



BEYOND PESTICIDES

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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. LS: Acidified Sodium Chlorite

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.

The Livestock Subcommittee (LS) proposes to list acidified sodium chlorite as a teat dip.

Listing Motion: Motion to list Acidified Sodium Chlorite (CAS #s 13898-47-0 (Chlorous Acid), 7758-19-2 (Sodium Chlorite)) at §205.603(a) and 205.603(b) of the National List annotated as follows: Acidified Sodium Chlorite, allowed for use on organic livestock as a pre and post teat dip treatment.

ASC is not compatible with organic production.

The fact that use of chlorine—as opposed to chloride—is so universally associated with the production of persistent toxic chemicals has led some environmental groups to seek a ban on chlorine-based chemicals. We believe that organic production should, for the same reasons, avoid the use of chlorine as much as possible. The early allowance of chlorine in the rule reflects the fact that many organic growers —like most of the rest of us— depend on water sources that have been treated with chlorine. We don't believe that organic producers should have to filter chlorine out of the tap water they use for irrigating, cleaning equipment, washing vegetables, or cleaning food-contact surfaces. But they should not be adding more chlorine. Organic production and handling should be, to the extent possible, chlorine-free.¹

¹ The Organic Foods Production Act, §6518(m), lists three criteria that directly pertain to chlorine: (1) the potential of such substances for detrimental chemical interactions with other materials used in organic farming systems; (2) the toxicity and mode of action of the substance and of its breakdown products or any contaminants, and their persistence and areas of concentration in the environment; (3) the probability of environmental contamination during manufacture, use, misuse or disposal of such substance;

ASC and chlorine chemistry is harmful to humans and the environment.

We address this issue in more detail in our comments on sanitizers, but here we will address ASC in particular. “Acidified sodium chlorite” refers to a solution containing several active chlorine species that is formed when acid is added to sodium chlorite. The chlorine compounds contained in ASC include chlorite, chlorate, chlorous acid, and chlorine dioxide gas. The main active ingredient is considered to be chlorous acid, which is a strong oxidizing agent. Chlorine dioxide is very toxic. It is a severe respiratory and eye irritant. Chronic exposure to animals and workers has resulted in death. Repeated acute exposure to workers has caused eye and throat irritation, nasal discharge, cough, wheezing, bronchitis, and pulmonary edema. Repeated exposure may lead to chronic bronchitis.² “In addition, exposure to high levels of chlorine dioxide and chlorite in animals both before birth and during early development after birth may cause delays in brain development.”³

In addition to the purposeful production of toxic chlorine compounds, the manufacture and use of chlorine compounds results in the unintended production of other toxic chemicals. Disinfection with chlorine, hypochlorite, or chloramines results in the formation of carcinogenic trihalomethanes, haloacetic acids, and other toxic byproducts.⁴ Disinfection with chlorine dioxide produces undesirable inorganic byproducts, chlorite and chlorate. Industrial production of chlorine compounds, use of chlorine bleach in paper production, and burning of chlorine compounds release dioxins and other persistent toxic chemicals into the environment.⁵

There is an essential difference between chloride compounds and the toxic products and by-products of the chlorine chemical industry. Almost all of the former are naturally-occurring materials that do not share the characteristics of toxicity and undesired persistence of the latter. The fact that use of chlorine—as opposed to chloride—is so universally associated with the production of persistent toxic chemicals has led some environmental groups to seek a ban on chlorine-based chemicals. We believe that organic production should, for the same reasons, avoid the use of chlorine as much as possible.

ASC is not necessary.

The LS says, “There are several teat dips available on the market, but some may be more irritating to the animal than others, and some bacteria may become resistant, and thus a broader array of teat dip ingredient choices for organic farmers seems essential.”

Beyond Pesticides cannot accept a rationale of resistance management based on providing more toxic chemicals. This approach is responsible for the proliferation of toxic chemicals in the

² CDC, Occupational health guideline for chlorine dioxide. <http://www.cdc.gov/niosh/docs/81-123/pdfs/0116.pdf>

³ ATSDR, Public Health Statement for Chlorine Dioxide and Chlorite.
<http://www.atsdr.cdc.gov/phs/phs.asp?id=580&tid=108>

⁴ Alexander G. Schauss, 1996. Chloride – Chlorine, What’s the difference? P. 4.
<http://www.mineralresourcesint.com/docs/research/chlorine-chloride.pdf>

⁵ ATSDR, 1998. Toxicological Profile for Chlorinated Dibenzo-p-Dioxins. Pp. 369 ff.
<http://www.atsdr.cdc.gov/toxprofiles/tp104.pdf>

environment and the ineffectiveness of disease and pest management. The best way to preserve the effectiveness of materials is to save their use for limited occasions when non-toxic control measures are inadequate. Routine use creates strong selection pressure for resistance. Rotating use of several toxic chemicals eventually leads to multiple chemical resistance.

The LS says, "Research indicates that alternative practices to teat dipping/spraying or udder washing are not advised, as the exclusion of a disinfecting step from a mastitis control program would significantly increase the likelihood of infection." Yet, according to the technical review, "The available information suggests that commercial antimicrobial products containing oxidizing chemicals (e.g., sodium chlorite, hypochlorite, iodophor), natural products composed of organic acids (e.g., lactic acid), and homemade products using vinegar (i.e., acetic acid) as the active ingredient may all be equally effective teat dip treatments."

Conclusion

We urge the NOSB to make a commitment to make organic chlorine-free to the extent possible. Please reject the petition for acidified sodium chlorite.

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry Shistar". The signature is fluid and cursive, with a prominent flourish at the end.

Terry Shistar, Ph.D.
Board of Directors