

Methionine Use in Organic Poultry Production

An MCS Policy Piece

What is Methionine?

Methionine is an essential amino acid that is naturally occurring in insects and plants. Poultry feed processors often add synthetic methionine to a ration as a way to meet the demand for this amino acid without increasing protein levels.

The National Organic Program

(NOP) Rule 205.603(d)(1) applies to the use of methionine in organic poultry production. Synthetic methionine is allowed in organic poultry production at a maximum average intake (pounds per ton) over the life of the flock. The life of the flock begins with organic management, which must begin no later than the second day of life.

DL-Methionine, DL-Methionine-hydroxy analog, and DL-Methionine-hydroxy analog calcium (CAS Numbers 59-51-8, 583-91-5, 4857-44-7, and 922-50-9)—for use only in organic poultry production at the following pounds of synthetic 100 percent methionine per ton of feed in the diet, maximum rates as averaged per ton of feed over the life of the flock: Laying chickens—2 pounds; broiler chickens—2.5 pounds; turkeys and all other poultry—3 pounds

How will MCS verify compliance?

If the feed company you use follows a standard formulation with added synthetic methionine at, or under, the maximum allowed pounds per ton, the average methionine consumption over the lifespan of the flock will be in compliance. ***This must be detailed in your Organic System Plan (OSP) and documentation showing how this was verified must be available at inspection.*** Documentation may include a statement from your feed supplier stating the amount of methionine added to the ration.

If at any time over the lifespan of the flock, feed exceeds the allowed synthetic methionine pounds per ton, calculations must be provided by the producer to show the average methionine consumption is below the maximum amount allowed per 205.603(d)(1). Calculations must be included in the Organic System Plan and will be reviewed at inspection. Please see numbers

1-3 below and the calculation table for examples. Enter information into the table to determine average methionine consumption for your flock.

Layer operations that purchase pullets from certified operations must provide MCS with documentation to verify synthetic methionine average intake over the lifetime of the flock. This may be a statement from the feed supplier (if under the maximum allowed pounds per ton) or feed ration calculations.

Changes to the 2022 Poultry Supplement will include a question asking for the amount of 100% Synthetic Methionine in each feed ration. If the amount exceeds the maximum amount allowed per 205.603(d)(1) calculations must be submitted to show the average methionine consumption over the lifespan of the flock.

How to calculate the average consumption of 100% Synthetic Methionine

Remember that this is only necessary when the synthetic methionine in a ration exceeds the amount allowed per 205.603(d)(1).

1) Determine the pounds per ton of 100% Synthetic Methionine for each feed formula.

Depending on how your feed supplier reports this information, it may be described as pounds per ton or as a percentage. Sometimes, grain suppliers will include both synthetic and natural sources of methionine on the feed tag. NOP rule 205.603(d)(1) only discusses restrictions of synthetic methionine, so it is critical to determine the amount of synthetic methionine only. If the synthetic methionine is not concentrated at 100%, the actual concentration is factored into the calculations. For example:

A farmer receives 1500 pounds of broiler crumble and the grain slip states the feed contains 0.6% methionine. The farmer contacts the grain supplier to ask how much synthetic Methionine is added to the feed ration. ***The grain supplier provides documentation that the added synthetic methionine is 0.05% and it is concentrated at 92%***

Percentage Methionine in Feed %	Lbs Methionine Product per ton of Feed Lbs Meth/Ton Feed (%/100*2000)	% Synthetic Methionine in Methionine Product (fraction) (=% conc. syn meth/100)	Adjusted Synthetic Methionine (100%) Lbs Syn Meth/Ton Feed (0.92*5.0)
0.05	1	0.92	0.92

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2.) Taking into account each different type of feed fed over the lifetime of the flock (eg. starter, grower, finisher) calculate the weighted average of 100% synthetic methionine per ton of feed. For Example:

A farmer feeds their typical ration of chick starter and broiler grower for the first 6 weeks of the flock's life. After running out of chicken ration, the farmer feeds turkey grain as a finisher. **The table below demonstrates the calculations and shows how the farmer exceeded the maximum allowed amount of synthetic methionine per 205.603(d)(1).**

Feed Formula	Age of Birds	Days	Feed Rate (per day)	Total Fed - Lb (ton)	Synthetic Methionine Lbs/Ton	Total Synthetic Methionine over time period Lbs
1- Chick Starter	0-2 weeks	14	20 bs	280 (0.14 ton)	2.43	0.3402
2 - Broiler Grower	3-6 weeks	28	35 lbs	980 (0.49 ton)	2.43	1.1907
3 - Turkey Grower	week 7	7	80 lbs	560 (0.28)	2.91	0.8148
	Total Days	49		1820 lbs (0.91 ton)		2.3457 lbs
					Average = total lbs methionine/ total tons of feed	2.5776 lbs per ton

Please note: The above table contains corrections to the table which initially appeared in the printed and online versions of The Organic Sprout.

National Organic Standards Board Meeting *(continued from Page 9)*

Materials Subcommittee

The subcommittee did not have any petitions or National List sunset items to discuss at this meeting, and instead focused on two discussion documents: 2021 research priorities and excluded methods. The board unanimously voted to accept the 2021 research priorities.

The continued excluded methods discussion focuses on the ongoing work of the board, beginning with recommendations in 2016, to identify new and emerging technologies, define them, and develop criteria for evaluating allowance in organic production. Definitions include genetic engineering, GMO, modern biotechnology, synthetic biology, non-GMO, and classical/traditional plant breeding. The discussion also included the principles and criteria used to evaluate as well as adoption of the terminology chart used by the board and NOP over time. This area will continue be on the board's ongoing agendas, with proposals and/or votes slated for the April 2022 meeting.

Handling Subcommittee

The board voted on the petition to add Zein to the National List (motion failed), and Zein is no longer on the NOSB's work agenda. In addition, the board voted to change the current annotation for fish oil to include "sourced from fishing industry by-product only and certified as sustainable against a third-party certification that is International Social and Environmental

Accreditation and Labeling (ISEAL) Code Compliant or Global Seafood Sustainability Initiative (GSSI) recognized."

All sunset items in the handling category failed to gain enough votes to be removed from the National List. Carrageenan, which has come under scrutiny of late by human health advocates, remains on the list with a 9-5 vote of the board.

Board Officers

The board voted on the new slate of officers for the upcoming year, with Nate Powell-Palm as the chair, Mindee Jeffery as vice-chair, and Kyla Smith as secretary.

For more information about the meeting materials, final vote tallies and next steps, please visit <https://www.ams.usda.gov/event/national-organic-standards-board-nosb-meeting-sacramento-ca>.

The next NOSB meeting is scheduled for April 26-28, 2022 in Crystal City, VA. Information about this meeting can be found on the NOSB meetings page <https://www.ams.usda.gov/event/national-organic-standards-board-nosb-meeting-crystal-city-va-1>.

