BEYOND PESTICIDES
701 E Street, SE ■ Washington DC 20003
202-543-5450 phone ■ 202-543-4791 fax
info@beyondpesticides.org ■ www.beyondpesticides.org

April 2, 2015

Ms. Michelle Arsenault
National Organic Standards Board
USDA-AMS-NOP
1400 Independence Ave. SW.,
Room 2648-S, Mail Stop 0268
Washington, DC 20250-0268

Re. Sunset 2016: Ferric phosphate

These comments to the National Organic Standards Board (NOSB) on its Spring 2015 agenda are submitted on behalf of 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, Beyond Pesticides 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.

Beyond Pesticides opposes the relisting of ferric phosphate because ferric phosphate alone is not essential —because it is not effective— and ferric phosphate in combination with EDTA (ethylenediaminetetraacetic acid) poses risks to soil organisms, uses highly toxic materials in manufacture, and is not compatible with organic agriculture.

It is time for the NOSB to address this material in the context of the law and give it the hearing it deserves. The NOSB must either consider ferric phosphate alone —in which case, it may be found to lack efficacy or essentiality— or complexed with EDTA, in which case it may be found to pose environmental hazards that require evaluation. Considering one or the other, without a standardized review process that is uniformly applied, contravenes the intent of the Organic Foods Production Act (OFPA) and circumvents the evaluation required under OFPA.

1. Ferric phosphate is not essential
The patent cited on the product label says that neither ferric phosphate nor EDTA alone is effective in killing snails and slugs, but the combination, when used either as a compound (e.g., sodium ferric hydroxyl EDTA) or together in a bait where they react within the gut of the mollusc), is effective. Therefore, if the listing is for ferric phosphate alone, then it is not essential because it is not effective.

Furthermore, the Technical Review (TR) cites cultural practices that eliminate the need for a snail and slug bait, as well as alternative control measures.

2. Ferric phosphate with EDTA poses hazards for soil organisms and humans.
An important issue has been whether EDTA is a necessary part of the formulation, or whether it should be considered separately as an "inert." USDA's Agricultural Research Service (ARS), in reviewing a supplemental technical review (STR), calls EDTA a "synergist." The patent indicates that neither ferric phosphate nor EDTA alone is effective in killing snails and slugs, but the combination, when used either as a compound (e.g., sodium ferric hydroxyl EDTA) or together in a bait where they react within the gut of the mollusc), is effective.

Ferric phosphate with EDTA has negative impacts on earthworms and other soil organisms, as documented in the TR and STR. Sodium cyanide and formaldehyde are used in making EDTA. EDTA can result in the detrimental movement of metals in soils and river sediments and has been detected in the ocean, with unknown effects.

3. Ferric phosphate with EDTA is not compatible with organic agriculture.
EDTA has negative impacts on beneficial soil organisms. It can build up in the soil. It is the most abundant anthropogenic chemical in some European surface waters. It can enhance the movement of metals in soil and river sediments.

4. "Inerts."
In the spring of 2012, the Crops Subcommittee requested a supplementary TR (STR) on the role of EDTA in ferric phosphate products —in particular, whether the NOSB needed to consider the EDTA as an integral part of "ferric phosphate" and its active properties against the target pest, as claimed by the petitioner. The STR addressed four questions:

1. Is ferric phosphate alone an effective molluscicide? Can it be combined with other ingredients besides EDTA and still work, or are EDTA and related compounds the only ones that contribute to efficacy?
2. Are there reasons for concern about EDTA beyond what information goes into a tolerance exemption, such as effects on soil organisms or contamination in groundwater?
3. Does the EDTA as used with ferric phosphate pose the same concerns as the EDTA that was reviewed as part of the Sodium Ferric Hydroxyl EDTA?
4. Are there any unbiased studies that back up the findings of Edwards et al. (2009) as cited in the TR or with contrasting results? Does the Edwards et al. (2009) study seem biased?

The subcommittee received a supplemental TR addressing the above questions, along with a review of that document by the ARS, resulting in the following answers:

1. As stated by ARS in its review of the STR, ferric phosphate requires a chelating agent such as EDTA or EDDS synergist in order to make it an effective product. This "synergist" function separates EDTA from so-called "inert" ingredients, such as the wheat flour that makes up most of the actual product.
2. The ARS review confirmed the potential for widespread harm from the use of ferric phosphate-EDTA/EDDS baits noted in the original and supplemental TRs.
3. The ARS review found reasonable the conclusion of the STR that, "EDTA poses the same concerns whether used with ferric phosphate or as sodium hydroxyl EDTA." As summarized in the supplemental TR, these are:

> …EDTA clearly has the potential to be harmful to the environment and can result in the detrimental movement of metals in soils and river sediments. Furthermore, the Crops Committee was concerned about EDTA's slow rate of biodegradation and its persistence in the environment. The EU Commission risk assessment on EDTA (EC, 2004) was cited as the reference for this conclusion. The potential harmful effects of EDTA on human health were also a concern to the Crops Committee. In particular, the Committee concluded that "EDTA is a very strong metal chelating agent, especially for calcium. It is poorly absorbed in mammalian GI tract and concerns have been raised that excessive usage in food could deplete the body of Ca and other minerals."

4. The ARS review finds that the principal study on which the TR relied in presenting hazards that iron phosphate baits containing EDTA and EDDS chelating agents are toxic to earthworms "is not likely to be biased."

Although we are clear about the fact that so-called "inert" ingredients are not biologically or chemically inert, the evidence that has been presented to the NOSB shows that without EDTA or related chemicals, there would be no ferric phosphate snail baits. Furthermore, it was one thing to defer action on ferric phosphate + EDTA when it appeared that the NOSB would be acting soon to consider individual "inert" ingredients. But now, as "List 4 inerts" appear on the sunset review workplan for the Crops and Livestock Subcommittees, no protocol for reviewing the inerts and timeline for action have been set since the Board adopted an inerts recommendation at its fall 2012 meeting. The NOP reported on meetings with EPA to engage the Design for the Environment program at EPA in the review of "inerts," but despite the fact that the Inerts Working Group has now been working as an interagency group for four years, a memorandum of understanding authorizing this joint venture has only just been signed.

5. Further discussion.

In November 2007, the NOSB denied a petition for sodium ferric hydroxy EDTA because it "is not consistent with environmental and compatibility with organic farming (OFPA) criteria, primarily due to the behavior of EDTA in the environment and the toxic chemicals used to manufacture." In view of the STR and ARS review, ferric phosphate should not be relisted for the same reasons given by the Board for rejecting the sodium ferric hydroxy EDTA petition.

At any rate, the NOSB must consider ferric phosphate with EDTA in performing its sunset review. Ferric phosphate with EDTA is the only ferric phosphate product in use, and it is dependent on the EDTA component, as the manufacturer's patent states.

Thank you for your consideration of these comments.

Sincerely,

Teresa Ann Shistar

Terry Shistar, Ph.D.
Board of Directors