

**The “Ruminant Feed Ban”
Animal Proteins Prohibited in Ruminant Feed
Federal Rule 21 CFR 589.2000**

Table One

Nonprohibited Materials: These feed materials <u>CAN</u> be fed to ruminants.	
1. The following protein products derived from <u>mammals, including ruminants</u>, are exempt from the Ruminant Feed Ban rule and <u>CAN</u> be fed to ruminants:	
Blood and blood products	Inspected meat products, such as plate waste, which have been cooked and offered for human food and further heat processed for animal feed.
Milk products (milk and milk protein)	
Pure porcine (pork) protein	
Pure equine (horse) protein	
Gelatin	
2. The following <u>non-mammalian</u> protein products are exempt from the Ruminant Feed Ban rule and <u>CAN</u> be fed to ruminants:	
Poultry protein	Vegetable protein
Marine (fish) protein	
3. The following <u>CAN</u> be fed to ruminants because they are not protein or tissue.	
Grease	Oil
Tallow	Amino Acids
Fat	Dicalcium Phosphate

Table Two

Prohibited Materials: The protein products listed below, unless made from the materials in Table One, <u>CANNOT</u> be fed to ruminants because they may carry the BSE infective agent. *(See exceptions)	
Animal By-Product Meal	Hydrolyzed Leather Meal
Animal Digest	Leather Hydrolysate
Animal Liver	Meat
Bone Meal, Cooked	Meat and Bone Meal
Bone Meal, Steamed	Meat and Bone Meal Tankage
Chondroitin Sulfate	Meat By-Products
Cooked Bone Marrow	Meat Meal
Dehydrated Food Waste	Meat Meal Tankage
Dehydrated Garbage	Meat Protein Isolate
Distressed Pet Food	Mechanically Separated Bone Marrow
Dried Meat Solubles	Restaurant Food Waste
Fleshings Hydrolysate	Salvage Pet Food
Food Processing Waste	Stock / Broth
Glandular Meal and Extracted Glandular Meal	Unborn calf Carcasses
Hydrolyzed Hair	

***Exceptions:**

1) Table Two lists feed ingredient terms that frequently or by definition contain Prohibited Materials. However, most of the terms can also be used for feed ingredients made exclusively from Nonprohibited Materials. For example, if Meat and Bone Meal is made from pure porcine (pork) raw material (see Table One) then it is a Nonprohibited Material. If Chondroitin Sulfate is made exclusively from Marine (fish) materials (see Table One) it is a Nonprohibited Material; but, if it is made from Beef Trachea then it is a Prohibited Material. The way to tell is to look for the BSE Cautionary Statement on the label. Whenever the label says “Do Not Feed To

Cattle Or Other Ruminants” then it is a Prohibited Material.

2) Occasionally the statement “Do Not Feed To Cattle Or Other Ruminants” is on the label of a Nonprohibited Material such as Fish Meal. This means that the Fish Meal may contain trace amounts of a Prohibited Material due to processing or handling conditions.

3) Pet Food often contains one or more of the Prohibited Materials listed in Table Two but the Ruminant Feed Ban rule does not require pet food for retail sale to have the BSE Cautionary Statement on the label. Never feed pet food to ruminants – on purpose or accidentally.

4) If you are not sure if a certain ingredient can be fed to ruminants call WSDA at (360) 902-2025. Also, you can request the manufacturer to verify that the feed does not contain any prohibited materials.

Ruminant animals are any animals with a four-chambered stomach including cattle, sheep, goats, buffalo, elk, and deer. Alpacas and Llamas are camelids, not ruminants, and therefore not covered by the Ruminant Feed Ban rule.

Below is an alphabetical list of fully defined feed ingredient terms identified as prohibited materials by the Association of American Feed Control Officials (AAFCO). Use of the ingredients listed below, from mammalian origins except pure porcine or pure equine, is restricted to non-ruminant feeds. This list may not be all inclusive.

Animal By-Product Meal – is the rendered product from animal tissues, exclusive of any added hair, hoof, horn, hide trimmings, manure, stomach and rumen contents except in such amounts as may occur unavoidably in good processing practices. It shall not contain added extraneous materials not provided for by this definition. This ingredient definition is intended to cover those individual rendered animal tissue products that cannot meet the criteria as set forth elsewhere in this section. This ingredient is not intended to be used to label a mixture of animal tissue products.

Animal Digest – is a material which results from chemical and/or enzymatic hydrolysis of clean and undecomposed animal tissue. The animal tissues used shall be exclusive of hair, horns, teeth, hooves and feathers, except in such trace amounts as might occur unavoidably in good factory practice and shall be suitable for animal feed. If it bears the name descriptive of its kind or flavor(s), it must correspond thereto.

Animal Liver – If it bears a name descriptive of its kind, it must correspond thereto. Meal is obtained by drying and grinding liver from slaughtered mammals.

Bone Meal, Cooked – is the dried and ground sterilized product resulting from wet cooking without steam pressure of undecomposed bones. Fat, gelatin, and meat fiber may or may not be removed. When labeled as a commercial feed ingredient, it shall carry guarantees for protein, phosphorus (P), and calcium (Ca). Cooked bone meal shall be used in all labeling.

Bone Meal, Steamed – is the dried and ground product sterilized by cooking undecomposed bones with steam under pressure. Grease, gelatin, and meat fiber may or may not be removed. . It must be labeled with guarantees for protein, phosphorus (P), and calcium (Ca). Steamed bone meal shall be used in all labeling.

Chondroitin Sulfate – Chondroitin Sulfate does not have an AAFCO definition.

Cooked Bone Marrow – is the soft material coming from the center of large bones, such as leg bones. This material, which is predominantly fat with some protein, must be separated from the bone material by cooking with steam. It shall not contain added extraneous materials not provided for by this definition except for small amount of tissue, which may adhere to the bone unavoidably in good processing practice. The labeling of this product shall include, but is not limited to, guarantees for minimum crude protein and minimum crude fat.

Dehydrated Garbage – is composed of artificially dried animal and vegetable waste collected sufficiently often that harmful decomposition has not set in, and from which have been separated crockery, glass, metal, string, and similar materials. It must be processed at a temperature sufficient to destroy all organisms capable of producing animal diseases. If part of the grease and fat is removed, it must be designated as “Degreased Dehydrated Garbage.”

Dehydrated Food Waste – Any and all animal and vegetable produce picked up from basic food processing sources or institutions where food is processed. The produce shall be picked up daily or sufficiently often so that no decomposition is evident. Any and all undesirable constituents shall be separated from the material. It shall be dehydrated to a moisture content of not more than 12% and be in a state free from all harmful micro-organisms.

Distressed Pet Food – is a product resulting from pet food distribution but which is no longer available for retail sale. This product may pet food in, but not limited to, dented cans, torn bags, product past its sell-by date, or returned product that is suitable for use in feed. It may consist of a single formula, still in the original packaging, or a variety of formulas commingled into one bulk container and containing none of the original packaging or labeling. If it contains, or may contain, any material identified by 21 CFR 589.2000 as prohibited from use in the feed of ruminant animals, or if it is no longer accompanied by a detailed label listing all of the ingredients in the distressed product, the label must contain the precautionary statement “Do Not Feed To Cattle Or Other Ruminants”. It shall be free from foreign materials harmful to animals, and must be suitable for the purpose for which it is being marketed.

Dried Meat Solubles – is obtained by drying the defatted water extract of the clean, wholesome parts of slaughtered animals prepared by steaming or hot water extraction. It must be designated according to its crude protein content which shall be no less than 70%.

Fleshings Hydrolysate – is obtained by acid hydrolysis of the flesh from fresh or salted hides. It is defatted, strained, and neutralized. If evaporated to 50% solids, it shall be designated “Condensed Fleshings Hydrolysate”. It must have a minimum crude protein and maximum salt guarantee.

Food Processing Waste – is composed of any and all animal and vegetable products from basic food processing. This may include manufacturing or processing waste, cannery residue, production over-run, and otherwise unsaleable material. The guaranteed analysis shall include the maximum moisture, unless the product is dried by artificial means to less than 12% moisture and designated as “Dehydrated Food Processing Waste.” If part of the grease and fat is removed, it must be designated as “Degreased”.

Glandular Meal and Extracted Glandular Meal – is obtained by drying liver and other glandular tissues from slaughtered mammals. When a significant portion of the water soluble material has been removed, it may be called Extracted Glandular Meal.

Hydrolyzed Hair – is a product prepared from clean, undecomposed hair, by heat and pressure to produce a product suitable for animal feeding. Not less than 80% of its crude protein must be digestible by the pepsin digestibility method.

Hydrolyzed Leather Meal – is produced from leather scrap that is treated with steam for not less than 33 minutes at a pressure not less than 125 pounds per square inch and further processed to contain not more than 10% moisture, not less than 60% crude protein, not more than 6% crude fiber, not more than 2.75% chromium, and with not less than 80% of its crude protein digestible by the pepsin digestibility

method. Hydrolyzed leather meal may be utilized in livestock feeds as provided in food additive regulation 573.540

Leather Hydrolysate – is obtained from chromium tanned unfinished leather shavings, trimmings, and/or lime fleshings that may or may not be pressure cooked with the addition of steam, sodium hydroxide, lime or magnesium oxide. Chromium is precipitated and separated so that only trivalent chromium at less than 1000 ppm on a dry matter basis remains in the hydrolysate. This product is available as a liquid ingredient or as a spray-dried powder. In either form, the analysis on a solids basis will not be less than 75% crude protein and not less than 85% of the protein shall be pepsin digestible.

Meat – is the clean flesh derived from slaughtered mammals and is limited to that part of the striate muscle which is skeletal or that which is found in the tongue, in the diaphragm, in the heart, or in the esophagus; with or without the accompanying and overlying fat and the portions of the skin, sinew, nerve, and blood vessels which normally accompany the flesh. It shall be suitable for use in animal food. If it bears a name descriptive of its kind, it must correspond thereto.

Meat and Bone Meal – is the rendered product from mammal tissues, including bone, exclusive of any added blood, hair, hoof, horn, hide trimmings, manure, stomach and rumen contents, except in such amounts as may occur unavoidably in good processing practices. It shall not contain added extraneous materials not provided for in this definition. It shall contain a minimum of 4.0% Phosphorus (P) and the Calcium (Ca) level shall not be more than 2.2 times the actual Phosphorus (P) level. It shall not contain more than 12% pepsin indigestible residue and not more than 9% of the crude protein in the product shall be pepsin indigestible. The label shall include guarantees for minimum crude protein, minimum crude fat, maximum crude fiber, minimum Phosphorus (P) and minimum and maximum Calcium (Ca). If it bears a name description of its kind, composition or origin it must correspond thereto.

Meat and Bone Meal Tankage – is the rendered product from mammal tissues, including bone, exclusive of any added hair, hoof, horn, hide trimmings, manure, stomach and rumen contents except in such amounts as may occur unavoidably in good processing practices. It may contain added blood or blood meal; however, it shall not contain any added extraneous materials not provided for in this definition. It shall contain a minimum of 4.0% Phosphorus (P) and the Calcium (Ca) level shall not be more than 2.2 times the actual Phosphorus (P) level. It shall not contain more than 12% pepsin indigestible residue and not more than 9% of the crude protein in the product shall be pepsin indigestible. The label shall include guarantees for minimum crude protein, minimum crude fat, maximum crude fiber, minimum Phosphorus (P) and minimum and maximum Calcium (Ca). If it bears a name description of its kind, composition or origin it must correspond thereto.

Meat By-Products – The non-rendered, clean parts, other than meat, derived from slaughtered mammals. It includes, but is not limited to, lungs, spleen, kidneys, brain, livers, blood, bone, partially defatted low temperature fatty tissue, and stomachs and intestines freed of their contents. It does not include hair, horns, teeth and hoofs. It shall be suitable for use in animal food. If it bears name descriptive of its kind, it must correspond thereto.

Meat Meal – The rendered product from mammal tissues, exclusive of any added blood, hair, hoof, horn, hide trimmings, manure, stomach and rumen contents except in such amounts as may occur unavoidably in good processing practices. It shall not contain added extraneous materials not provided for by this definition. The Calcium (Ca) level shall not exceed the actual level of Phosphorus (P) by more than 2.2 times. It shall not contain more than 12% pepsin indigestible residue and not more than 9% of the crude protein in the product shall be pepsin indigestible. The label shall include guarantees for minimum crude protein, minimum crude fat, maximum crude fiber, minimum Phosphorus (P) and minimum and maximum Calcium (Ca). If the product bears a name description of its kind, composition or origin, it must correspond thereto.

Meat Meal Tankage – The rendered product from mammal tissues, exclusive of any added hair, hoof, horn, hide trimmings, manure, stomach and rumen contents, except in such amounts as may occur unavoidably in processing factory practices. It may contain added blood or blood meal; however, it shall

not contain any other added extraneous materials not provided for by this definition. The Calcium (Ca) level shall not exceed the actual level of Phosphorus (P) by more than 2.2 times. It shall not contain more than 12% pepsin indigestible residue and not more than 9% of the crude protein in the product shall be pepsin indigestible. The label shall include guarantees for minimum crude protein, minimum crude fat, maximum crude fiber, minimum Phosphorus (P) and minimum and maximum Calcium (Ca). If the product bears a name description of its kind, composition or origin, it must correspond thereto.

Meat Protein Isolate – is produced by separating meat protein from fresh, clean, unadulterated bones by heat processing followed by low temperature drying to preserve function and nutrition. This product is characterized by a fresh meaty aroma, a 90% minimum protein level, 1% maximum fat and 2% maximum ash.

Mechanically Separated Bone Marrow – The soft material coming from the center of large bones, such as leg bones. This material, which is predominantly fat with some protein, must be separated from the bone material by mechanical separation. It shall not contain added extraneous materials not provided for by this definition except for small amount of tissue which may adhere to the bone unavoidably in good processing practice. The labeling of this product shall include, but is not limited to, guarantees for minimum crude protein and minimum crude fat.

Restaurant Food Waste – is composed of edible food waste collected from restaurants, cafeterias, and other institutes of food preparation. Processing and/or handling must remove any and all undesirable constituents including crockery, glass, metal, string, and similar materials. The guaranteed analysis shall include maximum moisture, unless the product is dried by artificial means to less than 12% moisture and designated as “Dehydrated Restaurant Food Waste”. If part of the grease and fat is removed it must be designated as “Degreased”.

Salvage Pet Food – is a product resulting from pet food manufacturing. This product may consist of, but is not limited to, start-up and over-run product, unfinished pet food, pet food fines and other product not suitable for packaging for retail sale. If it contains, or may contain, any material identified by 21 CFR 589.2000 as prohibited from use in the feed of ruminant animals, or if it is no longer accompanied by a detailed label listing all of the ingredients in the salvage pet food, the label must contain the precautionary statement “Do Not Feed To Cattle Or Other Ruminants”. It shall be free of foreign materials harmful to animals, and must be suitable for the purpose for which it is being marketed.

Stock / Broth– is obtained by cooking mammalian or poultry bones, parts, and/or muscle tissue. The crude protein content of stock/broth must be no less than 90% on a dry matter basis. In order for the stock/broth to be labeled as such, the moisture to crude protein ratio must not exceed 135:1 (135 parts water to 1 part crude protein). The product must bear a name descriptive of its kind, composition or origin, such as but not limited to, meat, beef, pork, poultry, chicken, turkey: and may be called either stock or broth.

Unborn Calf Carcasses – is the product obtained from whole unborn carcasses taken from slaughtered cows at government inspected slaughter plants. The product is produced by grinding the whole-unborn carcass, exclusive of calf hides. The product is denatured, fresh frozen and shall be suitable for use as an animal feed.

All definitions are from the Association of American Feed Control Officials (AAFCO) 2005 Official Publication, except for Dehydrated Garbage and Dehydrated Food Waste, which are from the 2000 Official Publication, and Chondroitin Sulfate which is not defined by AAFCO. Note: Dehydrated Garbage and Dehydrated Food Waste are included because they are identified in FDA Guidance Documents as being prohibited.

The following items are found on feed labels and may be fed to ruminants because they are **not** prohibited under the “Ruminant Feed Ban” rule 21CFR 2000.589. These definitions are included because they are of animal origin and questions often arise.

Animal Plasma – is the product obtained by spray drying plasma which has been separated away from the cellular matter (red and white blood cells) of fresh whole blood by chemical and mechanical processing. The protein portion of this product is primarily albumin, globulin, and fibrinogen type proteins. The minimum percent crude protein and the maximum percent ash must be guaranteed on the label. If it bears a name descriptive of its kind, composition, or origin, it must correspond thereto.

Animal Serum – Animal serum is the product obtained by removing the fibrin from liquid animal plasma by chemical and mechanical processes. The serum protein portion of this product is primarily albumin and globulin proteins. The minimum percent crude protein, maximum percent ash, minimum albumin content, and the minimum globulin content must be guaranteed on the label. The minimum albumin content is 42% (as a percent of total protein) determined by colorimetric assay (Doumas, B.T., Watson, W.A., Biggs, H.G., Clin. Chim Acta. 1971) and the minimum globulin content is 20% (As a percent of total protein) as measured by an assay method such as the Becker titer analysis (Becker, W. 1969 Immunochemistry 6: 539-546). If the product bears a name descriptive of its kind, origin or composition, it must correspond thereto.

Note: Since animal plasma and animal serum are blood products, and since blood is exempted from being prohibited by 21 CFR 2000.589, it is legal to feed these to ruminants even though they are mammalian protein products.

Cholecalciferol (D-Activated Animal Sterol) – is obtained by activation of a sterol fraction of animal origin with ultra-violet light or other means. For label identification it may be followed with the parenthetical phrase (Source of Vitamin D3).

Note: The definition of **Sterols** is – “(Part) Solid cyclic alcohols which are the major constituents of the unsaponifiable portion of animal and vegetable fats and oils.” Since alcohols are not proteins, these are not prohibited as ruminant feeds by 21 CFR 2000.589 regardless of species of origin.