



Livestock Feed Composition and Product Formulation

Certifying organic livestock feed has different requirements than certifying food for people. For example, feed can only be “100% Organic” or “Organic.” There is no “Made with Organic” category, no organic percentage to calculate, and a different part of the National List applies. Starting from a clear picture of the basics saves time and energy, and this guide gives you the foundation you need to certify livestock feed.



What You'll Learn

- What is allowed in organic livestock feed and how feed rules differ from human-food rules
- The agricultural, nonsynthetic, and synthetic materials allowed in feed
- Requirements for the use of DL-Methionine, vitamins, and minerals in feed
- Documentation your certifier needs to review your feed
- Formulation considerations, including custom blends and pelleted feed

The USDA organic regulations treat livestock feed product composition and labeling differently than other products intended for human use.¹ Like all organic products, livestock feed must be produced without prohibited substances, excluded methods (e.g., GMO), ionizing radiation, or sewage sludge.² But there are a few key differences that govern organic livestock feed certification, which can get confusing, especially since most discussions focus on human consumption products. This resource will tell you what you need to know about the requirements for organic livestock feed to get started.

Let's start with outlining some of the key differences from human consumption products:

- Livestock feed composition can only be certified as “100% Organic” or “Organic.” The “Made with Organic” category is not available to livestock feed.³
- There is no 95% organic content threshold that livestock feed has to meet to qualify as “Organic,” though it has to contain at least one organic agricultural ingredient and all agricultural ingredients must be organic.^{1,3}
- Certified organic feed has different ingredient allowances than human consumption products with many fewer allowed synthetics.^{1,3,4}

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Livestock feed has its own labeling requirements, which are covered in depth in the article [Labeling Livestock Feed](#).

ALLOWED INGREDIENTS IN ORGANIC LIVESTOCK FEED

There are only a few types of ingredients that can be included in organic livestock feed and many ingredients that are specifically prohibited.

Prohibited ingredients include:⁵

- Hormones
- Antibiotics
- Urea or manure
- Slaughter by-products
- Plastic pellets for roughage
- Supplements or additives in amounts above those needed for adequate nutrition and health maintenance

The list of allowed ingredients is fairly short:¹

- Organic agricultural products
- Nonsynthetic materials (with one exception, strychnine is prohibited)⁶
- Specific synthetic feed additives that appear on the National List at [§205.603\(d\)](#)⁴

The table below groups the materials that are allowed in organic feed by type, providing examples, and the main things your certifier will look at for each type.

Ingredient Type	Common Examples	Review Considerations
Organic agricultural products¹	• Grains, such as shelled corn, soybean meal, wheat, and oats • Meals, such as alfalfa and kelp • Soybean oil • Molasses • Yucca schidigera extract • Insects, larvae, and mealworms	• Must be certified organic, and the feed must contain at least one organic agricultural ingredient • Insects and kelp are agricultural, so they must be organic^{7,8,9} • Aquatic animals such as fish meal, shrimp, and crab are nonagricultural and are not required to be organic^{8,9}
Nonsynthetic substances^{1,6}	• Salt, free of prohibited additives such as Yellow Prussiate of Soda • Reed sedge peat • Zeolites • Enzymes • Probiotics and other microorganisms • Selenium yeast • Brewers dried yeast, which may be nonorganic	• Microorganisms, enzymes, and fermentation products may need non-GMO verification • Mined nonsynthetic substances may need verification of the mining process
Synthetic substances⁴	• DL-Methionine • Trace minerals • Vitamins	• Must appear in §205.603 of the National List • DL-Methionine, vitamins, and minerals each carry extra conditions^{10,11,12}

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Kelp is a little unusual because it is wild-harvested, but it is still treated as agricultural and must be organic if it goes into feed. See the [NOP guidance document](#) on kelp in livestock feed for the details.⁷

ALLOWED SYNTHETICS ON THE NATIONAL LIST

There are only a few allowed synthetics in organic livestock feed, and you will need to be aware of some special requirements if they are included in your livestock feed formulation.

DL-Methionine

DL-Methionine is an allowed synthetic substance.¹⁰ The listing covers 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, up to a set amount of pounds of synthetic methionine per ton of feed averaged over the life of the flock, 2 pounds for laying chickens, 2.5 for broilers, and 3 for turkeys and all other poultry.¹⁰

Poultry need different amounts at different stages, and the limit is an average over the whole flock life. The farmer is ultimately responsible for staying under it, but as the feed processor you have to consider how your formulation rates fit into that average. It takes some math and planning ahead, and your certifier may have guidance and forms to help.

One note for the future: this annotation was adopted in 2019 and could change.¹³ The National Organic Standards Board has recommended removing the per-ton limits, and the NOP indicated in 2025 that it is initiating rulemaking, though nothing is finalized.^{14,15} Follow the current annotation, and keep an eye on updates through your certifier.

Vitamins and Minerals

The regulations allow trace minerals and vitamins used for enrichment or fortification when FDA approved.^{11,12} While FDA is the reference point, AAFCO (Association of American Feed Control Officials) is an industry resource on this topic, so certifiers often work from the AAFCO lists, and the Organic Materials Review Institute (OMRI) bases its vitamin and mineral listings on FDA or AAFCO approvals.¹⁶ A handy reference is Appendix A of the [OMRI Generic Materials List](#),¹⁷ though your certifier has the final word.

Most AAFCO vitamins and minerals are allowed, but a few are not, or need extra verification.¹⁷ Bone ash, bone meal, bone charcoal, and bone phosphate are allowed by AAFCO but prohibited in organic because they are slaughter by-products. Mineral proteinates, such as calcium, cobalt, copper, iron, magnesium, manganese, and zinc proteinate, need documentation showing they are not from genetically modified organisms or slaughter by-products. Some vitamins may need additional documentation, as well. The [NOP guidance on vitamins and minerals for feed](#) explains how certifiers review these.¹⁸

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Organic Materials Review Institute (OMRI) for feed ingredients

Some ingredient manufacturers have registered their products with [OMRI](#). OMRI is an independent nonprofit organization that is ISO 17065 accredited by the USDA and a trusted source of information by the National Organic Program and certifiers.^{19,20}

Many feed ingredients are OMRI-listed, and OMRI reviews livestock feed as its own separate class. When you search OMRI, filter by the Livestock Feed class and by the NOP ruling body, shown with the American flag symbol, so you see only feed listings reviewed for the USDA program. Look up selenium yeast with those filters, for instance, and you will find general information plus specific listed products.⁴

When an ingredient is OMRI-listed for feed and you use it as listed, submitting the label and OMRI certificate usually means your certifier accepts OMRI's review rather than doing a full one. A material does not have to be OMRI-listed to be allowed; it is just less work. The Washington State Department of Agriculture keeps a similar list of pre-reviewed materials, so check whether your certifier accepts it.²¹

VERIFICATION OF SUBSTANCES IN FEED

Your certifier will review all ingredients and ask for specific types of documentation to verify they are allowed.

Agricultural Ingredient Verification

Organic ingredient verification is straightforward. Your certifier will ask for an organic certificate for each organic ingredient. They may also need a product addendum listing all certified products. Certificates for NOP-certified products are in the [Organic Integrity Database](#), while addendums come from that product's organic certifier. For verifying a certificate against the database, see [Building and Maintaining a Supplier Approval Program](#), and for reading a certificate, [Anatomy of a USDA Organic Certificate](#).

Nonsynthetic Ingredient Verification

Every review starts with a label. If your ingredient is OMRI-listed, that may be all you need. If not, there are a few types of additional verification that may come up. Salt, for example, needs to be verified as having no synthetic additives such as Yellow Prussiate of Soda (YPS), which can be determined from the label.

Microorganisms, enzymes, yeasts, and fermentation products will need to be verified as non-GMO. A supplier spec sheet sometimes carries a non-GMO statement you can pass along, but your certifier may not accept the wording, since definitions of genetically modified vary and certifiers work from the excluded-methods definition in the standards. Many certifiers require their own form signed by the ingredient's manufacturer, since a supplier who did not make the material cannot speak to how it was produced. An OMRI listing generally satisfies these checks.

Verification for DL-Methionine, Vitamins, and Minerals

Your certifier's review of all of these types of ingredients will start with a label and/or spec sheet. For DL-Methionine, this should verify the CAS #. They may also have some additional questions for you regarding the specific restrictions on DL-Methionine described above.

Vitamins and minerals can require some additional information. We already learned about the need to verify that some additives (like those containing calcium and phosphorus) don't come from slaughter by-products and others (like proteinated minerals) are non-GMO and not from slaughter by-products.¹⁸

Certifiers also will need to determine if vitamins and minerals are being provided through a mixture of several vitamins and minerals (or premix) or from a single ingredient source of a vitamin or mineral, as this influences how far they need to take their review. The National Organic Program has provided guidance that "certifiers should review carriers and diluents or other additives" that are listed on the label of premixes used to formulate feed.²² "However, individual ... vitamins and minerals may contain other ingredients that are considered part of the approved vitamin or mineral source," and certifiers do not need to investigate any potential minor additives in these.¹⁸ Your certifier is responsible for making this determination. What they need from you are labels, both the label for your ingredient and your final feed label, and they will ask if any other information is needed.

PREMIXES AND FEED SUPPLEMENTS

A premix, also called a feed supplement, is a blend of vitamins, minerals, and other materials that does not provide a complete ration on its own. A complete feed that provides a total feed ration has to be certified organic to be fed to organic livestock.^{1,3} A premix does not have to be certified, though it can be if it contains an organic agricultural ingredient.²² A product of allowed vitamins and minerals plus a little organic soybean oil, for example, could be certified. A premix of only approved vitamins and minerals with no organic content cannot be certified organic, but a certifier can still approve it for use on an organic farm or in an organic feed.²² Whether the premix is certified or not, every agricultural ingredient declared on its label must be organic, and your certifier verifies the organic certificate for each one.^{1,3}

PRODUCT FORMULATIONS AND FEED MANUFACTURING

Your certifier will want to see your formulation with all ingredients and their relative amounts. They may have a feed-specific product formulation form, or they may give you the same form used for human food, in which case parts of it will not apply. Ask them if anything is unclear. Remember that because organic livestock feed has no organic threshold beyond containing an organic agricultural ingredient, the form is used to show the list of ingredients and their compliance, not a calculated organic percentage. Your certifier will also review your proposed final feed label against the formulation, covered in [Labeling Livestock Feed](#).

“100% Organic” or “Organic”

As you know, livestock feed can be certified as “100% Organic” or “Organic.”³ To qualify as “Organic,” the feed product needs to have at least one organic agricultural ingredient of any amount appear on the final label, and the rest of the ingredients must be allowed in organic feed.¹ “Organic” is the most common livestock feed labeling category, but livestock feed can be certified as “100% Organic” if all ingredients are organically produced agricultural ingredients.³ Most livestock feed products contain things like salt, vitamins, minerals, and other additives to improve nutritional benefits, so “100% Organic” livestock feed is not something you see very often.

Custom Feed Blends

Some processors make custom blends that vary from farm to farm. That service is allowed and certifiable. Your certifier will want information on your custom feed formulations and how you label them but may not need a formulation sheet and label for every possible blend. Consult with your certifier on how best to provide this information to them.

Pelleting and Other Processing

Tell your certifier what final form your feed takes and how you make it, in your Organic System Plan and process flow chart. Pelleting is something that needs special attention with livestock feed. If you pellet with steam, any boiler chemicals in steam that directly contact the feed must be submitted to your certifier for review and approval before use, and the same goes for any binders used to hold the pellets together.²³ Your certifier will ask about your boiler additives, your system, and how you keep prohibited substances from contacting organic feed.

Tips for certifying your livestock feed

- ☐ Choose a certifier who already certifies livestock feed. Feed is certified differently from human food, and an experienced certifier saves confusion. Ask around to other organic feed handlers. The [Organic Integrity Database](#) can also help you search. First, check out the Certifier Locator to see what certifiers operate in your area, then search the certified products for operations certified for handling livestock feed and see who certifies them.
- ☐ When an ingredient is not certified organic and not an AAFCO-listed vitamin or mineral, consider an OMRI-listed or WSDA-listed version to ease the review.
- ☐ Provide labels with any sub-ingredients listed for every ingredient, and share your final feed label so your certifier can check whether any carriers need review.
- ☐ If you have questions about the formulation form, ask your certifier rather than guessing.

CONCLUSION

Organic feed runs on a shorter set of rules than human food, but the set is different. Keep the two categories straight, get your ingredient documentation in order, and lean on your certifier’s feed experience so that certifying your feed can be more straightforward and streamlined.

ACTION ITEMS

- Confirm whether each product is a complete feed or a premix, and whether it needs certification.
- Sort your substances into organic agricultural, nonsynthetic, and synthetic so you know what documentation you may need.
- Verify every agricultural ingredient is organic, and flag anything that may need non-GMO or slaughter-by-product verification.
- Gather labels, organic certificates, and OMRI or WSDA listings for each ingredient.
- Disclose your processing, including any pelleting steam chemicals and binders, to your certifier with your formulation information.

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United States Department of Agriculture
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