ss) Shells, ground: Oyster, clam, lobster, and crab.~~

~~(tt) Sodium nitrate: Discouraged because of high sodium content. Cannot be used as the primary source of nitrogen. Sodium nitrate can be used for up to twenty percent of total nitrogen inputs. Total nitrogen is defined as pounds of nitrogen from all sources including, in part, manure, blood meal, compost, green manures, cover crops, and fish meal.~~

~~(uu) Spent controlled atmosphere lime.~~

~~(vv) Sugar beet lime: Needs to be tested for pesticide residues.~~

~~(ww) Sulfur, elemental: Direct application to soil discouraged.~~

~~(xx) Sulfates of zinc or iron.~~

~~(yy) Sul-po-mag or K-Mag.~~

~~(zz) Vermiculite.~~

~~(aaa) Wood ashes.~~

~~(bbb) Worm castings.~~

~~(ccc) Zinc sulfate.~~))

(d) Amino acids from naturally occurring organisms are allowed. Amino acids produced from genetically engineered organisms are prohibited.

(e) Animal byproducts including bone meal, blood meal, feather meal, hoof meal, horn meal, shrimp meal, crab meal and crab meat. Leather by-products are prohibited.

(f) Ascorbic acid. Used as a drip irrigation cleaner and as an adjuvant to adjust pH of solutions.

(g) Biodynamic preparations.

(h) Blood meal.

(i) Bone meal.

(j) Boron products. Mined sources are allowed including sodium tetraborate, sodium octaborate.

(k) Calcium chloride.

(l) Cardboard. Unwaxed cardboard may be used as mulch or as a compost feedstock. Waxed cardboard must not exceed 0.75% by weight of the mulch or compost feedstock.

(m) Chelates: Chelated micronutrient sprays may be used in conjunction with soil and/or plant tissue tests. Amino acid, lignin-sulfonate, citric acid, malic acid, tartaric acid and other di- and tri-acid chelates are acceptable. Synthetic chelating agents such as EDTA and HEDTA are prohibited.

(n) Citric acid. Used as a drip irrigation cleaner and as an adjuvant to adjust pH of solutions.

(o) Cocoa bean hulls: Must be composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.

(p) Compost: The materials (feedstocks) used to produce compost must consist of approved materials. Approved feedstocks include materials approved under WAC 16-154-070(1) and any uncontaminated natural materials including animal manure, food processing waste, and crop residue. Prohibited feedstocks include

mixed municipal solid waste, sewage sludge, biosolids, glossy paper, gypsum by-product and other materials prohibited under this chapter.

(q) Corn calcium.

(r) Corn gluten.

(s) Cottonseed meal: Must be composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.

(t) Cover crops.

(u) Cyanobacteria or blue-green algae.

(v) Diatomaceous earth.

(w) Dolomite lime: (Magnesium carbonate and calcium carbonate.) May cause buildup of magnesium. Must be from a natural mined source.

(x) Enzymes: Acceptable if derived microbiologically from natural materials and not fortified with synthetic plant nutrients. Enzymes produced from genetically engineered organisms are prohibited.

(y) Epsom salts or magnesium sulphate.

(z) Feather meal.

(aa) Fish emulsions: Forms which are "fortified" with urea or other synthetic plant nutrients are prohibited. Sulfuric, citric and/or phosphoric acid may be used to lower the pH to 3.5.

(bb) Fish meal.

(cc) Food processing waste. Must be from a certified organic source, composted, or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion. The department may require additional testing to ensure pesticide residues will not affect the integrity of the organic crops.

(dd) Gibberellic acid: Acceptable if made from a fermentation process.

(ee) Grape, apple and other pomaces: Must be from certified organic source, composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.

(ff) Greensand or glauconite.

(gg) Guano, bat or bird.

(hh) Gypsum (calcium sulfate): Must be from a naturally mined source. Gypsum by-product from drywall or other sources is prohibited.

(ii) Hoof and horn meal.

(jj) Humates: Acceptable if derived from leonardite, lignite or coal.

(kk) Humic acid derivatives: Extracts from natural humates by hydrolysis or potassium hydroxide extraction are allowed. These are only acceptable if derived from a natural source and not fortified.

(ll) Kelp meal and extracts.

(mm) Ligno sulfonates. Includes calcium lignosulfate,

lignosulfonic acid and sodium lignosulfate. Allowed as a chelating agent, inert ingredient and dust suppressant.

(nn) Lime and limestone. Naturally mined lime including dolomite lime (magnesium carbonate) and agricultural lime (calcium carbonate) are approved for use. Synthetic sources (hydrated lime) and industrial sources (cement kiln lime, spent controlled atmosphere lime) are prohibited.

(oo) Manure: Raw and aged manure must not be applied within sixty days prior to harvest.

(pp) Meat meal.

(qq) Microbial products, for use with leguminous crops, as compost starters and as soil amendments. Microbial products cannot contain any synthetic ingredients, such as synthetic forms of nitrogen. Genetically engineered organisms and their products are prohibited.

(rr) Mined materials. Approved mined materials include boron products, calcium chloride, kieserite, langbenite, leonardite, rock phosphate, gypsum, and greensand. Prohibited mined materials include potassium chloride and potassium nitrate.

(ss) Mulches: The materials used to produce mulch must consist of approved materials. Approved materials include uncontaminated natural vegetation, materials approved under WAC 16-154-070(1), newspaper and nonglossy paper. Prohibited materials include colored ink, glossy paper and waxed cardboard. Plastic mulches may be used and must not be incorporated into soil. Biodegradable paper mulch that contain fungicides or other prohibited materials are prohibited.

(tt) Mushroom compost: Must be certified organic, composted or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.

(uu) Paint: Latex, plant and milk based paints are allowed as a tree seal for painting tree trunks, wounds and grafting purposes and may be used for painting greenhouses.

(vv) Peat moss: Unfortified forms only.

(ww) Perlite.

(xx) Potting soil. Must consist of approved materials. Potting soil that contains synthetic fertilizer, prohibited wetting agents or other prohibited materials is prohibited.

(yy) Pumice.

(zz) Rock phosphate.

(aaa) Row covers. Must not be incorporated into soil.

(bbb) Shells from oysters, crabs, clams and other shellfish.

(ccc) Soaps. Sodium and potassium salts of fatty acids are approved. Synthetic detergents are prohibited.

(ddd) Sodium nitrate: Discouraged because of high sodium content. Cannot be used as the primary source of nitrogen. Sodium nitrate can be used for up to twenty percent of total nitrogen inputs through the year 2002. Total nitrogen is defined as pounds of nitrogen from all sources including, in part, manure, blood meal, compost, green manures, cover crops and fish meal.

(eee) Sugar beet lime: Must be composted or tested for

pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.

(fff) Sulfur burners: Alkaline well water may be sweetened with sulfur burners.

(ggg) Sulfur, elemental.

(hhh) Sulfates of zinc or iron. May be used only to correct for deficiencies determined by soil or plant tissue testing.

(iii) Sul po mag.

(jjj) Vermiculite.

(kkk) Vitamin B-1.

(lll) Wetting agents. Natural wetting agents including soaps, saponins and microbial wetting agents are allowed. Synthetic wetting agents are prohibited.

(mmm) Wood ashes, from nonindustrial sources only.

(nnn) Worm castings.

(ooo) Yard waste. Yard waste from certified organic sources is approved. Yard waste from conventional sources must be source separated and composted, or tested for pesticide residues of organochlorines and organophosphates. Testing of product must indicate that organochlorines and organophosphates residues are below 10 parts per billion.

(2) Prohibited materials. The fertilizers, growth promoters, and soil amendments that are prohibited for use in organic crop production includes but is not limited to the following:

(a) ((~~Ammonia products.~~

~~(b) Calcium nitrate.~~

~~(c) Fortified humic acid derivatives.~~

~~(d) Growth regulators, synthetic.~~

~~(e) Hydrated lime.~~

~~(f) Magnesium nitrate.~~

~~(g) Mono-ammonium phosphate.~~

~~(h) Muriate of potash.~~

~~(i) Phosphoric acid.~~

~~(j) Potassium nitrate.~~

~~(k) Super phosphate.~~

~~(l) Triple phosphate.~~

~~(m) Urea.~~

~~(n) Vitamin B-1.~~)) Ammonia products.

(b) Biosolids.

(c) Calcium hydroxide (hydrated lime).

(d) Calcium nitrate.

(e) Calcium oxide or quicklime.

(f) Detergents.

(g) Enzymes produced from genetically engineered organisms.

(h) Fortified humic acid derivatives.

(i) Gypsum by-product from drywall and other sources.

(j) Hydrated lime (calcium hydroxide).

(k) Leather meal and leather by-products.

(l) Magnesium nitrate.

(m) Mono-ammonium phosphate.

(n) Muriate of potash (potassium chloride).

(o) Phosphoric acid.

(p) Plant regulators, synthetic.
(q) Potassium nitrate.
(r) Sewage sludge.
(s) Sodium nitrate is prohibited starting in the year 2003.
(t) Super phosphate.
(u) Synthetic chelating agents such as EDTA and HEDTA.
(v) Synthetic fertilizers.
(w) Synthetic wetting agents.
(x) Triple phosphate.
(y) Urea.

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-080 ((Materials list for organic food production--))Insect pest control materials and practices. (1) Approved materials and practices. The following list of pest control materials and practices for insects, mites, and other invertebrates are approved for use in organic crop production. Some approved materials have certain restrictions regarding their use. These restrictions are noted in the list. Materials with active ingredients may contain inert ingredients from EPA's List 4A and List 4B. ALWAYS CAREFULLY READ THE LABEL AND ANY OTHER DOCUMENTATION. All materials must be applied with awareness and care for the environment and in compliance with all state and federal laws.

(a) ((~~*Bacillus thuringiensis*: Liquid forms containing xylene are prohibited.~~

~~(b) Beneficial insects.~~

~~(c) Boric acid: Cannot be used on edible plant parts.~~

~~(d) Codling moth granulosis virus.~~

~~(e) Cryolite or sodium fluoaluminate: The mined material from Greenland is permitted.~~

~~(f) Diatomaceous earth: Use a dust mask when applying to prevent lung irritation.~~

~~(g) Dormant oils: Use only on woody plants as a dormant spray.~~

~~(h) Garlic.~~

~~(i) Herbal preparations: May not be extracted with synthetic solvents.~~

~~(j) Insect extracts.~~

~~(k)~~)) Azadrichtin (neem). May not contain EPA List 1 or 2 Inert Ingredients.

(b) Bacillus thuringiensis: May not contain EPA List 1 or 2 Inert Ingredients. Must not be a product of genetically engineered organisms.

(c) Beneficial insects.

(d) Biological control organisms.

(e) Boric acid: Cannot be used on edible plant parts.

(f) Diatomaceous earth: Use a dust mask when applying to prevent lung irritation.

(g) Dormant oils: Must have an average fifty percent boiling point at 10mm mercury pressure between 415-470 degrees Fahrenheit. Use only on woody plants as a dormant spray. May not contain EPA List 1 or 2 Inert Ingredients.

(h) Fungal organisms.

(i) Garlic.

(j) Herbal preparations: May not be extracted with synthetic solvents.

(k) Insect extracts.

(l) Insect traps and monitoring devices.

(m) Lime sulfur. May not contain EPA List 1 or 2 Inert Ingredients.

(n) Microbial products. Microbial products cannot contain any synthetic ingredients, such as synthetic forms of nitrogen. Genetically engineered organisms and their products are prohibited.

(o) Microorganisms.

(p) Neem (azadirichtin). May not contain EPA List 1 or 2 Inert Ingredients.

(q) Nematodes.

((~~(l)~~)) (r) Pheromones.

((~~(m)~~)) (s) Piperonyl butoxide (PBO)((~~. California and Oregon no longer allow the use of PBO in the production of organic food~~)).

((~~(n)~~)) (t) Plants and plant extracts such as garlic and cayenne pepper.

(u) Pyrethrums: Naturally occurring forms are allowed. The pyrethrums are highly unstable in the presence of air, light, and moisture. They have low mammalian toxicity and can cause dermatitis in humans. Use with caution. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(o)~~)) (v) Rotenone: Use with caution. Rotenone is highly toxic to fish. Its persistence in the soil is unknown, though it loses its effectiveness within one week. Should not be used on crops nearing harvest time. Commercial rotenone comes from tropical leguminous shrubs in the genera *Lonchocarpus* and *Derris*. The active compounds, rotenoids, are present in a variety of legumes including soybeans. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(p)~~)) (w) Ryania: Use with caution. The toxicological properties of ryania are largely unknown. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(q)~~)) (x) Sabadilla: Use with caution.

((~~(r)~~)) (y) Soaps, insecticidal (must be salts of fatty acids). May not contain EPA List 1 or 2 Inert Ingredients.

((~~(s)~~)) (z) Sulfur((~~, elemental~~)). May not contain EPA List 1 or 2 Inert Ingredients.

((~~(t)~~)) (aa) Summer oils: May be used on woody plants only, carrot and/or weed oils are prohibited. Must have an average fifty percent boiling point at 10mm mercury pressure between 415-470 degrees Fahrenheit. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(u)~~)) (bb) Trapping substances as long as they do not contain prohibited materials.

((~~(v)~~)) (cc) Tree seals: May be petroleum based but may not contain synthetic chemicals or fungicides.

((~~(w) Virus sprays.~~)) (dd) Vegetable oils.

(ee) Viruses.

(ff) Waxes for grafting or sealing tree wounds.

(2) Prohibited materials and practices. The insect pest control materials and practices that are prohibited for use in organic crop production includes but is not limited to the following:

(a) Abamectin or avermectin.

(b) Carbamates.

(c) Chlorinated hydrocarbons.

(d) Cryolite or sodium fluoaluminate.

(e) Detergents.

(f) Dimethyl sulfoxide.

((~~(e)~~)) (g) Methyl bromide.

((~~(f)~~)) (h) Methyl sulfoxide.

((~~(g)~~)) (i) Moth balls/crystals.

((~~(h)~~)) (j) Nicotine: Nicotine is prohibited because of ((~~extreme~~)) its acute toxicity.

((~~(i)~~)) (k) Organophosphates.

((~~(j)~~)) (l) Plant protectants, synthetic.

((~~(k)~~)) (m) Pyrethroids, synthetic.

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-090 ((~~Materials list for organic food production--~~))Weed control materials and practices. (1) Approved materials and practices. The following list of weed control materials and practices are approved for use in organic crop production. Some approved materials have certain restrictions regarding their use. These restrictions are noted in the list. ALWAYS CAREFULLY READ THE LABEL AND ANY OTHER DOCUMENTATION. All materials must be applied with awareness and care for the environment and in compliance with all state and federal laws.

(a) ((~~Flaming. Broadcast and/or field burning is prohibited.~~ ~~(b)~~)) Biological control organisms.

(b) Corn gluten.

(c) Cover crops.

(d) Flame and steam weeding.

(e) Grazing.

((~~(c) Herbicidal soaps.~~

~~(d)~~)) (f) Mechanical and cultural controls.

((~~(e) Mulches of organic materials.~~

~~(f)~~)) (g) Microbial products. Microbial products cannot

contain any synthetic ingredients. Genetically engineered organisms and their products are prohibited.

(h) Mulches: The materials used to produce mulch must consist of approved materials. Approved materials include uncontaminated natural vegetation, materials approved under WAC 16-154-070(1), newspaper and nonglossy paper. Prohibited materials include colored ink, glossy paper and waxed cardboard. Plastic mulches may be used and must not be incorporated into soil. Biodegradable paper mulch that contain fungicides or other prohibited materials are prohibited.

(i) Plant and fungal extracts.

(j) Plastics for mulch, row covers, and solarization must not be incorporated into soil.

((~~(g)~~)) (k) Weeder geese.

(2) Prohibited materials and practices. The weed control materials and practices that are prohibited for use in organic crop production includes but is not limited to the following:

(a) Broadcast and/or field burning.

(b) Carrot oil.

(c) Field burning.

(d) Herbicidal soaps.

(e) Synthetic herbicides.

((~~(e)~~)) (f) Synthetic growth regulators.

((~~(f)~~)) (g) Weed oils.

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-100 ((~~Materials list for organic food production--~~))Disease control materials and practices. (1) Approved materials and practices. The following list of disease control materials and practices are approved for use in organic crop production. Some approved materials have certain restrictions regarding their use. These restrictions are noted in the list. Materials with active ingredients may contain inert ingredients from EPA's List 4A and List 4B. ALWAYS CAREFULLY READ THE LABEL AND ANY OTHER DOCUMENTATION. All materials must be applied with awareness and care for the environment and in compliance with all state and federal laws.

(a) Antibiotics: Naturally derived antibiotics including streptomycin and terramycin are permitted for disease control. May not contain EPA List 1 or 2 Inert Ingredients.

(b) Bordeaux mixes: Use with caution. Excessive use ((~~of bordeaux~~)) may cause buildup of copper in the soil ((~~and limit its continued use~~)). May not contain EPA List 1 or 2 Inert Ingredients.

(c) Calcium hydroxide (hydrated lime). Foliar application only. Must not be used as a liming material. Must not contain EPA

List 1 or 2 Inert Ingredients.

(d) Compost tea. The materials (feedstocks) used to produce compost tea must consist of approved materials. Approved feedstocks include materials approved under WAC 16-154-070(1) and any uncontaminated natural materials including animal manure, food processing waste and crop residue. Prohibited feedstocks include materials prohibited under WAC 16-154-070(2), mixed municipal solid waste, sewage sludge, biosolids, waxed cardboard, glossy paper, and gypsum by-product.

(e) Copper hydroxide. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(d)~~)) (f) Copper sulfate: Use with caution. Excessive use ((~~of copper sulfate~~)) may cause buildup of copper in the soil ((~~and limit its continued use~~)). May not contain EPA List 1 or 2 Inert Ingredients.

((~~(e)~~)) (g) Dormant oils: Must have an average fifty percent boiling point at 10mm mercury pressure between 415-470 degrees Fahrenheit. Use only on woody plants as a dormant spray. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(f)~~)) (h) Hydrated lime: Foliar application as a fungicide only. Shall not be used as a liming material. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(g)~~)) (i) Hydrogen peroxide.

((~~(h)~~)) (j) Lime sulfur: ((~~Foliar application as a fungicide only.~~)) May not contain EPA List 1 or 2 Inert Ingredients.

((~~(i)~~)) (k) Microorganisms and microbial products. Genetically engineered organisms and their products are prohibited.

(l) Paint: Latex, plant and milk based paints are allowed as a tree seal for painting tree trunks, wounds and grafting purposes and may be used for painting greenhouses.

(m) Plant and fungal extracts.

(n) Potassium bicarbonate.

(o) Soil pasteurization.

((~~(j)~~)) (p) Sulfur, elemental. May not contain EPA List 1 or 2 Inert Ingredients.

((~~(k)~~)) (q) Tree seals: May be petroleum based but may not contain synthetic chemicals or fungicides.

(r) Summer oils: May be used on woody plants only, carrot and/or weed oils are prohibited. Must have an average fifty percent boiling point at 10mm mercury pressure between 415-470 degrees Fahrenheit. May not contain EPA List 1 or 2 Inert Ingredients.

(s) Vinegar.

(t) Waxes for grafting or sealing tree wounds.

(2) Prohibited materials and practices. The disease control materials and practices that are prohibited for use in organic crop production includes but is not limited to the following:

(a) Avermectin.

(b) Broadcast and/or field burning.

((~~(b)~~)) (c) Soil fumigants.

((~~(c)~~)) (d) Synthetic fungicides, fumigants, sterilizants, and bactericides.

AMENDATORY SECTION (Amending WSR 91-09-028, filed 4/11/91, effective 5/12/91)

WAC 16-154-110 ((~~Materials list for organic food production--~~))Vertebrate control materials and practices. (1) Approved materials and practices. The following list of vertebrate pest control materials and practices are approved for use in organic crop production. Some approved materials have certain restrictions regarding their use. These restrictions are noted in the list. ALWAYS CAREFULLY READ THE LABEL AND ANY OTHER DOCUMENTATION. All materials must be applied with awareness and care for the environment and in compliance with all state and federal laws.

(a) Airborne projectiles.

(b) Deer and rabbit repellents: Acceptable if derived from a natural source.

((~~(b)~~)) (c) Predators: Cats, hawks, coyotes((~~, airborne projectiles~~)).

((~~(c)~~)) (d) Rodent traps.

((~~(d) Strychnine: Underground use only.~~))

(e) Synthetic vitamin baits.

(2) Prohibited materials and practices. The vertebrate pest control materials and practices that are prohibited for use in organic crop production includes but is not limited to the following:

(a) Anticoagulant rodent baits
(b) Aluminum phosphide
(c) Alpha-Naphthylthiourea
(d) Coumarins
(e) Calcium cyanide
(f) Indandiones
(g) Organochlorines
(h) Organo phosphates
(i) Pyriminilureas
(j) Phosphorus
(k) Sodium fluoroacetate
(l) Strychnine
(m) Thallium sulfate
((~~(m)~~)) (n) Zinc phosphide.

NEW SECTION

WAC 16-154-180 Mushroom standards. Green plants create tissue from sunlight, carbon dioxide and the soil in which they are grown. In contrast, fungi produce tissue directly and exclusively from the medium on which they are grown since they do not have the ability to manufacture food through photosynthesis. The organic requirements for the growth media for the products of fungi should reflect their complete reliance on their growth media for

sustenance.

(1) **Materials and production methods.**

(a) Agar medium: The agar medium does not have to contain certified organic ingredients and can contain antibiotics (see "antibiotics" below in (c) of this subsection).

(b) Growing medium amendments: **All amendments must be certified organic.**

(c) Antibiotics: The agar medium may contain antibiotics not to exceed 1/25th of a gram per liter of agar mix.

(d) Chlorine compounds include calcium hypochlorite, sodium hypochlorite and chlorine dioxide. Chlorine compounds are allowed to sanitize mushroom and growing medium contact surfaces. Chlorine compounds must not be applied to mushrooms or growing medium.

(e) Growing medium: If grain, straw or hay is used, it must be certified organic. If wood is used, see (h) of this subsection.

(f) Hay or straw: Must be certified organic.

(g) Spawn: Grain used for making spawn must be certified organic and must not have any synthetic amendments.

(h) Wood used as a growing medium must be obtained from a source that has had no prohibited materials applied to the trees for at least three years before harvest. Logs and sawdust treated with prohibited materials during the milling process are prohibited for use in organic mushroom production.

(i) Any pest control materials used in the organic production areas or storage areas must be approved for use in organic food production under this chapter. Outside production areas cannot have any prohibited materials applied to the land on which logs, wood chips or other such approved growing medium will lie, for at least three years.

(2) **Mixed operations** - Organic and nonorganic production may exist in the same indoor growing area if:

(a) The organic and nonorganic products are clearly identified at all stages of the growth cycle on all containers or areas that contain spawn, growing medium, substrate or fungi.

(b) No prohibited materials are applied to the organic or nonorganic fungi, spawn or growing medium.

Organic and nonorganic production must be in separate facilities and have separate ventilation systems if prohibited materials are applied to the fungi, spawn or growing medium during any stage of the growth cycle.

(3) **Growth cycle** - For a mushroom product to be sold as certified organic, the operation must comply with these mushroom standards throughout the entire growing cycle of the fungus.