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September 18, 2024

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

Docket ID # AMS-NOP-24-0023

Re. HS: Ethylene gas petition

These comments to the National Organic Standards Board (NOSB) on its Fall 2024 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 eliminate a reliance on pesticides. Our membership and network span the 50 states and the world.

Beyond Pesticides opposes the expansion of the use of ethylene in handling.

Ethylene gas is hazardous to humans and the environment.

Almost all the ethylene used will eventually end up in air; a small proportion will end up in water.[1] Worker safety is a concern.[2] It is volatile, flammable, can "cause temporary incapacitation or residual injury. . . . Moderate concentration in air causes drowsiness, dizziness, and unconsciousness. Overexposure causes headache, drowsiness, muscular weakness."[3]

Recent research finds "the most commonly used plastics produce two greenhouse gases, methane and ethylene, when exposed to ambient solar radiation."[4] [While this comment does not directly address plastic used in organic production, we request that the NOSB take note of this finding when examining plastic uses.] Although ethylene is not noted as one of the most potent greenhouse gases, an investigation of ethane and ethylene finds, "Chemical destruction of ethane and ethylene

[1] 1999 TAP, p. 2.
[2] Supplemental TR 2000, p. 3.
[3] https://cameochemicals.noaa.gov/chemical/8655.
[4] Royer S-J, Ferrón S, Wilson ST, Karl DM (2018) Production of methane and ethylene from plastic in the environment. PLoS ONE 13(8): e0200574. https://doi.org/10.1371/journal.pone.0200574.

within the atmosphere leads to the production of carbon monoxide, formaldehyde, and other products."[5] Carbon monoxide is short-lived in the atmosphere, but, "Carbon monoxide, a non-radiatively active species, enhances the greenhouse warming by raising the levels of methane and ozone."[6]

While the manufacturing process used by the petitioner may be less hazardous than bringing in compressed ethylene, there is nothing in a proposed listing to require that process.

Expanded use of ethylene is not essential for organic production.

Ethylene has not been needed so far to inhibit sprout production. The petition has not shown a need for the chemical.

The use of ethylene gas is incompatible with organic production.

There is no category in OFPA §6517(c)(1)(B)(i) for synthetic growth regulators. As pointed out by Reviewer 3 in the TAP review, the use of such synthetic materials is contrary to consumer expectations.

HS questions

The HS asks about the need for revising the current annotation. OFPA requires that materials on the National List "contain an itemization, by specific use or application, of each synthetic substance." The current listing adequately describes the current allowed use, but more detail would be required for addressing the petitioned use, and the petitioner's manufacturing process.

Thank you for your consideration of these comments.

Sincerely,

Terry Shistar, Ph.D.
Board of Directors

[5] Aikin, A.C., Herman, J.R., Maier, E.J., & McQuillan, C.J. (1982). Atmospheric chemistry of ethane and ethylene. Journal of Geophysical Research, 87, 3105-3118. https://agupubs.onlinelibrary.wiley.com/doi/10.1029/JC087iC04p03105.

[6] Global Climate Change Linkages: Acid Rain, Air Quality, and Stratospheric Ozone (James C. White, Editor. Elsevier (1989), p. 106).