

outbreak, in the rare event that some type of “emergency” is declared by either the Federal or State government. We understand that when farmers lose livestock to a disease outbreak, they could lose a lot more than animals. The loss could translate into the complete elimination of decades of breeding by successive generations of livestock farmers, who have worked hard to breed their particular stock so that their herds or flocks are suited for the type of production system and region where their farm is located. Nonetheless, allowing an unreviewed GMO vaccine to be used in organic livestock production will not necessarily protect this important genetic resource that is integral to the livelihood of farmers. Surely, a better solution can be developed, based upon sound science, that upholds the principle of organic integrity.

Handling Committee—Carrageenan

Although CFS agrees with the Handling Committee’s recommendation to re-classify carrageenan as a synthetic, we disagree with its recommendation to re-list it on the National List (§205.605(b)).

A quick survey of organic products on supermarket shelves that contain carrageenan shows that carrageenan is not essential in the production of organic food and beverages. Producers of many identical products avoid the use of carrageenan altogether or use alternative ingredients that serve the same function during production.

Research has shown that consuming carrageenan may have adverse health effects, ranging from colonic ulcerations to cancer. The foundational review article on carrageenan, written by Joanne Tobacman from the University of Iowa, also referenced in the TR, paints an unfavorable picture of the substance. The author notes that as early as 1982, “sufficient evidence for the carcinogenicity of degraded carrageenan in animals” was proof enough for the International Agency for Research on Cancer to declare that it posed a carcinogenic risk to humans.^{4,5} Yet, even in the face of this knowledge, FDA has allowed the use of carrageenan to continue without restriction. Tobacman’s article concludes with this strongly worded cautionary note: “The potential role of carrageenan in the development of gastrointestinal malignancy and inflammatory bowel disease requires careful reconsideration of the advisability of its continued use as a food additive.”⁶ Information contained in Tobacman’s study and others⁷ provides ample evidence of the many adverse

⁴ Tobacman, Joanne K. (2001). “Review of Harmful Gastrointestinal Effects of Carrageenan in Animal Experiments”, *Environmental Health Perspectives*, 109(10): 983-994.

⁵WHO International Agency for Research on Cancer. (1998). “Some Food Additives, Feed Additives and Naturally Occurring Substances: Summary of Data Reported and Evaluation,” *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*, Vol. 31. Available at: <http://monographs.iarc.fr/ENG/Monographs/vol31/volume31.pdf>

⁶ Tobacman. (2001). p. 993.

⁷ Bhattacharyya, Sumit, Pradeep K. Dudeja, Joanne K. Tobacman. (2008). “Carrageenan-induced NFκB activation depends on distinct pathways mediated by reactive oxygen species and Hsp27 or by Bcl10,” *Biochimica et Biophysica Acta (BBA) - General Subjects*, 1780(7–8): 973-982.; Marcus, R. and James Watt. (1980). “Potential Hazards of Carrageenan,” *The Lancet*, 315(8168): 602-603.

health effects associated with carrageenan which make the substance incompatible with organic systems of production.

Moreover, the TR for carrageenan acknowledges a range of environmental impacts associated with carrageenan production, the most severe of which is the over-harvesting of seaweed from which the substance is derived. Overharvesting of a material or substance from its natural environment, with the potential to disrupt the ecosystem where it is found, is clearly not a practice that organic food production systems should encourage or support.

Crops Committee—Inerts

CFS supports the Committee's recommendation to review individual chemicals on the former List 3 inerts by 2015. Nonetheless, we are surprised to see the Crops Committee delay the vote on these chemicals for another two years rather than present a recommendation at this meeting, especially since there are only three or four chemicals on the list. Ten years of continued delays make no sense, particularly since there is complete Board agreement to review the individual chemicals on the list.

It is now clear that many substances formerly listed as "inerts" are far from it and, in fact, they are quite the opposite – toxic and active. That is why we support the National Organic Coalition's recommendation to change the referent category of chemicals from "inerts" to "formerly known as inerts." This would clarify the NOSB's understanding of those chemicals as the Board proceeds with its review.

We are disappointed to see the Crops Committee recommendation fall short of addressing former List 4a and 4b inerts. Based upon the NOSB's 2007 and 2008 Board acknowledgement of the need to review *all* inerts, it would seem logical that the Committee would have submitted a draft plan to review *all* inerts over a several year period at this meeting. Given the fact that some inerts are harmful to human health and the environment, it is absolutely necessary, and legally required, for the NOSB to commence its review at the earliest opportunity (7 USC 6517(c)(1)(C)). We urge the Committee to review former List 4b chemicals first, due to the acute toxic hazards they pose and because some chemicals on the list are considered endocrine disrupters that should not be permitted in organic systems. Continuing to delay this review compromises organic integrity and the organic label.

Policy Development Committee—Conflict of Interest

CFS fully supports the Conflict of Interest proposed policy revision as presented by the Committee, with one recommended addition. As it stands, the proposed policy is noticeably silent on the conflict of interest among NOSB contractors and consultants who conduct technical reviews of materials for the National List. As such, CFS urges the NOSB to