

**National Organic Standards Board
Livestock Subcommittee
Synthetic Methionine (MET) in Organic Poultry Feed Proposal**

**August 20, 2013
Reviewed February 3, 2014 - No revisions**

Summary of Proposed Action

The Livestock Subcommittee proposes to revise the current allowance of synthetic methionine (MET) to read:

DL–Methionine, DL–Methionine—hydroxy analog, and DL–Methionine—hydroxy analog calcium (CAS #'s 59-51-8, 583-91-5, 4857-44-7, and 922-50-9)—for use only in organic poultry production at the following maximum average pounds per ton of 100% synthetic methionine in the diet over the life of the flock: Laying and broiler chickens – 2 pounds; Turkeys and all other poultry – 3 pounds.

The Livestock Subcommittee would also like to propose NOP Guidance for Certifying Agents and Industry on how to calculate and verify the use and allowance of synthetic MET expressed as a maximum average pounds per ton of 100% synthetic methionine in the diet over the life of the bird.

Introduction

The current organic standards allow for the use of synthetic MET for use only in organic poultry production at the following maximum levels of synthetic MET per ton of feed: Laying and broiler chickens—2 pounds; turkeys and all other poultry—3 pounds.

The allowed rates represent “step down” levels that were recommended by NOSB in April 2010, codified in a final rule on September 19, 2012, and went into effect on October 2, 2012.

NOSB recommended the step down rates in order to balance various interests including: (i) Providing for the basic maintenance requirements of organic poultry; (ii) satisfying consumer preference to reduce the use of synthetic MET in organic poultry production; and (iii) motivating the organic poultry industry to continue the pursuit of commercially sufficient sources of allowable natural sources of MET.

However, in the attempt to balance interests, the 2010 NOSB recommendation included an allowance for synthetic methionine expressed as a total maximum limit of pounds of MET per ton of feed, while the Methionine Task Force (MTF) July 2009 petition requested that methionine rates be expressed as an average over the life of the flock. The rates expressed as a maximum limit do not address MET demands when laying chicks first come into production.

In the NOP Proposed Rule published in the Federal Register on February 6, 2012, the NOP recognized that on April 8, 2011, the MTF submitted a new petition for revised maximum allowable levels of synthetic MET expressed as an average per ton of feed over the life of the bird as originally requested in the 2009 petition. As stated in the preamble to the Proposed Rule:

“The NOP anticipates that the NOSB will consider this petition at a future meeting. In the meantime, the NOP believes it is necessary to move forward issuing this proposed rule to

address the April 2010 NOSB recommendation. This is necessary to prevent any gap in the allowance of synthetic methionine in the diets of organic poultry due to the current expiration date of October 1, 2012.” – (Federal Register/Vol. 77, No. 24/Monday, February 6, 2012 pg. 5719).

This NOSB proposal addresses the petition submitted by the MTF on April 8, 2011.

Background

MET is classified as an essential amino acid because it cannot be biologically produced by poultry and is necessary to maintain viability. MET is required for proper cell development and feathering in poultry. Natural feed sources with a high percentage of MET include blood meal, fish meal, crab meal, corn gluten meal, alfalfa meal, and sunflower seed meal. Synthetic MET is also used in poultry feed. This substance is a colorless or white crystalline powder that is soluble in water. It is regulated as an animal feed nutritional supplement by the Food and Drug Administration (21 CFR 582.5475).

The NOSB initiated a review of this substance in 1999, as a result of a petition requesting to add synthetic Met to the National List for poultry. In 2001, the NOSB evaluated a technical advisory panel analysis of MET against the criteria provided in the OFPA (7 U.S.C. 6517–6518), and determined that the use of synthetic MET feed supplementation is compatible with a system of organic poultry production. Consistent with the NOSB’s recommendation, the Secretary amended § 205.603 of the National List on October 31, 2003, to allow MET as a synthetic substance for use in organic poultry production until October 21, 2005 (68 FR 61987).

Based upon subsequent NOSB recommendations in March 2005 and May 2008, the Secretary amended the listing for MET to continue the use through October 21, 2008 (70 FR 61217), and again through October 1, 2010 (73 FR 54057). The 2005 and 2008 NOSB recommendations to continue the allowance for MET were informed by updates on the development of allowable natural alternatives, none of which had attained commercial viability. While expressing a strong preference for supplementation with allowable natural sources of MET, the NOSB concluded that terminating the allowance for synthetic MET would disrupt the well-established organic poultry market, and cause substantial economic harm to organic poultry producers. The NOSB and stakeholders agreed that the organic feed sector would continue to research and develop sufficient supplies of allowable organic and natural sources.

On July 31, 2009, the MTF, which is comprised of organic poultry producers, submitted a new petition requesting to extend the allowance for synthetic MET for five years until October 2014. In addition, the MTF proposed that the total amount of synthetic MET in the diet remain below the following levels, calculated as the average pounds per ton of 100% synthetic MET over the life of the bird:

Laying chickens—4 pounds; broiler chickens— 5 pounds; and, turkey and all other poultry—6 pounds.

In consideration of the July 2009 petition and public comments, the NOSB issued two recommendations on April 29, 2010. These recommendations acknowledged a need for the continued allowance of synthetic MET, and conveyed the intent to decrease the amount of synthetic MET allowed in organic poultry production and encourage development of natural alternatives. One recommendation proposed to allow synthetic MET in organic poultry production until October 1, 2012, at the following maximum levels per ton of feed:

Laying chickens—4 pounds; broiler chickens—5 pounds; and turkey and all other poultry—6 pounds.

The NOP codified this recommendation through a National List amendment published in the **Federal Register** on August 24, 2010 (75 FR 51919), and reaffirmed on March 14, 2011 (76 FR 13501).

The second NOSB recommendation from April 2010 proposed reduced maximum levels of synthetic MET after October 1, 2015. The NOSB recommended that the annotation or synthetic MET be revised to read:

For use only in organic poultry after October 1, 2012, at the following maximum levels per ton: laying and broiler chickens—2 pounds per ton; turkeys and all other poultry—3 pounds per ton.

The NOP issued a proposed rule in the Federal Register to amend the National List to reflect the 2010 recommendation on February 6, 2012 followed by a final rule published in the Federal Register on September 19, 2012:

DL-Methionine, DL-Methionine-hydroxy analog, and DL-Methionine-hydroxy analog calcium (CAS #'s 59-51-8, 583-91-5, 4857-44-7, and 922-50-9)—for use only in organic poultry production at the following maximum levels of synthetic methionine per ton of feed: Laying and broiler chickens—2 pounds; turkeys and all other poultry—3 pounds

The amended listing removed the expiration date of 2012 and subjected synthetic MET at rates listed above to review within five years in accordance with the OFPA provision for the sunset of National List substances (7 U.S.C 6517(e)). Synthetic MET is now subject to a sunset review by the NOSB by 2017.

Relevant areas in the Rule

7 CFR §205.603(d)(1) - Synthetic substances allowed for use in organic livestock production. As feed additives.

Discussion

Much is known about the nutritional needs of poultry and the feedstuffs available to poultry producers. The dietary demand for total MET declines with age for broilers and turkeys, while there is a decline during the early stages of pullet development, it increases just before laying begins and trails off as the birds age. The current proposal is somewhat of an estimate of the average demand for each class of birds based on the demand charts. Producers are feeding additional levels of protein, commonly soybean meal, to their birds in an attempt to meet the MET needs of the birds. This in effect is over feeding numerous amino acids in order to get enough MET into the birds. During the winter months, the birds would consume enough feed to meet their needs, but the additional protein in the feed was excreted into the barns causing ammonia levels to rise and blisters on the bird's feet. During the summer months, the birds naturally consume less feed as their nutritional maintenance requirement is lower, they cannot consume enough feed to meet the necessary level of MET. Producers and certifiers are seeing an increase in feather pecking which can lead to cannibalism, agitation and nervousness and

other behavioral issues. This behavior change is an animal welfare issue and the organic producers fail to understand why a logical solution cannot be adopted. If the rations could be tailored to the needs of the animal, why would the organic regulations prevent them from doing the right thing for the bird, especially if the overall intake would be at or below the allowed maximum over the course of its life.

Previous NOSB deliberations have discussed alternative sources for synthetic MET. The MTF has invested lots of time and money seeking viable alternatives for their industry in an effort to meet consumer expectations. High MET corn has production and yield issues. Corn variety trials are ongoing with the hopes this breeding work will be able to develop varieties that supply the appropriate amount of necessary amino acids. Pasture may provide some supplementation during the right conditions, but is certainly not a dependable solution. Other feed grains may have higher MET levels than corn, but have lower overall protein or may be limiting in other amino acids which makes them improbable solutions. The EU uses corn gluten meal to balance the MET demand since synthetic MET is not allowed, but 5% of their rations do not have to be organic. Organic corn gluten meal is not available to US producers. Fish meal and crab meal are used by some organic producers, while others are concerned about off flavors, and the availability is very low as most of these products are stabilized for transport with non-compliant stabilizers. Many organic consumers are looking for vegetarian based production systems as well. The NOSB Livestock Subcommittee put forth a discussion document on feeding animal byproducts to poultry as an alternative source of MET and while there was a minority that agreed with the proposal, the majority deemed that organic principles would be compromised. Because there is so much interest to find an alternative to synthetic MET for organic producers, numerous projects around the world are evaluating herbal and insect based sources. Because of the need for U.S. Food and Drug Administration (FDA) approval, these will be many years out if determined to be suitable alternatives.

Under this proposal, producers will have an increased liability to document feeding rates to document compliance with the regulation. Certifiers will have to develop tracking systems with producers and their feed mills to verify compliance. Larger poultry operations change the rations frequently to keep cost down by only feeding to meet the bird's needs. These operations will have detailed records on flock age, size, and feed rations fed on a daily basis. It will be somewhat complicated if a pullet flock is transferred to another farmer for egg production, who is with another certifier. All the feed documentation will have to follow as well. Smaller operations often feed the same ration throughout the life cycle of the bird and therefore would never feed more than the average. Certifiers have indicated that mechanisms can be developed with their clients, suitable to verify compliance with the regulation. They are in part motivated by the behavioral issues being reported by their inspectors during this first season under the new cap. The NOP may need to issue Guidance Documents or Instructions to certifiers to clarify how verification can be obtained. Certifiers affiliated with the Accredited Certifiers Association (ACA) often work together and help each other gain consistency in areas like this. This could also be a part of the annual training for certifiers conducted by the NOP and ACA.

The NOSB Livestock Subcommittee is unsure of how certifiers will handle a situation if the flock goes out of production prior to the average being below the regulatory cap. We are uncertain as to whether this would be a noncompliance that must not be repeated or a willful violation indicating civil penalties.

Calculating MET allowances average over the life of the flock, will result in the following:

- Feed rations can better adjust to the naturally changing demands of the bird. Poultry farmers will have more flexibility to appropriately adjust diets for stage of life, seasonality,

breed, etc.;

- Overall usage of MET will be lowered. Producers can only add MET to the average cap, not consistently add MET at the maximum rate;
- Farmers and nutritionists will still be only marginally capable of meeting the bird's basic needs. The organic poultry industry will continue to have a tremendous incentive to actively evaluate novel sources of MET. With continued research and the development of effective alternatives proven to meet the demands of the organic poultry sector, the NOSB Livestock Subcommittee believes that MET can eventually be eliminated from organic production.

Current listing on the National List:

DL-Methionine, DL-Methionine-hydroxy analog, and DL-Methionine-hydroxy analog calcium (CAS #'s 59-51-8, 583-91-5, 4857-44-7, and 922-50-9)—for use only in organic poultry production at the following maximum levels of synthetic methionine per ton of feed: Laying and broiler chickens—2 pounds; turkeys and all other poultry—3 pounds.

The regulations currently express a total maximum limit of pounds of MET per ton of feed. Consistent with the petition from July 2009 and April 2011, this proposal requests that MET rates be expressed as an average per ton of feed over the life of the flock.

Recommended Committee Action & Vote

Motion to accept the following amendment at §205.603(d): DL–Methionine, DL–Methionine—hydroxy analog, and DL–Methionine—hydroxy analog calcium (CAS #'s 59-51-8, 583-91-5, 4857-44-7, and 922-50-9) -for use only in organic poultry production at the following maximum average pounds per ton of 100% synthetic methionine in the diet over the life of the flock: Laying and broiler chickens – 2 pounds; Turkeys and all other poultry – 3 pounds.

Motion by: Mac Stone

Seconded by: Francis Thicke

Yes: 7 No: 0 Abstain: 0 Absent: 2 Recuse: 0

Further Clarification of the Proposed Amendment

Under this recommendation, producers would be able to exceed the above levels on a particular formulation, provided that there was an offsetting formulation below the level, such that the average inclusion rate of 100% synthetic MET over the entire life cycle of the flock was below the allowed maximum level.

Reference is specifically made to 100% synthetic MET, as some forms of synthetic MET (e.g. the liquid form Alimet) are not 100% MET. The maximum pounds as shown above is based on the 100% synthetic MET equivalent so that a consistent standard can be applied to all organic operations, irrespective of the form of MET they are using (e.g. wet vs. dry).

Approved by Tracy Favre, Subcommittee Chair, to transmit to NOSB August 20, 2013