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September 30, 2025

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-25-0034

Re. LS: Sunset 603-604

These comments to the National Organic Standards Board (NOSB) on its Spring 2025 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.

Butorphanol

205.603(a) As disinfectants, sanitizer, and medical treatments as applicable
(5) Butorphanol (CAS #-42408-82-2)—federal law restricts this drug to use by or on the lawful written or oral order of a licensed veterinarian, in full compliance with the [Animal Medicinal Drug Use Clarification Act of 1994] **AMDUCA and 21 CFR part 530 of the Food and Drug Administration regulations. Also, for use under 7 CFR part 205, the NOP requires:**
(i) Use by or on the lawful written order of a licensed veterinarian; and
(ii) A meat withdrawal period of at least 42 days after administering to livestock intended for slaughter; and a milk discard period of at least 8 days after administering to dairy animals.

The technical advisory panel (TAP) review was thorough with respect to the use of butorphanol as a drug, but information about impacts of butorphanol and its metabolites when excreted was missing. Since metabolites of the drug can cross the placenta and pass into the mammary gland and into milk, more information about the metabolites would be helpful. When petitioned, it was considered a safe and necessary option.

The TAP review says that butorphanol may interact with other medications, including tranquilizers, barbiturates, and antihistamines. If used with other central nervous system depressants, butorphanol may increase the central nervous system or respiratory depression of those drugs.[1] Butorphanol and its metabolites are not considered toxic, but there are withdrawal periods to observe before using meat or milk.[2]

The use of butorphanol is an extra-label use and is not labeled for use in food animals. 21 CFR §522.246 addresses the use of butorphanol in dogs, cats, and horses. Under horses, the following restriction is listed:
(iii) *Limitations.* Do not use in horses intended for human consumption.

Therefore, we ask that the LS do two things with respect to butorphanol:

1. Find and present information about impacts of butorphanol and its metabolites when excreted; and
2. Get a written determination from FDA regarding the legal use of butorphanol in food animals.

With regard to the extralabel use (ELU) in food animals under AMDUCA, we understand that butorphanol is allowed because the use is not prohibited. USDA did determine that butorphanol is listed in the Food Animal Residue Avoidance Databank (FARAD), and the listed meat withdrawal and milk discard times are twice those listed in FARAD (2007 FR Notice).[3]

Since the public expects that organic production requirements are more stringent than FDA's, and reliance on AMDUCA's exemption of ELUs can be problematic,[4] we encourage the LS to address AMDUCA and ELUs in a discussion document that proposes policy to clarify the allowance of animal drugs for food animals as extra-label uses under AMDUCA.

With regard to the above comment concerning metabolites, we propose that all metabolites of materials on the National List be examined.

Flunixin

205.603(a) As disinfectants, sanitizer, and medical treatments as applicable
(9) Flunixin (CAS #-38677-85-9)—in accordance with approved labeling; except that for use under 7 CFR part 205, the NOP requires a withdrawal period of at least two-times that required by the FDA.

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[1] TAP, p. 18.
[2] TAP pp. 18, 25.
[3] USDA, 2007. National Organic Program (NOP); Amendments to the National List of Allowed and Prohibited Substances (Livestock). Federal Register Vol. 72, No. 238, Wednesday, December 12, 2007, pp.70479- 70486.
[4] Geni Wren, 2008. Options for Pain Management. Bovine Veterinarian. https://ahdc.vet.cornell.edu/Sects/NYSCHAP/docs/BovineVetpain01-08.pdf.

In the past, some have supported relisting because it is a strong NSAID (non-steroidal anti-inflammatory drug) related to aspirin, which is no longer allowed, but about 100 times as strong, that when injected can bring pain relief, fever reduction and keep inflammation in check within a very short time and allowing animals to eat within a short period of time. They say that flunixin is far superior to aspirin in relieving abdominal pain due to colic and other digestive disturbances. The LS says, "[T]here is uncertainty around whether aspirin remains allowed for pain relief in livestock production." This uncertainty should be removed.

A TAP review was produced in 2007. The decision of the NOSB during the sunset review of 2015 does not reference the materials in the TAP review. All three TAP reviewers in 2007 opposed the listing of flunixin. Their reasons included:

- The database does not provide information as to how flunixin functions differently from aspirin or other similar drugs already approved in the list and why it is needed since flunixin is also an analgesic like aspirin.
- The potential side effects of residual flunixin in livestock to humans are not provided.
- It is not clear whether the use of flunixin would have harmful side effects to livestock besides its anti-inflammatory action.
- Flunixin is prohibited for use in horses intended for food (Title 21 - Food and Drugs, sec. 520.970a), therefore it poses potential safety concerns to other livestock intended for human consumption.
- If aspirin can perform similar function as flunixin but just slower, it is safer to use aspirin.
- The fact that flunixin can persist in inflammatory tissues is worrisome (ref. #12). No data are provided on the concentration of flunixin in muscles and milk, and its elimination rate from those compartments.
- Information is also not provided on the biotransformation of flunixin and the activity and toxicity of its metabolites.
- The information provided is inadequate to judge the effect of flunixin on human health. The information in the criteria evaluation pertains to NSAID as a class and is not specific for flunixin. Of particular concern is the probability of hypersensitivity reaction to flunixin in the general human population.
- Based on the doses used, flunixin is more potent than aspirin, but there is no information on comparing the efficacy between the two drugs, which is a more important consideration.
- For inclusion on the National Organic List of pharmaceuticals allowable for use in livestock products labelled as "organic" or "made from organic" the trifluoromethyl group is especially troublesome. If the label of "organic" is to have any meaning and TAP process is to have any credibility in the eyes of the skeptical public, pharmaceuticals such as this must not be allowed. Clear natural product alternatives are available and mentioned in NOSB documents: aspirin and related hydroxyphenyl compounds are effective and naturally occurring and can be given to livestock as willow bark or water extracts.
- If organic cattlemen wish to limit susceptibility of their herds to inflammation in a totally organic way, let them limit the omega-6-fatty acid content of the feeds and assure a trace source of omega-3 fatty acids in the appropriate ratio.

- At the very least, the source, manufacture, by-products and post-use breakdown products of the trifluoromethyl group should be outlined as exhaustively as for any halogenated hydrocarbon. Likewise, the discussion of point 7 on p. 18 about "sustainable agriculture", to be convincing, would have to outline how some future organic farmer might set up, with the help of her neighbors, a manufacturing operation to produce flunixin meglumine using only things found around the farm.

Although the above reasons for not listing flunixin are not new, they have not been considered by the LS during the previous reviews. The presence of the trifluoromethyl group in flunixin's structure qualifies it as a PFAS chemical according to some definitions.[5] The LS should ensure that flunixin does not possess the characteristics—toxicity and persistence—that make PFAS so dangerous and persistent.

While we agree with the LS that it is critical that organic livestock producers have adequate pain relief measures available, any proposal for relisting flunixin should address these issues.[6]

Magnesium hydroxide

205.603(a) As disinfectants, sanitizer, and medical treatments as applicable
(15) Magnesium hydroxide (CAS #-1309-42-8)—federal law restricts this drug to use by or on the lawful written or oral order of a licensed veterinarian, in full compliance with the AMDUCA and 21 CFR part 530 of the Food and Drug Administration regulations. Also, for use under 7 CFR part 205, the NOP requires use by or on the lawful written order of a licensed veterinarian.

In 2015, the NOSB did not address issues raised in the TAP review –specifically, that magnesium hydroxide is nonsynthetic (which would eliminate the need to list on §205.603) and the vagueness of the uses. These should be clarified.

Regarding the classification, in 2007, the NOSB stated that magnesium hydroxide could be either synthetic or nonsynthetic, but that it would be difficult for the producer to determine which is being used. Is this still the case? We agree with the LS that given that the supporting reference material for magnesium hydroxide is from 2007, it makes sense to request an updated technical review.

Beyond Pesticides supports relisting of magnesium hydroxide.

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[5] https://pfas-1.itrcweb.org/2-2-chemistry-terminology-and-acronyms/.
[6] We suggest the following to start: SDS that suggests that flunixin itself has low toxicity and persistence, while the formulated product is not so benign: https://www.merck.com/docs/product/safety-data-sheets/ah-sds/Flunixin%20Injection%20Formulation_AH_MX_EN.pdf; an examination of flunixin's toxicity to vultures in comparison to meloxicam: https://save-vultures.org/wp-content/uploads/2021/02/Flunixin__summary__Jan-2021.doc.pdf.

Oxytocin

205.603(a) (22) Oxytocin - use in postparturition therapeutic applications.

In 2017, the NOSB voted to remove oxytocin from the National List, but NOP has failed thus far to make the change, which was the subject of a proposed rule August 24, 2021. If it remains on the list at the time of the NOSB meeting, the NOSB should vote to reaffirm the removal.

Oxytocin is a hormone and, even if rarely used, it leaves organic dairy farmers open to valid criticism that they can still use hormones. For this reason, as stated by the LS, "[T]he two largest organic milk buyers in the U.S., CROPP Cooperative/Organic Valley and White Wave/Horizon, did not support renewal of this material." Oxytocin may be a good treatment for prolapsed uterus, but alternative treatments are also available. Paul Dettloff's *Alternative Treatments for Ruminant Animals* lays out a procedure that uses some organically approved treatments and does not require oxytocin for a successful outcome. He uses a mixture of warm water and aloe vera with a tincture to induce uterine contractions. He says, "They usually breed back and won't prolapse the next time."

Prolapse should be a rare occurrence. Past comments have shown the annotation to be vague and that it was misused, to help cows let down their milk. Cows can become dependent on it for let-down. There are alternatives. It is a hormone, and even though its use is intended to be limited, allows a use of hormone in organic dairy, which is contrary to consumer expectations. If oxytocin is relisted, it should have an annotation that is clear and universally implemented. The annotation should restrict its use to emergency situations and not for preventive routine use. The annotation should restrict oxytocin to treat conditions related to labor and to an animal's postpartum survival in emergency situations and severe complications in the immediate postpartum (following birth of young) period. This should be specified to be no more than three days postpartum, to state that it may not be administered to increase an animal's milk production (volume) or for milk letdown. Federal law restricts this drug to use by or on the order of a licensed veterinarian (21 CFR 522.1680(c)(3)).

Conclusion

Oxytocin should be removed from the National List based on the NOSB's 2017 recommendation. If it remains on the list at the time of the NOSB meeting, the NOSB should only relist with an annotation that restricts oxytocin to treat conditions related to labor and to an animal's postpartum survival in emergency situations and severe complications in the immediate postpartum (following birth of young) period.

Poloxalene

205.603(a) As disinfectants, sanitizer, and medical treatments as applicable
(21) Poloxalene (CAS #-9003-11-6)—for use under 7 CFR part 205, the NOP requires that poloxalene only be used for the emergency treatment of bloat.

It is worthwhile reviewing the conclusion of the 2001 TAP review:

Poloxalene is clearly synthetic and prohibited unless added to the National List for medical use. The TAP reviewers are divided and do not have a consensus recommendation. Two of the reviewers favor its allowance for emergency use only based on a need to prevent suffering and promote animal welfare. The third reviewer finds the rare emergency use not to be a compelling reason for considering as a permitted synthetic and does not see it as indispensable given that other treatments are available for cases of mild bloat, and other emergency treatments are called for in life threatening circumstances. This is supported by the lack of historic allowance, or demonstrated need by existing certification agencies. The two reviewers who favor limited allowance also suggested either an extended withdrawal time, or a limited allowance for a permitted number of emergency treatments per year for organic animals. No data to support an extended withdrawal time has been presented, but the NOSB may want to consider an overall policy for frequency of emergency treatment or develop criteria for emergency use medication in general.

One reviewer made a strong statement about compatibility with organic:
This material is not compatible with a system of organic, sustainable agriculture. It is synthetic and is derived from chemicals that are significant environmental contaminants, and thus the use of poloxalene in organic farming would be contributing (in principle, if not in quantity) to their continued manufacture and dispersal in the environment. There are acceptable methods for the prevention of this disorder and while allowing the emergency use of this chemical for unforeseen incidence of pasture bloat may seem reasonable, it is "enabling" lax pasture management and animal husbandry practices contrary to the principles of organic, sustainable agriculture.

In view of these conclusions and the existence of preventive measures and more compatible treatments, the NOSB should not relist unless there is strong evidence of need.

Formic Acid

§205.603(b) As topical treatment, external parasiticide or local anesthetic as applicable
(2) Formic acid (CAS # 64-18-6) —for use as a pesticide solely within honeybee hives.

Formic acid is used to control varroa and tracheal mites in honey bees. It is less toxic and less hazardous than conventional miticides, but it is a synthetic that poses some hazards to beekeepers. Available alternatives include management practices, nonsynthetic materials, and a synthetic soap on the National List. NOP must adopt apiculture rules, which would provide a framework for making decisions about materials used in organic beekeeping. Until such standards are developed, we have a difficult time commenting on materials for use in organic apiculture. In addition, we note that without such standards in place, there are discrepancies between certifiers that lead to inconsistency and possibly unfairness in the organic marketplace.

Formic acid poses health and environmental hazards.

Formic acid is toxic to plants.[7]

There is a potential for ill effects on workers. The technical review cites adverse effects of formic acid exposure on workers.[8] Beekeepers are required to use personal protective equipment when handling fumigants.[9] "Acute overexposure to formic acid causes irritation to the eyes, skin, and mucous membrane of the mouth, throat, and esophagus. Acute formic acid exposure also may be associated with complications such as cardiovascular collapse and ischemic damage to the heart, liver and kidneys, swelling of the airway, and respiratory distress. Because of the irritating and corrosive properties of the substance, ingestion of formic acid may cause ulceration of the gastrointestinal tract, which results in perforation and scarring of the gastrointestinal tract."[10] "Laboratory studies cited by EPA report negative results for mutagenic potential. Chronic exposure to formic acid may damage the kidneys."[11]

There are alternative materials and practices to the use of formic acid.

Natural substitutes include *Metarhizium anisopilae*, wintergreen salt-grease patties, neem oil, and dusts of powdered sugar or pollen substitutes.[12] In addition to the natural alternatives, sucrose octanoate ester is on the NL.[13] The TR mentions several mechanical means of controlling mites: use of a screened bottom board, drone-brood trapping, and resistant honey bees.[14]

In 2015, the LS was able to incorporate some input from a beekeeper in addition to the information in the TR. Honey bees are under attack from many fronts—including parasitic varroa and tracheal mites. Beyond Pesticides supports the relisting of formic acid as an aid to protecting honey bees from parasitic mites. Although it is a synthetic that poses some hazard to beekeepers, varroa and tracheal mites are a contributing factor to honey bee declines that threaten many agricultural crops, as well as bees and beekeepers, and the annotation will prevent most nontarget effects, so Beyond Pesticides supports relisting.

Sucrose Octanoate Esters

205.603(b)(11) Sucrose octanoate esters (CAS #s-42922-74-7; 58064-47-4) - in accordance with approved labeling.

Sucrose Octanoate Esters (SOEs) are surfactants –closely related to soaps– that have a mode of action similar to insecticidal soaps. SOEs were originally petitioned as a control for varroa mites on honey bees –and that remains the only supported livestock use. We are disappointed that we have not seen comments from beekeepers concerning the relative

[7] TR lines 327-333.
[8] TR lines 382-393.
[9] TR lines 261-262.
[10] TR lines 372-377.
[11] TR lines 364-367.
[12] TR lines 399-455.
[13] TR lines 457-458.
[14] TR lines 470-515.

efficacy and hazard of SOEs in controlling varroa mites. We have heard informally that beekeepers do not use SOEs because the products are difficult to apply.

A couple of other notes:

1. In the absence of apiculture practice regulations, the NOSB should not be approving materials for use on bees. Materials on the National List are approved within a context that describes generally accepted practices. Those judgments cannot be made without practice rules in place.
2. If SOEs are relisted, the generic annotation "in accordance with approved labeling," which always applies as a matter of law, should be replaced with one that describes the use –such as "for control of varroa mites in honey bees."

Conclusion

In view of the difficulty that beekeepers have in maintaining the health of honey bee hives, we would support SOEs within a context of defined organic apiculture practices if they were effective and used by organic beekeepers. If there is no support from beekeepers for this use, then SOEs should be allowed to sunset. NOP must adopt apiculture rules, which would provide a framework for making decisions about materials used in organic beekeeping.

EPA List 4 - Inerts of Minimal Concern

205.603(e) As synthetic inert ingredients as classified by the Environmental Protection Agency (EPA), for use with nonsynthetic substances or synthetic substances listed in this section and used as an active pesticide ingredient in accordance with any limitations on the use of such substances. (1) EPA List 4 – Inerts of Minimal Concern.

The NOSB must not allow the process unanimously supported by the NOSB to be stalled.

So-called "inert" ingredients in pesticide products may not be chemically or biologically inert. They are designed to enhance the pesticidal activity of pesticide products and can have toxic properties that do not meet the standards of the Organic Foods Production Act (OFPA). They serve as a good example of why the NOSB, as it previously determined, cannot accept the previously EPA-classified List 4 materials as acceptable for listing under OFPA without scrutinizing the individual materials, either individually or in groups with chemicals of common mechanisms of toxicity and chemical composition. In other words, these potentially toxic inert ingredients may be of "toxicological concern," which require NOSB review under OFPA, which requires a broad cradle-to-grave assessment of all ingredients in allowed synthetic inputs. The NOSB must move forward with its review of "inerts" to ensure that materials in use in organic production comply with the standards of OFPA. As acknowledged by the LS, which said, "Without a way to individually evaluate each substance listed on EPA List 4 or to evaluate substances as a group, it is difficult to discern the acceptability of each substance for use in organic agriculture," NOSB relisting of List 4 "inerts" would be arbitrary at this time.

Active ingredients in pesticide products have been carefully screened to ensure that they meet the requirements of OFPA. Because of the thorough investigation by the NOSB and

the additional scrutiny given by the public in written and oral comments, the active ingredients that are allowed in organic agriculture present little hazard to people and ecosystems, from their manufacture through their use and disposal.

So-called "inert" ingredients, on the other hand, have not received the same level of scrutiny to ensure that they meet OFPA standards. Reliance on the registration of pesticide products with "inert" ingredients by the U.S. Environmental Protection Agency does not ensure that the standards of OFPA are met, given that the reviews and use allowances under the agency's authorizing legislation (the Federal Insecticide, Fungicide and Rodenticide Act) are based on different, and often incompatible, standards. In addition, "inert" ingredients make of the largest part of many pesticide product formulations. As a result, the most hazardous part of pesticide products used in organic production is often these ingredients.

The NOSB recognizes these facts and has sought to address them. As "List 4 inerts" are now up for sunset review, NOP has still failed to issue a notification to manufacturers and users of products with a request for information on current inert ingredients in use. This 'data call-in notice' was intended to capture "inert" ingredients that may not be on the comprehensive list of 126 priority "inert" ingredients and 87 "minimal risk" substances eligible for registration under FIFRA section 25(b) used in formulations allowed in organic production, which was generated by the Inerts Working Group based on data from Material Review Organizations and provided to the public as categories at the Fall 2012 meeting of the NOSB. **The notice is overdue and should be issued without further delay.**

Since, as stated above, so-called "inert" ingredients likely pose more hazards than other materials used in organic production, their review deserves a higher priority than it is being given by NOP. These comments urge that the NOSB raise the priority level of "inerts" review to ensure compliance with the law.

All so-called "inerts"—especially those not on EPA's 25(b) list– are desperately in need of review for compliance with OFPA criteria. It would violate the intention of the Board to allow the indefinite extension of the listing for <u>any</u> of the so-called "inerts." Therefore, we request that all substances falling under these listings be annotated with expiration dates.

Conclusion

Delist List 4 "inerts."

Replace the language at sections 205.601(m) and 205.603(e) with:
As synthetic other ("inert") ingredients in pesticide formulations as classified by the Environmental Protection Agency (EPA) for use with nonsynthetic substances or synthetic substances listed in this section that are used as an active pesticide ingredient in accordance with any limitations on the use of such substances.
(i) Substances permitted for use in minimal risk products exempt from pesticide registration under FIFRA section 25(b);

(ii) "Inert" ingredients that are exempt from the requirement of a tolerance under 40 CFR 180.1122 – for use only in passive pheromone dispensers;
(iii) [List of all "inerts," except the "minimum risk" 25(b) substances, known to be used in organic production, as determined by the Inerts Working Group, each annotated with an expiration date between June 27, 2021 and June 27, 2026.
(ii) Reserved (for list of approved other ("inert") ingredients, with expiration dates until reviewed individually.)

The APEs/NPEs should be removed from the list, ~~as previously recommended by the NOSB~~. This approach will allow the board to systematically review the "inerts" in groups over a five-year period, an approach the board has previously adopted unanimously.

Excipients

205.603(f) Excipients, only for use in the manufacture of drugs used to treat organic livestock when the excipient is: Identified by the FDA as Generally Recognized As Safe; Approved by the FDA as a food additive; or Included in the FDA review and approval of a New Animal Drug Application or New Drug Application.

As defined in:
§205.2 *Excipients.* Any ingredients that are intentionally added to livestock medications but do not exert therapeutic or diagnostic effects at the intended dosage, although they may act to improve product delivery (e.g., enhancing absorption or controlling release of the drug substance). Examples of such ingredients include fillers, extenders, diluents, wetting agents, solvents, emulsifiers, preservatives, flavors, absorption enhancers, sustained-release matrices, and coloring agents.

Like "inert" ingredients in pesticide products, excipients in animal medications are not necessarily biologically or chemically inactive and are not always listed on the label. If the Board is to do its job in reviewing excipients in accordance with OFPA, it must have adequate information about the identity and function of excipients. Therefore, it must seek information from materials review organizations and animal drug manufacturers to identify the excipients that are present in products used in organic livestock production so that they can be evaluated by the Board.

Just as the Inerts Working Group found that the number of "inert ingredients" present in pesticide products used in organic production is much smaller than the universe of chemicals that could be in those products, the LS will likely discover that the number of excipients actually present in products used in organic production is a fraction of those actually available for use.

In 2015, California Certified Organic Farmers (CCOF) said that the present annotation is not clear. It allows for almost anything to be allowed as an excipient, but materials reviewers have to research using multiple databases (CFR title 21, GRAS database, EAFUS database, etc.) to gather that information. A clear annotation should state which specific excipients would be

allowed. Synthetic excipients are in almost every livestock healthcare product. Information on them is very difficult to obtain from manufacturers in certain cases.

As pointed out in the 2015 technical evaluation report on excipients, and mentioned in the Best Practices for Common Material Review Issues document from the Accredited Certifiers Association (ACA):

…

> Although synthetic excipients did not appear at §205.603 until 2007, they have been used in livestock drugs and health care products with various interpretations by certification agencies and Material Review Organizations (MROs) as to their allowance (NOSB 2009). Since their listing on §205.603, there has still been some confusion among certification agencies about direct vs. indirect food additives, how those may be used, and their compliance with the excipient annotation (since the annotation does not stipulate 'direct' food additives and only says "approved by the FDA as a food additive"). Some certification agencies permit the use of indirect food additives only in health care products that are intended for external application (e.g., teat dips) while others do not permit them at all. Others permit indirect food additives in all types of health care products, including oral and injectable formulas. Further, despite the fact that injectable vitamins and minerals do not appear on the National List, certification agencies appear to be consistently permitting their use with excipients as part of the formula. Finally, there is some confusion about whether excipients appearing in the FDA Inactive Database for NADAs and NDAs can be used in illegally marketed drugs as well, or if only NADAs and NDAs may contain excipients from that particular database (Fernandez-Salvador 2014; personal experience).[15]

In addition, it is our understanding that there are also discrepancies among certifiers for the allowance of GRAS materials with the "letter of no question GRAS." Some certifiers do not allow materials that are "letter of no question GRAS" because this procedure was not evaluated by the NOSB when the listing for excipients was created, but other certifiers do allow these materials as GRAS excipients.

The LS should make a commitment to identify and review the excipients used in organic production. A process for doing so is laid out in two NOSB recommendations on "inert" ingredients from April 2010 and October 2012.

Strychnine

Reference: §205.604 Nonsynthetic substances prohibited for use in organic livestock production. The following nonsynthetic substances may not be used in organic livestock production: (a) Strychnine

[15] 2015 Technical Review on Excipients in Livestock, lines 226-239.

Strychnine is highly acutely toxic and has been found to be responsible for secondary poisonings. People affected by strychnine poisoning are not likely to survive. There are numerous alternative materials and practices.

Strychnine causes harm to humans and the environment.

Since strychnine baits are inserted underground, the ability to collect unused bait is small, increasing the likelihood of nontarget poisoning. Strychnine has resulted in secondary poisoning in pets that ate poisoned rodents.[16] Although all animals are susceptible, birds are more often affected. For example, species poisoned by strychnine in Michigan are rock dove, cardinal, Canada goose, dark-eyed junco, mallard duck, common grackle, blue jay and house sparrow.[17] People who are severely affected by strychnine poisoning are not likely to survive.[18]

Strychnine is not necessary.

There are many less dangerous materials and methods. They include: trapping, supporting predator habitat, flooding, ecologically-based rodent management,[19] habitat modification,[20] and encouraging predators.[21]

Strychnine is incompatible with organic practices.

Strychnine is highly toxic to humans and other species, causes secondary poisoning, and has many nontarget effects. It does not "promote plant and animal health by enhancing soil physical, chemical, or biological properties."

Conclusion

Strychnine should remain on §205.604.

Thank you for your consideration of these comments.

Sincerely,

Terry Shistar, Ph.D.
Board of Directors

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[16] National Pesticide Information Center, Rodenticides Topic Fact Sheet. http://npic.orst.edu/factsheets/rodenticides.pdf Accessed 6/23/2014.

[17] Michigan Dept. of Natural Resources, Strychnine Poisoning. https://www.michigan.gov/dnr/0,4570,7-153-10370_12150_12220-27278--,00.html Accessed 6/23/2014.

[18] Center for Disease Control and Prevention, 2013. Facts About Strychnine. http://www.bt.cdc.gov/agent/strychnine/basics/facts.asp Accessed 6/23/2014.

[19] Propane TR TR lines 340-367.

[20] http://environmentalchemistry.com/yogi/environmental/200704prairiedogcontrollethal.html. http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7438.html. http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7433.htmlhttp://environmentalchemistry.com/yogi/environmental/200706prairiedogreconciliation.html.

[21] http://people.uleth.ca/~michener/predators.htm. http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7433.html. http://yardener.com/YardenersPlantProblemSolver/DealingWithPestAnimals/Gophers/SolutionsForGophers/DispatchTheGopher.