# NOSB COMMITTEE RECOMMENDATION

Form NOPLIST1. Committee Transmittal to NOSB

| For NOSB Meeting: __Nov 2009_____ | Substance: __Peracetic Acid (annotation change) |
|---|---|

**Committee: Crops √ Livestock ☐ Handling ☐ Petition is for: To amend the annotation on the _ listings for Peracetic Acid_ on the National List § 205.601(a)(6) and § 205.601(i)(7)_**

**A. Evaluation Criteria** (Applicability noted for each category; Documentation attached) **Criteria Satisfied? (see B below)**

1. Impact on Humans and Environment — Yes √ No N/A ☐
2. Essential & Availability Criteria — Yes √ No N/A ☐
3. Compatibility & Consistency — Yes ☐ No √ N/A ☐
4. Commercial Supply is Fragile or Potentially Unavailable as Organic (only for 606) — Yes ☐ No ☐ N/A ☐

**B. Substance Fails Criteria Category:** _3__ Comments: __The material fails criteria based on the prospect of expanding use of the material to un-restricted crop disease control use (See Category 1, #6 and Category 3, #2 & 3). The EPA has changed it's regulation, whereby small concentrations of peracetic acid formerly allowed as an inert ingredient in hydrogen peroxide(HP) formulations must now be designated as part of the active ingredients. The Crops Committee does not wish to jeopardize the availability of the HP formulations currently used by many growers, knowing that these formulations all contain small, formerly allowed as inert, concentrations of peracetic acid. The Crops Committee recommendation pertains to allowing peracetic acid in hydrogen peroxide formulations, limited to no more than 5% concentration.

**Proposed Annotation (if any):** §205.601(a)(6) Peracetic acid- for use in disinfecting equipment, seed, and asexually propogated planting material. Permitted in hydrogen peroxide formulations at concentration of no more than 5%.§205.601(i)(7) Peracetic acid- for use to control fireblight bacteria. Permitted in hydrogen peroxide formulations at concentration of no more than 5%.

Basis for annotation: To meet criteria above: ___X__ Other regulatory criteria: _____ Citation:_____

**D. Recommended Committee Action & Vote (State Actual Motion)**: _Motion is to amend the annotations from the listings for peracetic acid on the National List §205.601(a)(6) and §205.601(i)(7) to add the words in each section "Permitted In hydrogen peroxide formulations at concentration of no more than 5%.

*Motion by:* _G.Davis__ *Seconded:B. Flamm_____ Yes: __6___ No: _0____ Absent: ___0____ Abstain: _0____*

| | | | | | |
|---|---|---|---|---|---|
| Crops | X | Agricultural | | Allowed[1] | |
| Livestock | | Non-Synthetic | | Prohibited[2] | |
| Handling | | Synthetic | X | Rejected[3] | |
| No restriction | | Commercially Un-Available as Organic[1] | | Deferred[4] | |

1) Substance voted to be added as "allowed" on National List to § 205._____with Annotation (if any) _____

2) Substance to be added as "prohibited" on National List to § 205._____with Annotation (if any) _____

Describe why a prohibited substance:_____

3) Substance was rejected by vote for amending National List to § 205. _____Describe why material was rejected:_____

4) Substance was recommended to be deferred because _____ If follow-up needed, who will follow up _____

**E. Approved by Committee Chair to transmit to NOSB:**

**_____Tina Ellor_____ _____9-11-09_____**
**Committee Chair Date**

**NOSB EVALUATION CRITERIA FOR SUBSTANCES ADDED TO THE NATIONAL LIST**

**Category 1. Adverse impacts on humans or the environment? Substance - _Peracetic Acid(expand use)**

| Question | Yes | No | N/A[1] | Documentation (TAP; petition; regulatory agency; other) |
|---|---|---|---|---|
| 1. Are there adverse effects on environment from manufacture, use, or disposal? [§205.600 b.2] | **X** | **X** | | Peracetic acid is not produced and distributed for use as a solitary compound. It is only encountered as a solution in two- way equilibrium with hydrogen peroxide and acetic acid. These reaction components of peracetic acid- hydrogen peroxide and acetic acid- have various production methods, including (for acetic acid) oxidation of acetaldehyde, hydrolysis of acetylene, or fermentation of plant sources. For hydrogen peroxide, the Riedl-Pfleiderer process uses a polycyclic aromatic hydrocarbon derived from coal tar along with oxygen and hydrogen gases to produce the material. Details of which manufacturing process is used for the components or the potential adverse environmental effects from these processes were not provided in the TAP or the petition. General use of the material in crops would have adverse effects on the soil and crop environment due to non-selective biocidal effects. |
| 2. Is there environmental contamination during manufacture, use, misuse, or disposal? [§6518 m.3] | **X** | **X** | | See question #1 for manufacturing discussion. Environmental contamination from use or disposal of peracetic acid/ hydrogen peroxide/acetic acid formulas are not likely since they readily biodegrade. Small amount of stabilizer (HEDP) added to formulations would bio-degrade to phosphate for later plant availability.(Envirotech- Howarth & Harvey) More detail on the HEDP stabilizer's role in potential crop and/or aquatic environment contamination is needed to fully answer this question. |
| 3. Is the substance harmful to the environment? [§6517c(1)(A)(i);6517(c)(2)(A)i] | **X** | X | | Other than the temporary direct effects to the crop environment, the material would be expected to be benign in residual environmental effects, notwithstanding lack of information on effects of HEDP stabilizer. See question #6 below for harmful effects to crop environment. |
| 4. Does the substance contain List 1, 2, or 3 inerts? [§6517 c (1)(B)(ii); 205.601(m)2] | | **X** | | |
| 5. Is there potential for detrimental chemical interaction with other materials used?[§6518 m.1] | **X** | | | Strong oxidizer which can react violently with organic matter, mineral oils, and acetic acid anhydride.(TAP pg.3) |
| 6. Are there adverse biological and chemical interactions in agro-ecosystem? [§6518 m.5] | **X** | | | Soil application of significant amounts of the material would be toxic to many species of soil microbes, pest and beneficial. Foliar applications would kill pest and beneficial leaf inhabitants indiscriminately. (TAP pg.4) |
| 7. Are there detrimental physiological effects on soil organisms, crops, or livestock? [§6518 m.5] | **X** | | | See question 6. |
| 8. Is there a toxic or other adverse action of the material or its breakdown products? [§6518 m.2] | **X** | | | Material is an irritant of the skin, eyes, mucous membranes, and respiratory tract. |
| 9. Is there undesirable persistence or concentration of the material or breakdown products in environment?[§6518 m.2] | | **X** | | Readily biodegradable. |
| 10. Is there any harmful effect on human health? [§6517 c (1)(A)(i) ; 6517 c(2)(A)i; §6518 m.4] | **X** | | | See question 8. |
| 11. Is there an adverse effect on human health as defined by applicable Federal regulations? [205.600 b.3] | **X** | | | The material is on the EPA Extremely Hazardous Substance list.(EPA 2000) |
| 12. Is the substance GRAS when used according to FDA's good manufacturing practices? [§205.600 b.5] | | X | | OMRI Tech Brief 2 November 2000. It is listed on the FDA EAFUS list at http://vm.cfsan.fda.gov/eafus.html. (Everything Added to Food in the United States) |
| 13. Does the substance contain residues of heavy metals or other contaminants in excess of FDA tolerances? [§205.600 b.5] | | X | | Tap page 1 of 13; 'composition' and 'how made'. |

[1]If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

**Category 2. Is the Substance Essential for Organic Production? Substance -** _Peracetic Acid (expand use)__

| Question | Yes | No | N/A[1] | Documentation (TAP; petition; regulatory agency; other) |
|---|---|---|---|---|
| 1. Is the substance formulated or manufactured by a chemical process? [6502 (21)] | X | | | TAP page 1 of 13; 'composition' and 'how made'. |
| 2. Is the substance formulated or manufactured by a process that chemically changes a substance extracted from naturally occurring plant, animal, or mineral, sources? [6502 (21)] | | X | | Tap page 1 of 13; 'composition' and 'how made'. |
| 3. Is the substance created by naturally occurring biological processes? [6502 (21)] | | X | | Tap page 1 of 13; 'composition' and 'how made'. |
| 4. Is there a natural source of the substance? [§205.600 b.1] | | | X | |
| 5. Is there an organic substitute? [§205.600 b.1] | | | X | |
| 6. Is the substance essential for handling of organically produced agricultural products? [§205.600 b.6] | | | X | |
| 7. Is there a wholly natural substitute product? [§6517 c (1)(A)(ii)] | | X | | TAP page 4 of 13 #6 |
| 8. Is the substance used in handling, not synthetic, but not organically produced? [§6517 c (1)(B)(iii)] | | X | | Tap page 1 of 13; 'composition' and 'how made'. |
| 9. Are there any alternative substances? [§6518 m.6] | X | | | As plant disease control- Coppers(fixed), copper sulfate, hydrated lime, hydrogen peroxide, lime sulfur, oils(horticultural), potassium bicarbonate, and elemental sulfur. |
| 10. Is there another practice that would make the substance unnecessary? [§6518 m.6] | X | | | Disease control practices such as: proper crop site selection, plant disease resistance strategies, proper variety selection, crop rotation, etc. |

[1]If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

**Category 3. Is the substance compatible with organic production practices? Substance -** _Peracetic Acid

| Question | Yes | No | N/A[1] | Documentation (TAP; petition; regulatory agency; other) |
|---|---|---|---|---|
| 1. Is the substance compatible with organic handling? [§205.600 b.2] | | | X | |
| 2. Is the substance consistent with organic farming and handling? [§6517 c (1)(A)(iii); 6517 c (2)(A)(ii)] | X | X | | No: It is a synthetic, non-selective oxidizing agent that would be antagonistic (with general crop use) to many organic farming, microbiological-ecology based principles and practices.<br>Yes: TAP page 4 of 13 #7 "Breakdown products are all part of the agro ecosystem" |
| 3. Is the substance compatible with a system of sustainable agriculture? [§6518 m.7] | X | X | | No: To expand usage to general plant (and soil) use would not be compatible due to extreme effects on soil and leaf surface ecologies.<br>Yes: From the standpoint of residual environmental effects, "the breakdown products are all part of the natural agro ecosystem." TAP page 4 of 13 #7 |
| 4. Is the nutritional quality of the food maintained with the substance? [§205.600 b.3] | | | X | |
| 5. Is the primary use as a preservative? [§205.600 b.4] | | | X | |
| 6. Is the primary use to recreate or improve flavors, colors, textures, or nutritive values lost in processing (except when required by law, e.g., vitamin D in milk)? [205.600 b.4] | | | X | |
| 7. Is the substance used in production, and does it contain an active synthetic ingredient in the following categories:<br>a. copper and sulfur compounds; | | X | | TAP page 1 of 13 |
| b. toxins derived from bacteria; | | X | | TAP page 1 of 13 |
| c. pheromones, soaps, horticultural oils, fish emulsions, treated seed, vitamins and minerals? | | X | | TAP page 1 of 13 |
| d. livestock parasiticides and medicines? | | X | | |
| e. production aids including netting, tree wraps and seals, insect traps, sticky barriers, row covers, and equipment cleaners? | X | | | As a disinfectant/sanitizer for equipment cleaning- NOP Rule §205.601(a)(6) |

[1]If the substance under review is for crops or livestock production, all of the questions from 205.600 (b) are N/A—not applicable.

**Category 4. Is the commercial supply of an agricultural substance as organic, fragile or potentially unavailable?**
[§6610, 6518, 6519, 205.2, 205.105 (d), 205.600 (c) 205.2, 205.105 (d), 205.600 (c)]
**Substance - _____**

| Question | Yes | No | N/A | Comments on Information Provided (sufficient, plausible, reasonable, thorough, complete, unknown) |
|---|---|---|---|---|
| 1. Is the comparative description provided as to why the non-organic form of the material /substance is necessary for use in organic handling? | | | | |
| 2. Does the current and historical industry information, research, or evidence provided explain how or why the material /substance cannot be obtained organically in the appropriate **form** to fulfill an essential function in a system of organic handling? | | | | |
| 3. Does the current and historical industry information, research, or evidence provided explain how or why the material /substance cannot be obtained organically in the appropriate **quality** to fulfill an essential function in a system of organic handling? | | | | |
| 4. Does the current and historical industry information, research, or evidence provided explain how or why the material /substance cannot be obtained organically in the appropriate **quantity** to fulfill an essential function in a system of organic handling? | | | | |
| 5. Does the industry information provided on material / substance non-availability as organic, include ( but not limited to) the following:<br>a. Regions of production (including factors such as climate and number of regions); | | | | |
| b. Number of suppliers and amount produced; | | | | |
| c. Current and historical supplies related to weather events such as hurricanes, floods, and droughts that may temporarily halt production or destroy crops or supplies; | | | | |
| d. Trade-related issues such as evidence of hoarding, war, trade barriers, or civil unrest that may temporarily restrict supplies; or | | | | |
| e. Are there other issues which may present a challenge to a consistent supply? | | | | |