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April 3, 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. HS: Peracetic acid

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 supports the relisting of peracetic acid for use in handling. Compared to alternatives, it has relatively harmless degradation products, and is effective and compatible with organic handling practices.

1. Environmental and Health Impacts

Peracetic acid exists as a solution in an equilibrium of hydrogen peroxide and acetic acid. According to the 2009 sunset recommendation, "These reaction components of peracetic acid – hydrogen peroxide and acetic acid—have various production methods, including (for acetic acid) oxidation of acetaldehyde, hydrolysis of acetylene, or fermentation of plant sources. For hydrogen peroxide, the Riedl-Pfleiderer process uses a polycyclic aromatic hydrocarbon derived from coal tar along with oxygen and hydrogen gases to produce the material." Breakdown products are acetic acid (same acid found in vinegar at 5% level) and hydrogen peroxide that breaks down to O2 and H2O.

The 2009 recommendation also states that peracetic acid is an irritant of the skin, eyes, mucous membranes, and respiratory tract, and it is on the EPA Extremely Hazardous Substance list.

2. Essentiality

According to the TAP review, alternatives include: fresh, clean water; rapid cooling; and reducing the time between harvest and consumption. Physical methods such as heat and steam can also be used in some situations. Other alternatives on the National List include hydrogen peroxide, chlorine bleach, phosphoric acid, and sodium hydroxide. Peracetic acid is superior to

hydrogen peroxide in antimicrobial activity. Please see our comments on sanitizers for a more complete treatment of options.

3. Compatibility

Peracetic acid is relatively compatible with organic practices. The TAP review says,

> In comparison to other most-used sanitizers in the food industry, peracetic acid may be more compatible with organic handling than the use of halogen-based sanitizers and disinfectants such as chlorine bleach, iodine-phosphorous (iodophors), or quaternary ammonia products (quats). For example, chlorination can seriously damage aquatic life and form chlorinated hydrocarbons with carcinogenic and mutagenic properties (Arturo-Schaan et al., 1996). Quats have the longest residual activity (Block, 1991). PAA degrades rapidly, leaves little residue, and decomposes into relatively harmless naturally-occurring substances (Evans, 2000).

4. Conclusion

We agree with the TAP review's assessment of the relative compatibility of peracetic acid, especially compared with chlorine-based materials. Since physical methods may not always appear to be workable, peracetic acid appears to be the safest, most effective, and most compatible of the chemical approaches currently on the National List for this use.

Thank you for your consideration of these comments.

Sincerely,

Terry Shistar, Ph.D.
Board of Directors