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November 4, 2011

National Organic Standards Board
Fall 2011 Meeting
Savannah, GA

Re. Comments on Calcium Chloride Sunset

Dear Board Members:

These comments are submitted on behalf of Beyond Pesticides. Beyond Pesticides, founded in 1981 as a national, grassroots, membership organization that represents community-based organizations and a range of people seeking to bridge the interests of consumers, farmers and farmworkers, advances improved protections from pesticides and alternative pest management strategies that reduce or eliminate a reliance on pesticides. Our membership and network span the 50 states and groups around the world.

We support the recommendation of the Crops Committee to continue the listing of calcium chloride as a prohibited nonsynthetic except as a foliar spray to treat a physiological disorder associated with calcium uptake. As we will explain below, the use of calcium chloride outside the limitations of the annotation does not meet the requirements of the Organic Food Production Act—it may have detrimental impacts on the soil, there are many alternatives available, and it is inconsistent with a system of organic and sustainable agriculture.

1. **Calcium chloride may have detrimental impacts on the soil and groundwater.**

The Technical Advisory Panel (TAP) review says:

> Any water-soluble calcium or chloride not absorbed by plant roots would drain into surface waters or be leached into groundwater. (307-308)
>
> Low levels of chloride can inhibit plant growth, and problems with plants are mostly due to the chloride ion (Reid and Kust, 1992; Greenway and Munns, 1980). Concentrations in excess of 1,000 ppm can retard plant growth (Kemp and Keegan, 1985). (350-353)
>
> Calcium chloride obtained from natural salt brines has a significant amount of sodium chloride, usually about 3-4%. Sodium chloride has a high salt index and should not be applied to soil (Rader, et al., 1943). Calcium chloride may have a high salt index, but there is

no published salt index for it. Application to soil could lead to chloride phytotoxicity. (Greenway and Munns, 1980). (355-358)

All the reviewers concluded that the material is inappropriate for soil application given the high chloride content and high solubility. (14-17)

The information presented reinforces the need to stress that calcium chloride should not be permitted for use as a soil-applied material. Rates of use as a foliar feed should be low enough that no toxicity to beneficial organisms should occur. (472-473)

2. **There is no demonstrated need to apply calcium chloride to the soil in organic agriculture.**

As noted in the TAP review, there are several alternative sources of calcium, including limestone, gypsum, bone meal, calcium chelated with humic acids, and calcium chelated with amino acids. These may fail to supply calcium under conditions of poor calcium uptake, in which case foliar applications may be made.

3. **The application of calcium chloride to the soil is inconsistent with organic and sustainable agriculture.**

The Crops Committee summarized this point well:

The foundational principle for placing high solubility materials such as Calcium chloride, Potassium chloride, etc. on a prohibited non-synthetic materials list is spelled out in §205.203(d) **–** Soil fertility and crop nutrient management practice standard; "A producer may manage crop nutrients...in a manner that does not contribute to contamination of crops, soil, or water by plant nutrients..."

Because the use of calcium chloride does not meet the requirements of the Organic Food Production Act, we urge you approve the Crop Committee's recommendation to maintain the prohibition on use of calcium chloride except as a foliar spray to treat a physiological disorder associated with calcium uptake.

Sincerely,

Terry Shistar, Ph. D.
Board of Directors