

Directory of Organic Inputs: Livestock

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ACORN
Atlantic Canadian Organic Regional Network

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Disclaimer

ACORN commissioned this directory to facilitate growth in the organic industry in Atlantic Canada. The information contained in this directory is for educational purposes. Content is based on best available knowledge at the time of compilation.

Any reference to commercial products, trade or brand names is for information only; no endorsement or approval by ACORN is intended. Before using any product, read and follow all instructions and safety precautions on labels. The product label is a legal document. It is against the law to use the product in any other way. The user of this information assumes all risks for personal injury or property damage.

It is the responsibility of producers to obtain approval from their respective organic certification body before using extraneous inputs in any aspect of production, processing, handling, packaging or sanitation. Use of an input without review and approval by your own certification body may place your organic certification at risk.

Using the Directory

Welcome! ACORN's Directory of Organic Inputs was originally launched in October 2003. The revised Directory for Crops was released in July 2012; the revised Directory for Livestock was released in March 2013. The version of the standard used during preparation of this document was the June 2011 amendment of CAN/CGSB-32.310-2006 Organic Production Systems - General Principles and Management Standards and CAN/CGSB-32.311-2006 Permitted Substances List.

The Directory is laid out to match categories in the Permitted Substances List (PSL). In some cases, the PSL notes restrictions about the use of an input (for instance, the requirement to test soil or plant tissue to show deficiency before fertilizing with micronutrients). Please refer directly to the Canadian Organic Standards and PSL to inform yourself about the requirements for use of specific inputs and check with your certification body if you have questions.

After the description of the input, there is a table of brand name products that have been typically allowed for organic producers. Inputs are identified by their full **brand name**; which is important, as there are products that have similar names but different formulations. The **manufacturer** of the input is also listed; this is the company who makes the product (different than a local supplier, who brings in an input for sale). In some cases, the supplier may be listed in addition to or instead of the manufacturer, especially if they are repackaging or labeling product.

There is a '**Reviewed**' column, which identifies if a product has undergone any type of external review to check organic status. Some certification bodies (ACO, Ecocert, Pro-Cert, Quebec Vrai) are offering an 'Input Approval' service, where they review a product (nutrient input or pest control) and determine if it would be acceptable under the Canadian Organic Standards. The product supplier then uses the logo of the Certifier to indicate that the product has been reviewed and found to be acceptable. However, this is not a substitution for *each* Certifier reviewing *each* product. So if you are certified by ACO, you still need to confirm with them that a product reviewed by Ecocert is OK for use on your farm.

OMRI (the Organic Materials Review Institute) is an American organization that reviews products to see if they meet the US organic standards (the NOP). While this has provided useful information for organic producers in Canada, OMRI approval does not automatically allow Canadian organic growers to use the product. Some of the rules in the NOP (genetically modified materials) are slightly different than in our

Canadian Standard, so review by your organic certification body should be sought before use.

Also, inputs do not need to be reviewed by a certification body or by OMRI to be acceptable for Canadian organic producers. Any product can be used as long as you can confirm it is acceptable under the Canadian Organic Standards.

Livestock feed in Canada must follow the federal Feeds Regulations, which lists allowed ingredients and labeling standards. Veterinary biologics are regulated by CFIA under the Health of Animals Act and Regulations, while veterinary drugs are primarily regulated by Health Canada (the Veterinary Drugs Directorate) under the authority of the Food and Drugs Act and Regulations.

It is the responsibility of producers and processors to know the laws governing the use of the product they intend to use. Before using any product, read and follow all instructions and safety precautions on labels. The product label is a legal document. It is against the law to use the product in any other way. The user of this information assumes all risks for personal injury or property damage.

Searching the Directory

You can retrieve information by either **using the keyword search in your .pdf reader (by pressing Command + F keys)** or by **clicking on topics** from the Table of Contents. You can also help keep the directory current by providing feedback and let us know about any out-of-date information or new products. These can be sent by email to admin@acornorganic.org and will be changed in the next revision.

Funding & Acknowledgements

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The revision was completed by ACORN's Organic Transition Specialist Roxanne Beavers, P. Ag., who was assisted by organic inspector Elizabeth Dacombe. ACORN is grateful for the collaboration of regional organic livestock producers, certification bodies and extension specialists.

ACORN is the Atlantic Canadian Organic Regional Network, a not-for-profit co-operative that aims to enhance the viability and growth of the organic community through a unified regional network. Since 2000, ACORN has been the key organization for information on organic agriculture, eating organic, and connecting all the parts together. From seed to farmer to consumer, ACORN works to bring the whole picture together – making food choices healthier and more environmentally responsible. Please consider becoming a member to support our continued work.

5.2 Feed, Feed Additives and Feed Supplements

Amino acids

Amino acids are the building blocks of proteins and serve essential functions in the diet of livestock. Amino acids in organic feed should be from non-synthetic sources only. At present, there is an exception granted for synthetic DL-methionine, DL-methionine–hydroxy analog and DL-methionine–hydroxy analog calcium. DL-methionine is critical in poultry diets for feathering and cell development. The exception will be assessed in the future as more natural sources of methionine become available.

Brand Name	Reviewed	Manufacturer
DL-Methionine		Homestead Organics
DL-Methionine		Co-op Atlantic
Choline chloride	Ecocert	Shur-gain
Betain 96	Ecocert	Shur-gain
Rhodimet NP 99 (DL-Methionine)	Ecocert	Shur-gain

Diatomaceous earth

Diatomaceous earth (DE) is made of the powdered fossilized remains of marine invertebrates (diatoms). As a feed supplement, DE can be added as an anti-caking agent up to 2% by weight of the total feed ration. This prevents clumping of the feed and can make digestion more efficient. When choosing a product, ensure that no synthetic pesticides or synergists have been added.

As a health care product, the listed use for DE is for the control of external parasites. When it comes into contact with the parasite, the DE's microscopic sharp edges cut into their bodies and they dehydrate. DE has been shown to be effective in the control of ticks, fleas, and mites, and may reduce the incidence of mange. It can be applied by dusting the animals and their litter or bedding area. Producers have also observed that DE provides some control of internal parasites, although it is not registered for this use.

DE dust is harmful if inhaled. It must therefore be used with caution. Make sure the product you purchase has no added pesticides or non-allowable inputs, and do not buy the calcined form that has been heated to high temperatures (often used as a filtration agent).

Brand Name	Reviewed	Manufacturer
Barn Fresh	OMRI	Absorbent Products Ltd.
Red Lake Earth Diatomaceous Earth with Calcium Bentonite	OMRI	Absorbent Products Ltd.
Stall Dry Absorbent & Deodorizer	OMRI	Absorbent Products Ltd.
PermaGuard Fossil Shell Flour Diatomaceous Earth	OMRI	PermaGuard
Food Grade Diatomaceous Earth		SeaBoost

Energy feeds and forage concentrates (grains) and roughages (hay, silage, fodder, straw)

This category includes most livestock feeds: grains, mixed feeds, silage, forage, silage preservatives, and other products like fats and oils. Energy is required in large amounts for growth, lactation, reproduction and fattening cattle, as well as for all maintenance requirements. Insufficient energy supply to young animals will result in poor growth and uneconomical weight gains. Although forages contribute a large portion of the energy found in

ruminant diets, grains such as corn, barley, wheat and oats are often grown on the farm and used as supplementary energy sources for ruminants. These same grains usually act as the primary energy source for non-ruminants. Because organic livestock are required to have a diet consisting of 100% organic feed, it is a requirement to feed certified organic grains. Complete feeds (listed below) contain a nutritionally balanced mix for specific livestock production stages, which may also include other permitted ingredients like minerals and probiotics. Medicated feeds or those with synthetic preservatives are prohibited.

Complete feeds:

Brand Name	Reviewed	Manufacturer
Chick starter 18%	Ecocert	Co-op Atlantic
Chick grower 16%	Ecocert	Co-op Atlantic
Turkey starter 26%	Ecocert	Co-op Atlantic
Turkey grower 22%	Ecocert	Co-op Atlantic
Turkey finisher 18%	Ecocert	Co-op Atlantic
Layer mash 16.5%	Ecocert	Co-op Atlantic
Dairy ration 16%	Ecocert	Co-op Atlantic
Cattle finisher 12.5%	Ecocert	Co-op Atlantic
Hog grower 16%	Ecocert	Co-op Atlantic
Sow ration 17%	Ecocert	Co-op Atlantic
Horse feed 12.5%	Ecocert	Co-op Atlantic
Mixed grain 10%	Ecocert	Co-op Atlantic
Chicken Starter 20%	Ecocert	Homestead Organics
Turkey Starter 25%	Ecocert	Homestead Organics
Duck Starter 21%	Ecocert	Homestead Organics
Chicken Finisher 16%	Ecocert	Homestead Organics
Turkey Finisher 17.5%	Ecocert	Homestead Organics
Layer Mash 16.5% or 18%	Ecocert	Homestead Organics
Chicken Grower 18%	Ecocert	Homestead Organics
Turkey Grower 20%	Ecocert	Homestead Organics
Duck Grower 19%	Ecocert	Homestead Organics
Creep Feed 16%	Ecocert	Homestead Organics
Dairy Ration 16%	Ecocert	Homestead Organics
Ewe Ration 13%	Ecocert	Homestead Organics
Cattle Finisher 15%	Ecocert	Homestead Organics
Hog Starter 21%	Ecocert	Homestead Organics
Hog Grower 15.5%	Ecocert	Homestead Organics
Sow Feed 15%	Ecocert	Homestead Organics
Mixed Grains 10%	Ecocert	Homestead Organics
Horse Feed 12%	Ecocert	Homestead Organics
Rabbit Grower 15%	Ecocert	Homestead Organics

Fats and oils: these are ingredients of high energy levels contained in most conventional feedstuffs but at low levels. Because fats and oils are very concentrated sources of energy, oilseeds or their oils can be added to a diet that requires higher levels of energy. Oilseeds and oils for livestock feed shall be certified organic.

Brand Name	Reviewed	Manufacturer
Flax Oil	Organic	Bio-Ag/Homestead Organics
Soybean Oil	Ecocert	Homestead Organics

Silage inoculants and preservatives: Silage preservation products include bacterial or enzymatic additives derived from bacteria, fungi and plants and food by-products [e.g. molasses and whey]. Products may be added to ensiled forage to add nutrients, improve the rate and quality of fermentation, or inhibit fermentation. The organic standards do permit the addition of lactic, propionic and formic acid if conditions are unfavourable to fermentation.

Brand Name	Reviewed	Manufacturer
Pro-Dige	Ecocert	Belisle
Bio-Lac Kelp Mix AFOU	Pro-Cert	Bio-Ag
Bio-Lac Sugar Mix AFOU	Pro-Cert	Bio-Ag
Bio-Lac Kelp Sugar Mix AFOU	Pro-Cert	Bio-Ag
Biotal Plus	OMRI	Lallemand
NutraFX Hay & Silage Preservative		NutraFix Probiotics
Nutra Fix, Liquid	Ecocert	NutraFix Probiotics

Enzymes

Enzymes are naturally occurring proteins that cause and or speed up digestive actions. They can increase the digestibility of nutrients leading to greater efficiency in production. Enzymes may be used as feed additives; however, they should not be used in amounts that would unnaturally stimulate growth or production. Enzymes must be from a natural source, such as plants, animals, bacteria or fungi, and may not be the product of genetic engineering. They must be from an organic source, unless not commercially available as such.

Brand Name	Reviewed	Manufacturer
Bio-Lac Dry AFOU	Pro-Cert	Bio-Ag
Bio-Lac Liquid AFOU	Pro-Cert	Bio-Ag
Xylanase		Homestead Organics
Superzyme OM (Omegazyme)	OMRI	Canadian Biosystems, Inc.

Microorganisms and yeasts

Provided they are not the product of genetic engineering, all microorganisms and yeasts are allowed for use in livestock feed. Microorganisms and microbial products are routinely used as silage inoculants or in livestock feed. Yeasts are used as a feed supplement, to aid digestion and provide essential vitamins and nutrients, such as vitamin B12. See also enzymes and probiotics.

Brand Name	Reviewed	Manufacturer
YeaSacc 1026	Ecocert	Alltech
XPC Green	OMRI/Ecocert	Diamond V Mills
XP Green	OMRI/Ecocert	Diamond V Mills
Levucell SC 20	Ecocert	Lallemand

Molasses

Organic livestock producers often use molasses as a flavouring agent and energy source in feed. Many will specifically use molasses as a feed additive or water supplement after birth for cows, ewes, and goats to prevent toxemia. Molasses also contains trace elements and B vitamins. Molasses is usually used in amounts not exceeding 10-15% of the ration. Because of its sticky nature, it tends to help reduce dust in finely ground feeds. It also makes a feed mixture more palatable to livestock. Organic molasses shall be used unless it is commercially unavailable.

Brand Name	Reviewed	Brand Name
Organic Molasses	Ecocert	Homestead Organics
Organic Molasses	QAI	Wholesome Sweeteners

Minerals, Trace Minerals, Elements

Minerals are often classified as either macro or trace in reference to the concentrations required. Minerals are not always found in sufficient quantities in feed and may be supplemented in diet. All balanced feeds contain mineral premixes, however some farmers may provide additional minerals free choice, or add them to their own feed. Approximately 18 minerals are needed by domestic livestock; most of them are routinely considered in diet formulation. Organic producers should use non-synthetic mined minerals that are registered for use in livestock feed, but synthetic minerals may be used if non-synthetic sources are unavailable. Minerals may not be used to stimulate growth or production. Note that minerals from any source are allowed for medical use.

Calcium is needed by animals to produce healthy bones and in milk production. There are many different forms of calcium that are used in livestock production as feed supplements. Most complete feed rations contain either calcitic or dolomitic lime and eggshell products. Additional lime in the diet may be unwarranted and may shift the balanced ratio of calcium to magnesium. Crushed oyster shells provide a source of calcium for egg-laying poultry. Higher absorbency of calcium can be effective in thickening eggshells. Calcium content ranges depending on the product: Calcium carbonate 15-40%, Bone meal 24%, Oyster shell and other marine shell 28%, and Calphos 20%.

Copper is an essential nutrient in the diet of most livestock. There are many different forms of copper that are used in livestock production as feed supplements. Copper deficiencies can be managed using supplements in salt mineral mixes. Sheep are more sensitive to copper toxicity than other livestock because they retain more copper in their livers. Allowed sources include copper carbonate, copper chloride, copper gluconate, copper hydroxide, copper orthophosphate, copper oxide, copper pyrophosphate, copper sulphate and cuprous iodide. Most of these are readily available at either farm supply stores or from veterinarians.

Iron is essential in the formation of haemoglobin. There are many different forms of iron that are used in livestock production as feed supplements. Iron injections are sometimes used in the first three days of a piglet's life to prevent piglet anaemia. Injections can result in lameness or staining, which don't occur with oral preparations. Allowed sources include ferric phosphate, ferric pyrophosphate, ferrous lactate, ferrous sulphate, iron carbonate, iron gluconate, iron oxide, iron phosphate, iron sulphate or reduced iron.

Magnesium is important in protein synthesis. Magnesium deficiencies in livestock, particularly in dairy herds, can result in grass tetany, a serious condition that can result in coma or death. Magnesium is also important in preventing milk fever. Magnesium supplements are readily available from farm supply stores. Allowed sources include magnesium carbonate, magnesium hydroxide, magnesium oxide, and magnesium sulphate (Epsom Salts). Magnesium should not be fed as a supplement to animals unnecessarily. Over-feeding magnesium will interfere with the animal's utilization of other minerals. **Dolomite** supplementation provides a source for both magnesium and calcium. Typical chemical analyses suggest dolomite is approximately 55% calcium carbonate and 43% magnesium carbonate. Dolomite may be used in combination with vitamin C as a treatment for scours. Similarly, dolomite can be used as a treatment for bloat, by oral drenching the animal with a solution of water and dolomite.

Phosphorus has a multitude of functions in animals. The primary role is in the integrity and development of the skeletal system. The total quantity of phosphorus absorbed is related to the quantity of phosphorus consumed, the calcium:phosphorus ratio, feed source, and level of other minerals such as magnesium and potassium. Phosphorus is also involved in most chemical reactions that take place in the blood and soft tissue of livestock. Livestock diets consisting of good quality grass-legume forage are important in meeting the dietary requirements for phosphorus. Cereal grains are also high in phosphorus. However, supplementary phosphorus is often required and may be supplied by the following sources: calcium glycerophosphate, calcium phosphate, calcium pyrophosphate, potassium glycerophosphate, sodium acid pyrophosphate, sodium aluminum phosphate, sodium phosphate, or sodium tripolyphosphate. Phosphorus supplementation is generally provided as part of mineral pre-mixes.

Potassium requirements increase when animals are under stress. Potassium chloride may be used to treat diagnosed illnesses. Potassium hydroxide (Lye) and potassium permanganate may be used for disinfecting livestock facilities. Potassium iodide and potassium iodate may be used for sources of iodine. Forage diets high in legumes such as alfalfa and clovers will provide adequate levels of potassium, but it may also be added as a supplement to livestock diets through the use of potassium bicarbonate, potassium carbonate, potassium citrate, potassium glycerophosphate, and potassium hydroxide or potassium sulphate.

Sodium chloride and trace elements are essential for proper growth and development for all livestock. Most complete feeds will include trace mineral salts, but most producers will provide a salt (lick) block free choice to cattle, or in a loose form to sheep and goats. Trace-mineral blocks contain sodium, chloride, cobalt, iodine, iron, zinc and manganese. Some of these trace mineral mixtures may contain other trace minerals such as selenium and sulphur. Several livestock producers from Atlantic Canada use natural (mined) trace mineral salt imported by feed companies. These suppliers indicate that their livestock prefers natural trace mineral salt to manufactured salts.

Brand Name	Reviewed	Manufacturer
Bentonite	Ecocert	Alga-Vie
Bentonite	Ecocert	Shur-Gain
Bentonite	Ecocert	Homestead Organics
Bioplex Cobalt OC	Ecocert	Alltech
Bioplex Copper OC	Ecocert	Alltech
Bioplex Hi-four OC	Ecocert	Alltech
Bioplex Iron OC	Ecocert	Alltech
Bioplex Manganese OC	Ecocert	Alltech
Bioplex Zinc OC	Ecocert	Alltech
Calcium carbonate	Ecocert	Shur-Gain
Calcium iodate	Ecocert	Shur-Gain
Calcium sulfate	Ecocert	Shur-Gain
Cobalt carbonate	Ecocert	Shur-Gain
Copper sulfate	Ecocert	Shur-Gain

Brand Name	Reviewed	Manufacturer
Dyna-K (potassium chloride)	Ecocert	Shur-Gain
Iron sulfate monohydrate 30%	Ecocert	Shur-Gain
Lactovie Block	Ecocert	Belisle
Lactovie Conditioner	Ecocert	Belisle
Limestone, feed grade		Bio-Ag
Magnesium oxide	Ecocert	Shur-Gain
Magnesium oxide		Bio-Ag
Manganese oxide	Ecocert	Shur-Gain
Mineral Pal	Ecocert	Aussie Sea Minerals Canada
Monocalcium phosphate	Ecocert	Shur-Gain
Oyster shell		Co-op Atlantic
Oyster shell		Shur-Gain
Redmond Conditioner (Montmorillonite)	OMRI	Redmond Minerals, Inc.
Redmond Natural Trace Mineral Salt #4 Medium or #10 Fine	OMRI	Redmond Minerals, Inc.
SQ-810 natural sodium sesquicarbonate	Ecocert	Shur-Gain
Sulphur		Bio-Ag
Sulphur, elemental	Ecocert	Shur-Gain
Sulphur powder	Ecocert	Homestead Organics
Sulphur powder	OMRI	Westland Ltd.
Swell Clay 200 (Bentonite)		Western Clay
Zinc oxide	Ecocert	Shur-Gain

Pre-mixes

When on-farm grown rations require mineral supplementation, pre-mixes can help ensure that the nutritional needs of livestock are met. Macro pre-mixes generally contain calcium, phosphorus, and salt and trace minerals (including selenium) along with vitamins. Micro pre-mixes contain trace minerals (including selenium) and vitamins. Probiotics may also be included. Any other ingredients of agricultural origin must be organically sourced. Medicated pre-mixes are not allowed, and antibiotics and synthetic preservatives are prohibited from animal feed.

Brand Name	Reviewed	Manufacturer
Hog Premix	Ecocert	Balance It, Inc.
AFOU Dairy Goat	Pro-Cert	Bio-Ag
AFOU Sheep	Pro-Cert	Bio-Ag
AFOU Beef (Blue or Green)	Pro-Cert	Bio-Ag
AFOU Poultry Starter	Pro-Cert	Bio-Ag
AFOU Poultry Grower	Pro-Cert	Bio-Ag
AFOU Poultry Layer	Pro-Cert	Bio-Ag
AFOU Hog Grower	Pro-Cert	Bio-Ag
AFOU Sow (Nursing and Dry)	Pro-Cert	Bio-Ag
AFOU Dairy (7 products: Yellow, Gold, Blue, Green, Red, White, All-Phos)	Pro-Cert	Bio-Ag
Lactovie (6 products: 4-12 VT, 6-12, 10-10, 13-9, 16-8, 18-6)	Ecocert	Belisle

Brand Name	Reviewed	Manufacturer
Avigrain (4 products: starter 42K, grower 40K, finisher 35K, layer)	Ecocert	Belisle
Porcigrain (grower, sow)	Ecocert	Belisle
Pur Ovin 7-3 Org	Ecocert	Belisle
Dry Cow Premix	Ecocert	Shurgain
Optima (3 products: 15-5, 3-12, or 10-10)	Ecocert	Shurgain
Dairy Cow 10-10	Ecocert	Alga-vie
Dry Cow 5-10	Ecocert	Alga-vie
Goat 12-12	Ecocert	Alga-vie
Sheep 12-12	Ecocert	Alga-vie
Cow-Calf 15-13	Ecocert	Alga-vie
Steer 19-4	Ecocert	Alga-vie
ISF Dairy (W6, W7, W8, W10, W13, W15, W16, W17: with salt/no salt)	Pro-Cert	Kenpal Farm Products Inc.
Dairy Dry Cow W-16	Pro-Cert	Kenpal Farm Products Inc.
ISF Cattle Specific (with salt/no salt)	Pro-Cert	Kenpal Farm Products Inc.
ISF Beef Dry Cow (with salt/no salt)	Pro-Cert	Kenpal Farm Products Inc.
ISF Beef Nurse Cow (with salt/no salt)	Pro-Cert	Kenpal Farm Products Inc.
ISF Feedlot Specific (with salt/no salt)	Pro-Cert	Kenpal Farm Products Inc.
ISF Goat Specific	Pro-Cert	Kenpal Farm Products Inc.
ISF Hog Specific	Pro-Cert	Kenpal Farm Products Inc.
ISF Sow Specific	Pro-Cert	Kenpal Farm Products Inc.
ISF Piglet Specific 45	Pro-Cert	Kenpal Farm Products Inc.
ISF Sheep Specific	Pro-Cert	Kenpal Farm Products Inc.
ISF Layer Specific	Pro-Cert	Kenpal Farm Products Inc.
ISF Turkey Specific 50 or 70	Pro-Cert	Kenpal Farm Products Inc.
ISF Broiler Specific	Pro-Cert	Kenpal Farm Products Inc.
ISF Layer Specific	Pro-Cert	Kenpal Farm Products Inc.

Probiotics

Probiotics are direct-fed microorganisms that are given to animals for the purposes of disease prevention, supportive therapy or enhancing feed efficiency. They inhibit the growth of pathogenic organisms by stimulating the immune system and altering microbial metabolism. Ensure probiotic supplements are not the product of genetic engineering.

Brand Name	Reviewed	Manufacturer
Bio Lac Liquid AFOU	Pro-Cert	Bio Ag
Bio Lac Dry AFOU	Pro-Cert	Bio Ag
Nutra-Fix Liquid Lactobacillus Acidophilus Product		Nutra-Fix Probiotics
Nutra-Fix Fermentation Product for Livestock		Nutra-Fix Probiotics
SymbiActiv5	Ecocert	Paul & Fliss

Protein feeds

Proteins are complex nutrients composed of amino acids containing nitrogen in special combinations. They are absolutely essential for the formation of muscles, organs, bones, milk and certain other body compounds. The requirements are greatest during periods of rapid growth, reproduction and lactation.

Oilseed meals, alfalfa pellets and corn products are all possible protein feed options. Oilseed meal is the product remaining after extracting most of the oil from whole oilseeds. Protein feeds can be used as long as they are from organic sources and no chemicals are used in oil extraction. The meal must not be a product of genetically engineered oilseeds.

Brand Name	Reviewed	Manufacturer
Roasted Soybeans, whole or flaked	ACO	Barnyard Organics
Flax Meal	Pro-Cert	Bio Ag
Alfalfa Pellets or Meal	Ecocert	Homestead Organics
Flax Pellets or Meal	Ecocert	Homestead Organics
Pea Protein	Ecocert	Homestead Organics
Roasted Soybeans, flaked	Ecocert	Homestead Organics
Soymeal	Ecocert	Homestead Organics

Seaweed meal

Seaweed meal or kelp meal has many benefits as a natural source feed supplement. Rich in trace minerals and vitamins, diets including seaweed meal are credited with enhancing the immune system of livestock, increasing feed efficiency, increasing milk production, improving conception rates, and reducing the incidence of mastitis. Seaweed meal is often provided free-choice to sheep, swine, poultry and goats, or as top-dressing for cattle. Seaweed meal should not contain any preservatives or prohibited ingredients

Brand Name	Reviewed	Manufacturer
Acadian Kelp Meal	Pro-Cert/OMRI	Acadian Seaplants Ltd.
Kelp Meal		Junior's Organics (Harold Simms)
Dried Seaweed Meal <i>Laminariaceae</i> (Kelp)		North Atlantic Organics
Dried Seaweed Meal <i>Fucaceae</i> (Rockweed)		North Atlantic Organics
Seablend		Sealife Seaplants
Kelp Meal	OMRI	Tidal Organics, Inc.

Vitamins

Vitamins are required by animals in very small amounts; however, these nutrients play a vital role in the chemical reactions in their bodies. Although rumen bacteria synthesize sufficient vitamin K and B vitamins to meet the needs of ruminant animals, supplementation is routinely required to supply vitamins A, D and E. Under disease conditions, periods of stress or for very young animals, supplemental B vitamins may also be required. In non-ruminant (swine and poultry) rations, vitamins A, D, E, and K as well as many vitamins in the B group must be routinely supplemented.

Natural (non-synthetic) sources of vitamins are permitted without regulation in feed as long as they are federally permitted for use. For example, vitamin A may be derived from vitamin A acetate or vitamin A palmitate. Similarly, vitamin C may be sourced from ascorbic acid and vitamin E may be derived from tocopherols. The use of synthetic vitamins is permitted if non-synthetically sourced vitamins are unavailable. Vitamins, irrespective of source, are permitted for medical use. The list below represents only a few available products; vitamins are available from most farm supply stores and veterinarians.

Brand Name	Reviewed	Manufacturer
Biovit Vitamins A-D3-E	Ecocert	Alga-vie
Ascorbic Acid – Vitamin C Crystals		ANHUI Tiger Biotech Co.
VitaMaster NF		Bio Ag
Rovimix (5 products: A 1000, A 500 WS, B2 80-SD, D3-500, E-50)	Ecocert	DSM / Shur-gain
Nutri-Gro Vitamin K		Homestead Organics
Vitamin C (injectable)		Homestead Organics/Bio Ag
Vitamin E		Homestead Organics

Other Supplements

Organic Sugar: Organic sugar is a source of energy for livestock and can be used as a carrier in feed. For bees, organic sugar can be fed in the case of temporary feed shortages owing to climatic or other exceptional circumstances. This can only occur between the last honey harvest and 15 days before the start of the next nectar period; and shall not be provided 30 days before the harvest of honey. Non-organic refined sugars may be used when the health of the colony cannot be maintained with the use of organically produced honey or sugars.

Organic Vinegar: Natural forms of acetic acid are permitted for use as a disinfectant or sanitizer, however organic sources are required for internal use. Cider vinegar contains vitamins and minerals, and is a good source of potassium. Organic farmers use apple cider vinegar as a preventative against difficult births and mastitis. Vinegar also acts to balance the pH of the rumen and has some merit in the control of internal parasites. Apple cider vinegar applied externally has been suggested for the control of ringworm. Acetic acid is naturally derived from the fermentation of plant products under anaerobic conditions. Commonly, apple cider, wine, and malt are fermented to produce a 5% acetic acid solution also known as vinegar. This acetic acid can be concentrated from 5% to 15% by distillation and to 30% by freeze evaporation. These processes are permitted under organic standards.

Brand Name	Reviewed	Manufacturer
Organic Sugar	Ecocert	Homestead Organics
Organic Sugar	Biotropico	Ingenio-Providen S.A. / Bio-Ag
Organic Sugar	QAI	Wholesome Sweeteners
Organic Apple Cider Vinegar	ACO	Boates
Organic Apple Cider Vinegar	Pro-Cert	Filsinger Natural Foods

5.3 Health Care Products and Production Aids

Activated charcoal

Organic livestock producers often use activated charcoal to treat animals suspected of being poisoned. Charcoal binds with the ingested toxins (mycotoxins, heavy metals, medications, viruses, bacteria) creating a compound that is then excreted from the animal. Activated charcoal is often added to feed to help reduce the impact of intestinal parasites and can be used as treatment for animals suffering from bloat. Activated charcoal is in a powder form and can be mixed in the feed or mixed with water to be used as an oral drench.

Brand Name	Reviewed	Manufacturer
Charcoal		Alga-Vie
Black Earth (humates)		Bio-Ag
Charcoal, natural nutritional		Homestead Organics

Botanical compounds

Many organic farmers routinely use botanical tonics, cleansers, or dewormers as a means of alternative health care for their animals. Botanical or herbal compounds from all sources are allowed for livestock health care, provided they are not derived from products of genetic engineering and do not contain prohibited ingredients. Botanical compounds must not be extracted with synthetic chemicals. Botanicals prepared by the producer should be made and used with caution. Many of the herbs used in botanical treatments can cause side effects. Examples of some common botanical preparations include garlic, wormwood, goosefoot, conifers, crucifers (mustard family), cucurbits (pumpkin and squash), tansy, kelp, sage, yarrow, ginger, comfrey and dandelion.

Brand Name	Reviewed	Manufacturer
LactoGain	Ecocert	Belisle
Herbal Wound Spray		Bio-Ag
L.K.L. (Liver-Kidney-Lymph)		Bio-Ag
Organic Apple Cider Vinegar	Pro-Cert	Boates
Mosquito Barrier		Garlic Research Labs, Inc.
Hoeggers Herbal Wormer		Hoeggers Supply Company
Aloe Vera Gel or Juice		Homestead Organics
Garlic, Dehydrated	Organic	Homestead Organics
Slippery Elm		Homestead Organics
Wormwood		Homestead Organics

Colostrum whey

This product is a probiotic derived from cow colostrum. It can be used to prevent and treat digestive disorders and mastitis.

Brand Name	Reviewed	Manufacturer
Liquid Protein Feed		Bio-Ag
Liquid Protein Feed		Homestead Organics

Copper sulphate

Copper is an essential nutrient in the diet of most livestock, and may also be used for topical use such as foot baths. Copper deficiencies can be managed using supplements in salt mineral mixes. Sheep are more sensitive to

copper toxicity than other livestock because they retain more copper in their livers.

Sulphates produced using sulphuric acid are prohibited.

Brand Name	Reviewed	Manufacturer
Copper sulphate	Ecocert	Shur-Gain

Diatomaceous earth

See 5.2

Formic acid

Formic acid is used to control Varroa mites in apiculture. It is the simplest carboxylic acid, and occurs naturally in the venom of bee and ant stings, although the form available is synthetic. It can only be used after the last honey harvest of the season and must be discontinued 30 days before the addition of honey supers.

Brand Name	Reviewed	Manufacturer
65% Formic Acid		Country Fields Beekeeping Supplies

Homeopathic and biotherapies

Homeopathic remedies come in either liquid drops or dry (globule) form (which then should be mixed with water). Homeopathic remedies are often administered by directly spraying them on the nose of the animal, where it will be absorbed by the mucous membranes. Common homeopathic preparations include Arnica, Hepar sulphur (for abscesses), Calcarea sulphurica (for foot rot), Calendula (instead of antibiotics), Cypericum, and Caulophyllum (for birthing), Arsenicum album, Belladonna, and Nux vomica. Prepared kits are available with information on how to match the symptoms with the specific preparation.

Brand Name	Reviewed	Manufacturer
Homeopathic Livestock Kit or Individual preparations		Bio-Ag
Liver Tincture		Herb Works/Bio-Ag
Homeopathic preparations		Boiron
Homeopathic preparations		Dolisos
Homeopathic preparations		Hyland's

Hydrogen peroxide

Hydrogen peroxide may be used as a sanitizer and disinfectant. For external use as a disinfectant for livestock, pharmaceutical grade (3%) may be used. Food grade hydrogen peroxide (35-50%) can be used as a disinfectant in livestock drinking water.

Brand Name	Reviewed	Manufacturer
Hydrogen Peroxide (35%)		Homestead Organics
Hydrogen Peroxide National Standards Foundation Grade (25% and 35%)		Bio Ag

Iodine

Iodine is permitted as a topical disinfectant in the form of potassium iodide or elemental iodine in phosphoric acid solution. It may also be used as an external parasiticide or a local anaesthetic. Iodine may be used as a cleaning agent, but must be followed by a hot water rinse. Allowable forms of iodine are available from veterinarians and farm supply stores.

Brand Name	Reviewed	Manufacturer
Iodox-A (includes citric acid and plant extracts)		Ultra Bio-Logics Inc.

Magnesium sulphate

Magnesium sulphate (mined epsom salts) may be used as a disinfectant, sanitizer, and for medical uses. Magnesium deficiencies in livestock can result in grass tetany (hypomagnesaemia), a serious condition that can result in coma or death. Magnesium is also important in preventing milk fever. Magnesium sulphate can also be used as a feed additive for trace minerals. Over-feeding magnesium will interfere with the animal's utilization of other minerals. For livestock applications, it should be from mined sources only and not be produced using sulphuric acid.

Dolomite supplementation provides a source for both magnesium, as well as calcium. Typical chemical analyses suggest dolomite is approximately 43% magnesium carbonate and 55% calcium carbonate. Dolomite may be used in combination with vitamin C as a treatment for scours. Similarly, dolomite can be used as a treatment for bloat, by oral drenching the animal with a solution of water and dolomite.

Brand Name	Reviewed	Manufacturer
Magnesium sulphate (epsom salt)		National Silicates (Bio-Ag)

Oxalic acid

Oxalic acid has been found to be effective for the control of Varroa mites in brood-free bee colonies. It can either be applied as a spray or as a trickle. Studies have indicated that oxalic acid in spring honey is not increased so no residue problems are to be expected.

Brand Name	Reviewed	Manufacturer
Oxalic Acid Dihydrate 99.6%		Country Fields Beekeeping Supplies

Plant oils

Many essential oils have shown some effectiveness against external livestock parasites, including citronella, tea tree, eucalyptus, cedar, geranium, citrus, and clove. In apiculture, thymol and menthol are two essential oils that have been shown to have some level of effectiveness against the Varroa and tracheal mite. These botanical compounds shall not be used within 30 days of honey flow or whenever honey supers are on the hive. Ensure that any plant oil product used is not a product of genetic engineering and does not contain added pesticides.

Brand Name	Reviewed	Manufacturer
EcoScent		Agridynamics Incorporated
Oil of Oregano (organic)	PACS	Joy of the Mountains
Lacta-Spray (Udder Spray)	Ecocert	Probiotech

Selenium products

Selenium is important in livestock diets because of its role in animal growth, reproduction and in disease prevention. It is a component of glutathione peroxidase, an enzyme essential in cell membrane stability. Selenium, in combination with vitamin E, works as an antioxidant. It is a trace element that is difficult to find naturally in the diet and therefore supplementation may be required. Selenium sources should be derived from sodium selenate or sodium selenite, and the producer must document deficiencies in the livestock, soil, or the feed source before use.

White muscle is a myodegeneration disease that frequently occurs in calves and lambs of dams that received selenium-deficient feed during or before gestation. Stiff gaits and increased rates of retained placenta are also associated with selenium deficiencies. Injectable selenium is often used on beef calves and lambs soon after birth. Selenium may also be useful to feed to breeding animals or their young. Selenium and vitamin E injectable products are available at most farm supply and veterinary stores. Yeast derived selenium products shall not be the product of genetic engineering.

Brand Name	Reviewed	Manufacturer
SelenoSource AF 2000	Ecocert	Diamond V Mills
AlkoSel 3000	OMRI	Lallemand
Selenium premixes 1%, 2%, 3%, 4%, 4.5%	Ecocert	Shur-gain