



# BEYOND PESTICIDES

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

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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. CS: Squid and Squid Byproducts

These comments to the National Organic Standards Board (NOSB) on its Spring 2016 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 the world.

Beyond Pesticides urges the NOSB to deny the petition for synthetic extracts of squid and squid byproducts because they environmental harm, are not essential, and are not compatible with organic production.

### **Liquid squid products remove valuable nutrients from marine ecosystems and may harm agroecosystems.**

While some liquid squid products are made from squid waste, others are made from whole squid.<sup>1</sup> Squid that do not have commercial value may have ecological value.<sup>2</sup> Use of discarded squid parts as fertilizer may also remove food from marine ecosystems.<sup>3</sup> According to the technical review,<sup>4</sup>

Illegal, unreported and unregulated (IUU) fishing is a significant problem that affects the marine ecosystem and those who depend on it for survival. Illegal and unreported catches represented 20–32% by weight of wild-caught seafood imported to the USA in 2011. The value is between \$1.3 and \$2.1 billion of \$16.5 billion total for 2.3 million tons of edible seafood imports, including farmed products. An estimated ten to fifteen percent of squid caught by fisherman from China, ten to twenty percent from Chile,

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<sup>1</sup> Petition, #B.5.

<sup>2</sup> <http://discovermagazine.com/2001/sep/featfish/?searchterm=menhaden>.

<sup>3</sup> <http://www.scotsman.com/news/environment/ban-on-fishing-discards-may-damage-ecosystem-1-3408818>.

<sup>4</sup> TR lines 727-733.

fifteen to thirty percent from Thailand and twenty to thirty five percent from India are illegal and unreported.

Acids used to manufacture liquid squid products may cause harm to the environment if misused or improperly disposed. Some liquid squid products are acidic, and too strong a solution can burn plants.<sup>5</sup> Squid products may contain persistent, bioaccumulative toxic chemicals that can affect crops and livestock over the long term.<sup>6</sup>

### **Synthetic liquid squid products are not essential.**

Squid may be preserved naturally. The technical review says,<sup>7</sup>

Squid and squid byproduct hydrolysate need only contain squid byproducts and water. This is a natural process. The addition of a non-agricultural non-synthetic allowed substance such as a proteolytic enzyme derived from non-pathogenic fermented bacteria, e.g. Alcalase (subtilisin Carlsberg) from *Bacillus megaterium* may still be considered a natural process. Of the acids permitted for acidification, citric acid sourced from an agricultural product is considered a nonagricultural product and its addition to the hydrolysate would still be natural.

In addition, squid and squid byproducts have been traditionally preserved by drying for both food and fertilizer use.<sup>8</sup>

Other natural materials that could substitute for synthetic squid products are manure, compost, aquatic plant products, blood meal, bone meal, compost, feather meal, kelp meal, guano, and other nonsynthetic animal or plant products.<sup>9</sup> Other practices include cover crops, crop rotations, and the application of plant and animal materials.<sup>10</sup>

### **Synthetic liquid squid products are incompatible with organic production.**

In an organic system, nutrients are provided by the soil, and the farmer feeds the soil natural organic and mineral materials. If synthetic nutrients are to be used at all, it must be as an exception and in concert with soil building practices that restore the soil balance naturally. The TR says,<sup>11</sup>

Fertilizers produced with squid and squid byproducts and acidified with phosphoric acid are effective in providing essential nutrients to soils when compared to synthetic commercial fertilizers. However, it has been observed that they are no more environmentally friendly than other organic fertilizers or synthetic fertilizers, rather they have been found to have a similar risk of NO<sub>3</sub>-N and PO<sub>4</sub>-P leaching to that of liquid or granular synthetic fertilizers applied at rates up to 292 kilograms per hectare per year.

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<sup>5</sup> TR lines 660-663.

<sup>6</sup> TR lines 500-506; 531-536.

<sup>7</sup> TR lines 474-479.

<sup>8</sup> TR lines 62-65.

<sup>9</sup> TR lines 738-750.

<sup>10</sup> TR lines 779-781.

<sup>11</sup> TR lines 685-693.

Leaching of  $\text{PO}_4\text{-P}$  can promote eutrophication, toxic algal blooms, loss of dissolved oxygen and fish kills in aquatic ecosystems.  $\text{NO}_3\text{-N}$  leaching into groundwater subsequently used as drinking water has been linked with thyroid disease, blue baby syndrome, and nitrosamine production (which can cause cancer).

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in cursive script, appearing to read "Terry Shistar".

Terry Shistar, Ph.D.  
Board of Directors