

FORMAL RECOMMENDATION BY THE  
NATIONAL ORGANIC STANDARDS BOARD (NOSB)  
TO THE NATIONAL ORGANIC PROGRAM (NOP)

Date: 11-25-06

Subject: Calcium Chloride – Crops.

Chair: Kevin O'Rell

Recommendation

The NOSB hereby recommends to the NOP the following:

Rulemaking Action: \_\_\_\_\_

Guidance Statement: \_\_\_\_\_

Other: XXX

Statement of the Recommendation (including Recount of Vote):

The Crops Committee recommends that the NOSB reject a petitioners request for the addition of Calcium Chloride for use in Crop Production.

NOSB Vote: Motion: Gerald Davis Second: Nancy Ostiguy

Yes – 8

No – 3

Abstain – 3

Absent – 0

Rationale Supporting Recommendation (including consistency with OFPA and NOP):

The NOSB found that this material failed the attached evaluation criteria. See attached for details.

Response by the NOP:

# NOSB COMMITTEE RECOMMENDATION

Form NOPLIST1. Committee Transmittal to NOSB

|  |  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
|--|--|---------------------------|---------------------|-------------------------------------|---|--------------------------|---|--------------------------------|---|---------------|----------|-----------|--|--------------|----------------------|-------------------------|--|----------|--|----------------|----------------|-----------------------|--|-----------------------|--|
| For NOSB Meeting: <u>October 17-19, 2006</u>   | Substance: <u>Calcium chloride- Annotation change</u>  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| Committee: Crops <input checked="" type="checkbox"/> Livestock <input type="checkbox"/> Handling <input type="checkbox"/>  |  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| <p>A. Evaluation Criteria (Documentation attached; committee recommendation attached)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"></td> <td style="text-align: right; font-weight: bold;">Criteria Satisfied?</td> </tr> <tr> <td>1. Impact on humans and environment</td> <td style="text-align: right;">Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below)</td> </tr> <tr> <td>2. Availability criteria</td> <td style="text-align: right;">Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below)</td> </tr> <tr> <td>3. Compatibility &amp; consistency</td> <td style="text-align: right;">Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below)</td> </tr> </table>  |  |                           | Criteria Satisfied? | 1. Impact on humans and environment | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below) | 2. Availability criteria | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below) | 3. Compatibility & consistency | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below) |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
|  | Criteria Satisfied?  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| 1. Impact on humans and environment  | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below)  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| 2. Availability criteria   | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below)  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| 3. Compatibility & consistency   | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (see B below)  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| <p>B. Substance fails criteria?</p> <p>Criteria category: <u>1,2,3</u></p> <p>Comments: 1: See Category 1, Ques. 2,3<br/>2: See Category 2, Question 7, 9<br/>3: See Category 3, Question 2, 3</p>   | <p>C. Proposed Annotation: _____</p> <p>Basis for annotation:</p> <p>To meet criteria above: _____ Criteria: _____</p> <p>Other regulatory criteria: _____ Citation: _____</p> |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| <p>D. Recommended Committee Action &amp; Vote: Motion by: _____</p> <p style="text-align: center;">Seconded: _____</p> <table style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 15%; padding: 5px;">Vote:</td> <td style="width: 15%; border: 1px solid black; padding: 5px;">Agricultural</td> <td style="width: 15%; border: 1px solid black; padding: 5px;">Nonagricultural</td> <td style="width: 15%; border: 1px solid black; padding: 5px; text-align: center;"><b>X</b></td> <td style="width: 15%; border: 1px solid black; padding: 5px;">Crops</td> <td style="width: 15%; border: 1px solid black; padding: 5px; text-align: center;"><b>X</b></td> </tr> <tr> <td style="padding: 5px;">Yes: <u>3</u></td> <td style="border: 1px solid black; padding: 5px;">Synthetic</td> <td style="border: 1px solid black; padding: 5px;">Not synthetic</td> <td style="border: 1px solid black; padding: 5px; text-align: center;"><b>X</b></td> <td style="border: 1px solid black; padding: 5px;">Livestock</td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">No: <u>0</u></td> <td style="border: 1px solid black; padding: 5px;">Allowed<sup>1</sup></td> <td style="border: 1px solid black; padding: 5px;">Prohibited<sup>2</sup></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;">Handling</td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">Abstain: _____</td> <td style="border: 1px solid black; padding: 5px;">No restriction</td> <td style="border: 1px solid black; padding: 5px;">Deferred<sup>4</sup></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;">Rejected<sup>3</sup></td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> </table> <p style="margin-top: 10px;">1—substance voted to be added as "allowed" on National List</p> <p>Annotation: _____</p> <p style="text-align: center;">2—substance to be added to "prohibited" paragraph of National List</p> <p>Describe why a prohibited substance: _____</p> <p style="text-align: center;">3—substance was rejected by vote for amending National List</p> <p>Describe why material was rejected: <u>See comments referenced in Section B above.</u></p> <p style="text-align: center;">4—substance was recommended to be deferred</p> <p>Describe why deferred; if follow-up is needed. If follow-up needed, who will follow up _____</p> |  | Vote:                     | Agricultural        | Nonagricultural                     | <b>X</b>  | Crops                    | <b>X</b>  | Yes: <u>3</u>                  | Synthetic   | Not synthetic | <b>X</b> | Livestock |  | No: <u>0</u> | Allowed <sup>1</sup> | Prohibited <sup>2</sup> |  | Handling |  | Abstain: _____ | No restriction | Deferred <sup>4</sup> |  | Rejected <sup>3</sup> |  |
| Vote:  | Agricultural   | Nonagricultural           | <b>X</b>            | Crops                               | <b>X</b>  |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| Yes: <u>3</u>  | Synthetic  | Not synthetic             | <b>X</b>            | Livestock                           |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| No: <u>0</u>   | Allowed <sup>1</sup>   | Prohibited <sup>2</sup>   |                     | Handling                            |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| Abstain: _____   | No restriction   | Deferred <sup>4</sup>     |                     | Rejected <sup>3</sup>               |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| <p>E. Approved by Committee Chair to transmit to NOSB:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 40%; border-bottom: 1px solid black; padding: 5px;"><u>Gerry Davis, Crops</u></td> <td style="width: 20%; border-bottom: 1px solid black; padding: 5px;"><u>09/06/06</u></td> <td style="width: 40%;"></td> </tr> <tr> <td style="padding: 5px;">Committee Chair</td> <td style="padding: 5px;">Date</td> <td></td> </tr> </table>  |  | <u>Gerry Davis, Crops</u> | <u>09/06/06</u>     |                                     | Committee Chair   | Date                     |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| <u>Gerry Davis, Crops</u>  | <u>09/06/06</u>  |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |
| Committee Chair  | Date   |                           |                     |                                     |   |                          |   |                                |   |               |          |           |  |              |                      |                         |  |          |  |                |                |                       |  |                       |  |

EVALUATION CRITERIA FOR SUBSTANCES ADDED TO THE NATIONAL LIST

Category 1. Adverse impacts on humans or the environment? Substance - Calcium chloride

| Question  | Yes | No | N/A <sup>1</sup> | Documentation<br>(TAP, petition, regulatory agency, other)  |
|---|-----|----|------------------|---|
| 1. Are there adverse effects on environment from manufacture, use, or disposal? [§205.600 b.2]                            |     | X  |                  | Manufacture by natural brine process is a closed system using impurities to prepare other compounds. Typical use rate in soil has minimal potential to allow leaching of soluble chloride ions into surface or ground waters (TAP).             |
| 2. Is there environmental contamination during manufacture, use, misuse, or disposal? [§6518 m.3]                         | X   |    |                  | Use at moderate to high rates in soil increases potential to allow leaching of significant quantities of soluble calcium and chloride ions into surface or ground waters, potentially affecting aquatic organisms at high rates >1000mg/L (TAP) |
| 3. Is the substance harmful to the environment? [§6517c(1)(A)(i);6517(c)(2)(A)i]  | X   |    |                  | Same as question #2   |
| 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  |                  | TAP (Evaluation question #6)  |
| 6. Are there adverse biological and chemical interactions in agro-ecosystem? [§6518 m.5]                                  | X   | X  |                  | Typical use rates for calcium and/or chloride nutrition pose no significant adverse effects. Misuse can damage foliage (tipburn, browning) due to excess uptake of chloride (TAP).  |
| 7. Are there detrimental physiological effects on soil organisms, crops, or livestock? [§6518 m.5]                        | X   | X  |                  | High levels of chloride ion may have the potential to impact organisms or roots in soil (TAP). Modest soil application rates would not be expected to bring chloride levels to ecologically damaging levels.                                    |
| 8. Is there a toxic or other adverse action of the material or its breakdown products? [§6518 m.2]                        | X   | X  |                  | Same as questions 6 and 7.  |
| 9. Is there undesirable persistence or concentration of the material or breakdown products in environment? [§6518 m.2]    |     | X  |                  | TAP (question #10)  |
| 10. Is there any harmful effect on human health? [§6517 c (1)(A)(i) ; 6517 c(2)(A)i; §6518 m.4]                           | X   |    |                  | Skin and eye exposure to calcium chloride can lead to irritation and burns. Inhaled dusts or mists can cause upper respiratory tract irritation. (TAP)  |
| 11. Is there an adverse effect on human health as defined by applicable Federal regulations? [205.600 b.3]                |     |    | X                |   |
| 12. Is the substance GRAS when used according to FDA's good manufacturing practices? [§205.600 b.5]                       |     |    | X                |   |
| 13. Does the substance contain residues of heavy metals or other contaminants in excess of FDA tolerances? [§205.600 b.5] |     |    | X                |   |

<sup>1</sup>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 - Calcium chloride

| Question   | Yes | No | N/A <sup>1</sup> | Documentation<br>(TAP; petition; regulatory agency; other)   |
|--|-----|----|------------------|--|
| 1. Is the substance formulated or manufactured by a chemical process? [6502 (21)]  |     | X  |                  | Natural brine process only. (TAP)  |
| 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  |                  | Natural brine process only (TAP).  |
| 3. Is the substance created by naturally occurring biological processes? [6502 (21)]   |     | X  |                  |  |
| 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   | X  |                  | Yes. Limestone, gypsum, rock phosphate, bone meal.(TAP)<br>Potassium chloride(as a chloride supplement)<br>No. Soil applied materials such as these fail to supply calcium in sufficient quantities under conditions of limited calcium uptake.(TAP) |
| 8. Is the substance used in handling, not synthetic, but not organically produced? [§6517 c (1)(B)(iii)]   |     |    | X                |  |
| 9. Is there any alternative substances? [§6518 m.6]  | X   |    |                  | Calcium chelated with humic acids (TAP) or chelated with Amino acids (Albion Labs)   |
| 10. Is there another practice that would make the substance unnecessary? [§6518 m.6]   |     | X  |                  | Alternative practices do not increase the translocation of calcium to growing points of the plant (TAP).   |

<sup>1</sup>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 – Calcium chloride

| Question   | Yes | No | N/A <sup>1</sup> | Documentation<br>(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  |                  | Lower rate foliar applications minimize the effects of possible chloride contamination of soil and water. Higher potential soil application rates invite surface or groundwater contamination issues conflicting with §205.203(d) of the Rule.                      |
| 3. Is the substance compatible with a system of sustainable agriculture? [§6518 m.7]   | X   | X  |                  | For the very long term, the natural resource material is not renewable, though currently plentiful. For ground water and surface water contamination concerns, limiting the use rate per acre mitigates possible conflicts with sustainable agriculture principles. |
| 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:  |     |    | X                | Calcium chloride produced by natural brine process is non-synthetic.  |
| a. copper and sulfur compounds;  |     |    |                  |   |
| b. toxins derived from bacteria;   |     |    |                  |   |
| c. pheromones, soaps, horticultural oils, fish emulsions, treated seed, vitamins and minerals?   |     |    |                  |   |
| d. livestock parasiticides and medicines?  |     |    |                  |   |
| e. production aids including netting, tree wraps and seals, insect traps, sticky barriers, row covers, and equipment cleaners?   |     |    |                  |   |

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