



September 3, 2002

TO: National Organic Standards Board Members
National Organic Program, USDA

FROM: Craig Weakley, Vice President of Agriculture

At your September NOSB meeting, you will be discussing and voting on a Petition to remove Chilean nitrate from the National List of approved materials for organic farming. Because Chilean nitrate is a “natural” (non-synthetic) material, changing its National List status to a “prohibited natural material” should not be done without compelling scientific evidence that its use on organic farms in accordance with Section 205.602(h) of the Final Rule is harmful to the soil, to soil biota, to the environment, and/or to human health. I urge you to vote against the Petition because of the lack of scientific evidence that the use of Chilean nitrate on organic farms is detrimental in any way.

During my four years as a member of the NOSB (1992 through 1996), Chilean nitrate was heavily researched, much discussed, and hotly debated by the NOSB Crops Committee (I was an NOSB Crops Committee member for four years) and by the full Board. The Board received much public testimony over a 3-year period (1992 – 1995) from all segments of the organic community on the use of Chilean nitrate by organic farmers. In fact, I can’t think of another issue or material that was more thoroughly discussed and reviewed by the Charter NOSB. As you know, in November of 1995, following lengthy deliberation, the NOSB Recommendation to allow the use of non-synthetic Chilean nitrate with restriction (not more than 20% of the total nitrogen supplied to a crop; use of Farm Plan process to reduce use over time) was submitted to USDA.

Much like the ample public testimony about this material received by the Charter NOSB, the reaction by organic farmers and other members of the organic community to the NOSB Recommendation on Chilean nitrate was polarized: either you loved the Recommendation or you hated it. This has not changed since 1995. Thus, it was no surprise that an organic farmer who “hates” Chilean nitrate has recently submitted a Petition to prohibit its use in organic farming. But, just as the Charter NOSB could find no scientific basis (TAP Reviews) for prohibiting this non-synthetic fertilizer, the current Petition is not supported by scientific evidence that documents soil quality degradation, that documents detrimental effects on soil biota, that documents detrimental environmental effects, that documents detrimental effects on human health, or that

documents detrimental effects on water quality caused by the use of Chilean nitrate on organic farms. The alleged detrimental effects attributed to Chilean nitrate by the Petitioner and by one of the new TAP reviewers (Reviewer #3) are hypothetical and theoretical. In order to be consistent with the OFPA, a prohibition of this non-synthetic (natural) material must be based on scientific documentation showing that the use of the material in organic production is detrimental to the soil, the environment, and human health. Again, such documentation is absent.

Historically, Chilean nitrate has been allowed by most major U.S. organic certification agents (in recent years, some have prohibited the material in order to achieve IFOAM Accreditation). In fact, Chilean nitrate (with and without the current restriction to 20% of the total nitrogen applied) has been used by organic farmers for decades. If, in fact, there were detrimental effects to soil, soil biota, the environment, or human health, surely scientists, extension agents, and organic certification agents would have documentation of such problems. If it exists, why is this documentation absent from the Petition and from the three new TAP Reviews?

Two of the new TAP Reviewers (Reviewer #1 – PhD in Horticulture & Reviewer #2 – PhD in Soil Science) conclude that use of Chilean nitrate in accordance with the restriction in Section 205.602(h) will pose no harm to the soil, the soil biota, to water quality, or to human health. Reviewer #1 says: “Much is also made about the high salt index of sodium nitrate, but application of this product at the levels allowed under section 205.602(h) presents little risk in either of these regards.” “If used in moderation, none of these nitrate-containing materials would have serious effects on soil biota. The presence of significant quantities of nitrate in organically managed soils is not unusual; following breakdown of a cover crop, a buildup of 10 – 20 mg/kg NO₃-N is common. Therefore, the use of nitrate-containing fertilizer does not increase the pollution potential.” “It is true that the application of this product late in the crop cycle of leafy greens (the expected use pattern) would increase the nitrate concentration of the produce, but it would be very unlikely to result in levels deemed a health hazard by current standards.” “In summary, the risks associated with the use of sodium nitrate are minimal...” Reviewer #2 says: “In the manner it is used in organic production practices, minimal detrimental chemical interactions should occur.” “Applications of Chilean nitrate using best management practices should avoid environmental contamination.” “The soil microbial community should easily process the low level of perchlorate. Overall, the low level of perchlorate should not pose human health problems at the recommended application rate.” “However, since the current guidelines establish that Chilean nitrate application cannot exceed 20% of N application, this should minimize salinity problems.” The conclusion of these two agricultural scientists substantiates that there is no “environmental harm” basis for prohibiting Chilean nitrate.

Reviewer #3, who is apparently not a scientist, expresses several opinions about the potential for detrimental effects to be caused by Chilean nitrate use but offers zero scientific documentation to back the opinions. The quality of this “technical” review is so poor that it is of little value to the NOSB review process.

Two of the new TAP Reviewers (Reviewer #1 & Reviewer #3) express concern about the environmental impact of the mining of Chilean nitrate. While mining certainly creates an environmental impact, the organic community has a long-standing tolerance for the use of natural (non-synthetic) mined materials. Mined lime, gypsum, rock phosphate, sulfur, and potassium sulfate are all approved for use on organic farms by U.S. and international certifying agents. The fact that Chilean nitrate is mined is not a valid reason for prohibiting its use on organic farms.

Two of the new TAP Reviewers (Reviewer #1 & Reviewer #3) conclude that the use of Chilean nitrate is incompatible with a system of organic agriculture. Reviewer #3 draws this conclusion “given the points mentioned above.” Since the “points mentioned above” by Reviewer #3 are his/her unsubstantiated opinions about the potential detrimental effects of Chilean nitrate use, the entire basis for his/her conclusion is unsubstantiated. Thus, his/her conclusion is erroneous. Reviewer #1 draws this conclusion based on the environmental impact of mining and the availability of “suitable alternatives” and in spite of his/her conclusion that “the risks associated with the use of Chilean nitrate are minimal.” I do not believe that mining and the availability of suitable alternatives are compelling reasons to conclude that Chilean nitrate is incompatible with a system of organic agriculture. Several National List approved materials are mined and have suitable alternatives. In addition, the fact that Chilean nitrate use (with restriction) is currently allowed by some major U.S. certifiers and has been historically allowed by most major U.S. certifiers demonstrates that it is not incompatible with organic principles.

In formulating its Chilean Nitrate Recommendation to USDA, the Charter NOSB recognized the potential for the misuse of Chilean nitrate by organic farmers. But, because of the lack of scientific documentation of detrimental effects from Chilean nitrate use on organic farms, the Charter NOSB chose to recommend that Chilean nitrate be available for use by organic farmers with a use restriction (no more than 20% of the total N applied to a crop) and within the context of the Organic Farm Plan which requires organic farmers to maintain soil quality. Today, the concerns about the potential negative impact of Chilean nitrate use on soil quality, on the environment, and on human health remain unsubstantiated by scientific evidence. Nor are they validated experientially by organic certification agents or extension agents. So, again, there is no basis for prohibiting Chilean nitrate.

While there is a lack of science to support concerns about soil and environmental harm related to the use of Chilean nitrate, there is plenty of experience among organic farmers to support the need to retain this material as a fertilizer option for organic production. I have worked with west coast (California, Oregon, Washington) organic fresh market and processing vegetable growers (including tomatoes, corn, peas, green beans, carrots, potatoes, onions, lettuce, peppers, squash, broccoli, spinach, cauliflower, sugar snap peas, melons) since 1989. While all of these crops can be successfully grown without Chilean nitrate if the weather cooperates, it is common for at least one crop in the rotation (3 to 5 years) to need a Chilean nitrate application due to cold temperatures and/or wet soils that prevent adequate nitrogen release (from soil organic matter, compost, manure, etc.) for

proper crop growth and maturity. Because such weather conditions cannot be predicted, it is difficult to plan for them. Chilean nitrate, used in accordance with Section 205.602(h) of the Final Rule, gives organic farmers a tool they need to prevent economic loss associated with nitrogen deficiency created by excessive rainfall and extended cold temperatures. Alternative nitrogen fertilizers are inadequate to address the timing, solubility, and application methods needed to mitigate the impact of these weather events.

Over the past 14 growing seasons, I have had the opportunity to help a number of conventional farmers make the transition to organic. These new organic farmers (the future of our growing organic industry) must deal with a number of agronomic/horticultural challenges that are associated with crop production during the transition period. Providing adequate nitrogen to crops during the early years of soil-building is one such challenge. As pointed out by TAP Reviewer #2, Chilean nitrate is a valuable tool for new organic farmers during the initial soil-building period.

In its deliberations on Chilean nitrate, members of the Charter NOSB recognized that organic farmers are stewards of their soil (their most precious asset) and the environment. In that context, misuse of Chilean nitrate by organic farmers is both illogical and counter-productive. The Organic Farm Plan and the 20% use restriction (Section 205.602(h)) provide excellent regulatory protection from farmers who might attempt to “beat the system.” Allowing restricted use of non-synthetic Chilean nitrate is consistent with the OFPA, with organic farming principles, and with the organic standards of several U.S. organic certification agents. Additionally, Chilean nitrate is particularly helpful in assisting first time organic farmers during the transition period and, as such, serves as a bridge in their efforts to create a more self- sustaining farm system.

Organic farming is challenging enough. Please do not vote to prohibit Chilean nitrate use in organic crop production.