

# EXHIBIT 1

### OFFICIAL FEED TERMS

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Note:--Suggestions for changes should be addressed to the Feed Terms Investigator.

**Additive.** An ingredient or combination of ingredients added to the basic feed mix or parts thereof to fulfill a specific need. Usually used in micro quantities and requires careful handling and mixing.

(NOTE: A "Food Additive" is defined by federal laws as any substance which becomes a component or affects the characteristics of a feed or food if such substance is not generally recognized among experts qualified by scientific training and experience to evaluate its safety as having been adequately shown through scientific procedures to be safe under the conditions of its intended use. Excepted are substances having "prior sanction" and pesticide chemicals under certain conditions. See Public Law 65-929 for details.)

**Aerial parts.** (Part) The above ground parts of plants.

**Air ashed.** (Process) Reduced by combustion in air to a mineral residue.

**Ammoniated, ammoniating.** (Process) Combined with or impregnated with ammonia or an ammonium compound.

**Animal waste.** Means a material composed of excreta, with or without bedding materials, and collected from poultry, ruminants or other animals except humans.

**Antibiotics.** A class of drug. They are usually synthesized by a living microorganism and in proper concentration inhibit the growth of other microorganisms.

**Artificially dried.** (Process) Moisture having been removed by other than natural means.

**Aspic.** A solid or semi-solid dressing produced by mixing a gelling agent(s) with broth or water, and/or common seasonings or flavor enhancer(s). If the aspic or gel is characterized as a meat, poultry, or fish aspic or gel, it must contain an extract or essence of meat, poultry, or fish in an amount sufficient to characterize it as such.

**Aspirated, Aspirating.** Having removed chaff, dust, or other light materials by use of air.

**Bagasse.** (Part) Pulp from sugar cane. (See pulp.)

**Balanced.** A term that may be applied to a diet, ration, or feed having all known required nutrients in proper amount and proportion based upon recommendations of recognized authorities in the field of animal nutrition, such as the National Research Council, for a given set of physiological animal requirements. The species for which it is intended and the functions such as maintenance or maintenance plus production (growth, fetus, fat, milk, eggs, wool, feathers, or work) shall be specified.

**Barn-cured.** (Process) Forage material dried with forced ventilation in an enclosure.

**Beans.** Seed of leguminous plants especially of the genera *Phaseolus*, *Dalichos*, and *Vigna*.

**Biscuits.** (Physical form) Shaped and baked dough.

**Blending.** (Process) To mingle or combine two or more ingredients of feed. It does not imply a uniformity of dispersion.

**Blocked, blocking.** (Process) Having agglomerated individual ingredients or mixtures in to a large mass.

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**Blocks.** (Physical form) Agglomerated feed compressed into a solid mass cohesive enough to hold its form and weighing over two pounds, and generally weighing 30-50 pounds.

**Blood.** (Part) Vascular fluid of animals.

**Blood albumin.** (Part) One of the blood proteins.

**Blowings.** (Part) See mill dust.

**Bolls.** (Part) The pods or capsules of certain plants, especially flax or cotton.

**Bolted, bolting.** (Process) Separated by means of a bolting cloth as flour from bran.

**Bone.** (Part) Skeletal parts of vertebrates.

**Boneless.** (Process) The flesh resulting from removal of bone from accompanying flesh by means of knife separation.

**Bran.** (Part) Pericarp of grain.

**Brand name.** Any word, name, symbol or device or any combination thereof identifying the commercial feed of a distributor and distinguishing it from that of others.

**Bricks.** (Physical form) Agglomerated feed, other than pellets, compressed into a solid mass cohesive enough to hold its form and weighing less than two pounds (See blocks.)

**Browse.** (Part) Small stems, leaves and/or flowers and fruits of shrubs, trees or woody vines.

**Buttermilk.** (Part) All residue from churning cream.

**By-product.** (Part) Secondary products produced in addition to the principal product.

**Cake.** (Physical form) The mass resulting from the pressing of seeds, meat, or fish in order to remove oils, fats, or other liquids.

**Calcined, calcining.** (Process) Treated at high temperature in the presence of air.

**Canned.** (Process) a term applied to a feed which has been processed, packaged, sealed, and sterilized for preservation in cans or similar containers.

**Cannery residue.** (Part) Residue suitable for feeding obtained in preparing a product for canning.

**Carcass meat trimmings.** (Part) Clean flesh obtained from slaughtered animals. It is limited to striate, skeletal, and cardiac muscles, but may include the accompanying and overlying fat and the portion of skin, sinew, nerve, and blood vessels which normally accompany the flesh.

**Carcass residue, mammals.** (Part) Residues from animal tissues including bones and exclusive of hair, hoofs, horns, and contents of the digestive tract.

**Carriers.** An edible material to which ingredients are added to facilitate uniform incorporation of the latter into feeds. The active particles are absorbed, impregnated or coated into or onto the edible material in such a way as to physically carry the active ingredient.

**Chaff.** (Part) Glumes, husks, or other seed covering together with other plant parts separated from seed in threshing or processing.

**Charcoal.** Dark-colored porous forms of carbon made from the organic parts of vegetable or animal substances, by their incomplete combustion.

**Chipped, chipping.** (Process) Cut or broken into fragments; also meaning prepared into small thin slices.

**Chopped, chopping.** (Process) Reduced in particle size by cutting with knives or other edged instruments.

**Cleaned, cleaning.** (Process) Removal of material by such methods as scalping, aspirating, magnetic separation, or by any other method.

**Cleanings.** (Part) Chaff, weed seeds, dust, and other foreign matter removed from cereal grains.

**Cobs with grain.** (Part) The ears of maize without the husks, but consisting of the entire cobs and adhering grain.

**Cobs with husks.** (Part) Kernel-free fibrous inner portion of the ear of maize with enveloping leaves.

**Commercial feed.** See AAFCO Model Bill.

**Complete feed.** A nutritionally adequate feed for animals other than man; by specific formula is compounded to be fed as the sole ration and is capable of maintaining life and/or promoting production without any additional substance being consumed except water.

**Concentrate.** A feed used with another to improve the nutritive balance of the total and intended to be further diluted and mixed to produce a supplement or a complete feed.

**Condensed, condensing.** (Process) Reduced to denser form by removal of moisture.

**Conditioned, conditioning.** (Process) Having achieved pre-determined moisture characteristics and/or temperature of ingredients or a mixture of ingredients prior to further processing.

**Cooked, cooking.** (Process) Heated in the presence of moisture to alter chemical and/or physical characteristics or to sterilize.

**Cracked, cracking.** (Process) Particle size reduced by a combined breaking and crushing action.

**Cracklings.** (Part) Residue after removal of fat from adipose tissue or skin of animals by dry heat.

**Crimped, crimping.** (Process) Rolled by use of corrugated rollers. It may curtail tempering or conditioning and cooling.

**Crumbled, crumbling.** (Process) Pellets reduced to granular form.

**Crumbles.** (Physical form) Pelleted feed reduced to granular form.

**Crushed, crushing.** (Process) See rolled, rolling.

**Cubes.** (Physical form) See pellets.

**Cubes, range.** (Physical form) See pellets and range cubes.

**Cull.** Material rejected as inferior to the process of grading or separating.

**Culture.** Nutrient medium inoculated with specific microorganisms which may be in a live or dormant condition.

**Cultured, culturing.** (Process) Biological material multiplied or produced in a nutrient media.

**Cure, curing, cured.** (Process) To prepare for keeping for use, or to use, or to preserve. The process may be by drying, use of chemical preservatives, smoking, salting, or by use of other processes and/or materials for preserving.

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**Customer-formula feed.** Consists of a mixture of commercial feeds and/or feed ingredients each batch of which is manufactured according to the specific instructions of the final purchaser.

**Cut, cutting.** (Process) See chopped, chopping.

**D-activated, D-activating.** Plant or animal sterol fractions which have been vitamin D activated by ultra-violet light or by other means.

**Deboned.** (Process) The flesh resulting from removal of bones from accompanying flesh by mechanical deboning.

**Defluorinated, defluorinating.** (Process) Having had fluorine removed.

**Degermed.** (Process) Having had the embryo of seeds wholly or partially separated from the starch endosperm.

**Dehulled, dehulling.** (Process) Having removed the outer covering from grains or other seeds.

**Dehydrating, dehydrated.** (Process) Having been freed of moisture by thermal means.

**Dextrose Equivalent (D.E.).** (Physical form) is the reducing power calculated as dextrose, expressed as a percentage of the dry substance. It is used in conjunction with sugars and starch hydrolyzates.

**Diet.** Feed ingredients or mixture of ingredients including water, which is consumed by animals.

**Digested, digesting.** (Process) Subjected to prolonged heat and moisture, or to chemicals or enzymes with a resultant change of decomposition of the physical or chemical nature.

**Diluent.** (Physical form) An edible substance used to mix with and reduce the concentrate of nutrients and/or additives to make them more acceptable to animals, safer to use, and more capable of being mixed uniformly in a feed. (It may also be a carrier.)

**Distillation solubles.** (Part) Stillage filtrate.

**Dressed, dressing.** (Process) Made uniform in texture by breaking or screening of lumps from feed and/or the application of liquid(s).

**Dried, drying.** (Process) Materials from which water or other liquid has been removed.

**Drug.** (as defined by FDA as applied to feed) A substance (a) intended for use in the diagnosis, cure, mitigation, treatment or prevention of disease in man or other animals or (b) a substance other than food intended to affect the structure or any function of the body of man or other animals.

**Dry-milled.** (Process) Tempered with a small amount of water or steam to facilitate the separation of the various component parts of the kernel in the absence of any significant amount of free water.

**Dry-rendered, dry-rendering.** Dry rendered (Process) Residues of animal tissue cooked in open steam-jacketed vessels until the water has evaporated. Fat is removed by draining and pressing the solid residue.

**Dust.** (Part) Fine, dry pulverized particles of matter usually resulting from the cleaning or grinding of grain.

**Ears.** (Part) Fruiting heads of Zea maize, including only the cob and grain.

**Egg Albumin.** (Part) Whites of eggs of poultry.

**Environmental Nutrition.** The role of nutritional factors in altering animal impacts on the environment.

**Enzymatic activity.** The catalytic activity required to convert a given amount of assay substrate to a given amount of product per unit time under the standard conditions set forth in the assay procedure.

**Enzyme.** A protein made up of amino acids or their derivatives, which catalyzes a defined chemical reaction. Required cofactors should be considered an integral part of the enzyme.

**Enzyme product.** A processed, standardized enzyme-containing material which has been produced with the intention of being sold for use in animal feed and feed ingredients.

**Emulsifier.** A material capable of causing fat or oils to remain in liquid suspension.

**Endosperm.** (Part) Starchy portion of seed.

**Ensiled.** (Process) Aerial parts of plants which have been preserved by ensiling. Normally the original material is finely cut and blown into an airtight chamber as a silo, where it is pressed to exclude air and where it undergoes an acid fermentation that retards spoilage

**Etiolated.** (Process) A material grown in the absence of sunlight, blanched, bleached, colorless or pale.

**Evaporated, evaporating.** (Process) Reduced to a denser form; concentrated as by evaporation or distillation.

**Eviscerated.** (Process) Having had all the organs in the great cavity of the body removed.

**Expanded, expanding.** (Process) Subjected to moisture, pressure, and temperature to gelatinize the starch portion. When extruded, its volume is increased, due to abrupt reduction in pressure.

**Extracted, mechanical.** (Process) Having removed fat or oil from materials by heat and mechanical pressure. Similar terms: expeller extracted, hydraulic extracted, "old process".

**Extracted, solvent.** (Process) Having removed fat or oil from materials by organic solvents. Similar term: "new process".

**Extruded.** (Process) A process by which feed has been pressed, pushed, or protruded through orifices under pressure.

**Fat.** (Part) A substance composed chiefly of triglycerides of fatty acids, and solid or plastic at room temperature.

**Fatty acids.** (Part) Aliphatic monobasic acids containing only the elements carbon, hydrogen, and oxygen.

**Feathers.** (Part) The light, horny epidermal outgrowths that form the external coverings of birds.

**Feed(s).** Edible material(s) which are consumed by animals and contribute energy and/or nutrients to the animal's diet. (Usually refers to animals rather than man.)

**Feed grade.** Suitable for animal consumption.

**Feed mixture.** See formula feed.

**Feedstuff.** See feed(s)



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**Fermentation Aid.** A substance added to assist in providing proper conditions which results in action by yeasts, molds or bacteria in a controlled aerobic or anaerobic process used for the manufacture of certain products.

**Fermented, fermenting.** (Process) Acted upon by yeasts, molds, or bacteria in a controlled aerobic or anaerobic process in the manufacture of such products as alcohols, acids, vitamins of the B-complex group, or antibiotics.

**Fiber.** (Part) Any of a large class of plant carbohydrates that resist digestion hydrolysis.

**Fines.** (Physical form) Any materials which will pass through a screen whose openings are immediately smaller than the specified minimum crumble size or pellet diameter.

**Flaked, flaking.** (Process) See rolled.

**Flakes.** (Physical form) An ingredient rolled or cut into flat pieces with or without prior steam conditioning.

**Flour.** (Part) Soft, finely ground and bolted meal obtained from the milling of cereal grains, other seeds, or products. It consists essentially of the starch and gluten of the endosperm.

**Fodder.** (Part) The green or cured plant, containing all the ears or seed heads, if any, grown primarily for forage. (It has been applied more specifically to corn and sorghum.)

**Food(s).** When used in reference to animals, is synonymous with feed(s). See feed(s).

**Formula feed.** Two or more ingredients proportioned, mixed, and processed according to specifications.

**Free choice.** A feeding system by which animals are given unlimited access to the separate components or groups of components constituting the diet.

**Fresh.** (Process) Ingredients(s) having not been subject to freezing, to treatment by cooking, drying, rendering, hydrolysis, or similar process, to the addition of salt, curing agents, natural or synthetic chemical preservatives or other processing aids, or to preservation by means other than refrigeration.

**Fused, fusing.** (Process) Melted by heat.

**Gel.** See Aspic.

**Gelatinized, gelatinizing.** (Process) Having had the starch granules completely ruptured by a combination of moisture, heat and pressure, and in some instances, by mechanical shear.

**Germ.** (Part) The embryo found in seeds and frequently separated from the bran and starch endosperm during the milling.

**Gluten.** (Part) The tough, viscid nitrogenous substance remaining when the flour of wheat or other grain is washed to remove the starch.

**Gossypol.** (Part) A phenolic pigment in cottonseed that is toxic to some animals.

**Grain.** (Part) Seed from cereal plants.

**GRAS.** Abbreviation for the phrase "Generally Recognized as Safe." A substance which is generally recognized as safe by experts qualified to evaluate the safety of the substance for its intended use.

**Gravy.** A multiple component fluid dressing or topping consisting of a combination of one or more ingredients imparting special characteristics or flavors. It may be

formulated separately and added to another ingredient or combination of ingredients. If the gravy is characterized as a meat, poultry or fish gravy it must contain an extract or essence of meat, poultry or fish in an amount sufficient to characterize it as such.

**Grease.** Animal fats with a titer below 40° C

**Grit.** Course ground, insoluble, non-nutritive material (e.g. granite rock) for the in vivo mechanical grinding of feed by avian species.)

**Grits.** (Part) Coarsely ground grain from which the bran and germ have been removed, usually screened to uniform particle size.

**Groats.** (Part) Grain from which the hulls have been removed.

**Ground, grinding.** (Process) Reduced in particle size by impact, shearing, or attrition.

**Hay.** (Part) The aerial portion of grass or herbage especially cut and cured for animal feeding.

**Heads.** (Part) The seed or grain-containing portions of a plant.

**Heat-processed, heat-processing.** (Process) Subjected to a method of preparation involving the use of elevated temperatures with or without pressure.

**Heat rendered, heat rendering.** (Process) Melted, extracted, or clarified through use of heat. Usually, water and fat are removed.

**Homogenized, homogenizing.** (Process) Particles broken down into evenly distributed globules small enough to remain emulsified for long periods of time.

**Hulls.** (Part) Outer covering of grain or other seed.

**Husks.** (Part) Leaves enveloping an ear of maize; or the outer coverings of kernels or seeds, especially when dry and membranous.

**Hydrolyzed, hydrolyzing.** (Process) Complex molecules having been split to simpler units by chemical reaction with water, usually by catalysis.

**Ingredient, feed ingredient.** Means a component part or constituent of any combination or mixture making up a commercial feed.

**Iodinated.** (Process) Treated with iodine.

**Iodize, iodized.** (Process) To treat with iodine or an iodide.

**Irradiated, irradiating.** (Process) Treated, prepared, or altered by exposure to a specific radiation.

**Juice.** (Part) The aqueous substance obtainable from biological tissue by pressing or filtering with or without addition of water.

**Kernel.** (Part) A whole grain. For other species, dehulled seed.

**Kibbled, kibbling.** (Process) Cracked or crushed baked dough, or extruded feed that has been cooked prior to or during the extrusion process.

**Laboratory Method.** A technique or procedure of conducting scientific experiment, test, investigation or observation according to a definite established logical or systematic plan.

**Lard.** (Part) Rendered fat of swine.

**Leached.** (Process) The condition of a product following subsection of the material to the action of percolating water or other liquid.

**Leaves.** (Part) Lateral outgrowths of stems that constitute part of the foliage of a plant, typically a flattened green blade, and primarily functions in photosynthesis.



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**Lecithin.** (Part) A specific phospholipid. The principal constituent of crude phosphatides derived from oil-bearing seeds.

**Liver.** (Part) The hepatic gland.

**Malt.** (Part) Sprouted and steamed whole grain from which the radicle has been removed.

**Malted, malting.** (Process) Converted into malt or treated with malt or malt extract.

**Mash.** (Physical form) A mixture of ingredients in meal form. Similar term: mash feed.

**Meal.** (Physical form) An ingredient which has been ground or otherwise reduced in particle size.

**Medicated feed.** Any feed which contains drug ingredients intended or presented for the cure, mitigation, treatment, or prevention of diseases of animals other than man or which contains drug ingredients intended to affect the structure or any function of the body of animals other than man.

Antibiotics included in a feed growth promotion and/or efficiency levels are drug additives and feeds containing such antibiotics are included in the foregoing definition of "Medicated Feed."

**Micro-ingredients.** Vitamins, minerals, antibiotics, drugs, and other materials normally required in small amounts and measured in milligrams, micrograms or parts per million (ppm.).

**Middlings.** (Part) A by-product of flour milling comprising several grades of granular particles containing different proportions of endosperm, bran, germ, each of which contains different levels of crude fiber.

**Milk.** Total lacteal secretion from the mammary gland.

**Mill by-product.** (Part) A secondary product obtained in addition to the principal product in milling practice.

**Mill dust.** (Part) Fine feed particles of undetermined origin resulting from handling and processing feed and feed ingredients.

**Mill run.** (Part) The state in which a material comes from the mill, ungraded and usually uninspected.

**Mineralize, mineralized.** (Process) To supply, impregnate, or add inorganic mineral compounds to a feed ingredient or mixture.

**Mixing.** (Process) To combine by agitation two or more materials to a specific degree of dispersion.

**Molasses.** (Part) The thick, viscous by-product resulting from refined sugar production or the concentrated, partially dehydrated juices from fruits.

**Natural.** A feed or ingredient derived solely from plant, animal or mined sources, either in its unprocessed state or having been subject to physical processing, heat processing, rendering, purification, extraction, hydrolysis, enzymolysis or fermentation, but not having been produced by or subject to a chemically synthetic process and not containing any additives or processing aids that are chemically synthetic except in amounts as might occur unavoidably in good manufacturing practices.

**Nutrient.** A feed constituent in a form and at a level that will help support the life of an animal. The chief classes of feed nutrients are proteins, fats, carbohydrates, minerals and vitamins.

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**Offal.** (Part) Material left as a by-product from the preparation of some specific product, less valuable portions and the by-products of milling.

**Oil.** (Part) A substance composed chiefly of triglycerides of fatty acids, and liquid at room temperature.

**Organic (process)** A formula feed or a specific ingredient within a formula feed that has been produced and handled in compliance with the requirements of the USDA National Organic Program (7 CFR Part 205).

**Parboiling.** A Hydrothermal process in which the crystalline form of starch is changed into the amorphous form, due to the irreversible swelling and fusion of starch. This is accomplished by soaking, steaming, drying and milling to produce physical and chemical modifications.

**Pearled, pearling.** (Process) Dehulled grains reduced by machine brushing into smaller smooth particles.

**Peel.** (Part) See skin.

**Pellets.** (Physical form) Agglomerated feed formed by compacting and forcing through die openings by a mechanical process. Similar terms: pelleted feed, hard pellet.

**Pellets, soft.** (Physical form) Similar term: High Molasses Pellets. Pellets containing sufficient liquid to require immediate dusting and cooling.

**Pelleted, pelleting.** (Process) Having agglomerated feed by compaction and forced through die openings.

**Polished, polishing.** (Process) Having a smooth surface produced by mechanical process usually by friction.

**Pomace.** (Part) Pulp from fruit or vegetables. See pulp.

**Precipitated, precipitating.** (Process) Separated from suspension or a solution as a result of some chemical or physical change brought about by a chemical reaction, by cold or by any other means.

**Premix.** A uniform mixture of one or more micro-ingredients with diluent and/or carrier. Premixes are used to facilitate uniform dispersion of the micro-ingredients in a large mix.

**Premixing.** (Process) The preliminary mixing of ingredients with diluents and/or carriers.

**Preservative.** A substance added to protect, prevent or retard decay, discoloration or spoilage under conditions of use or storage.

**Pressed, pressing.** (Process) Compacted or molded by pressure; also meaning having fat, oil, or juices extracted under pressure.

**Presswater.** The aqueous extract of fish or meat free from the fats and/or oils. Presswater is the result of hydraulic pressing of the fishing or meat followed by separation of the oil either by centrifuging or other means.

**Product.** (Part) A substance produced from one or more other substances as a result of chemical or physical change.

**Protein.** (Part) Any of a large class of naturally occurring complex combinations of amino acids.

**Processed Animal Waste.** Animal waste that has been artificially dried, dry stacked, ensiled, oxidized, chemically treated, micro-biologically digested, chemically or

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physically fractionated or otherwise treated to render the material suitable for feeding.

**Pulp.** (Part) The solid residue remaining after extraction of juices from fruits, roots, or stems. Similar terms: Bagasse and Pomace.

**Pulverized, pulverizing.** (Process) See ground, grinding.

**Range cake.** (Physical form) See cake.

**Range cubes.** (Physical form) Large pellets designed to be fed on the ground. Similar term: range wafer.

**Ration.** The amount of the total feed which is provided to one animal over a 24-hour period.

**Raw.** Food in its natural or crude state not having been subjected to heat in the course of preparation as food.

**Refuse.** (Part) Damaged, defective, or superfluous edible material produced during or left over from a manufacturing or industrial process.

**Residue.** Part remaining after the removal of a portion of its original constituents.

**Rolled, rolling.** (Process) Having changed the shape and/or size of particles by compressing between rollers. It may entail tempering or conditioning.

**Roots.** (Part) Subterranean parts of plants.

**Rumen contents.** Contents of the first two compartments of the stomach of a ruminant.

**Rumen Inert.** Refers to a nutrient(s) that does not result in a change in rumen fermentation parameters yet is available to the animal in the intestine.

**Rumen Protected.** Refers to a nutrient(s) fed in such a form that provides an increase in the flow of that nutrient(s), unchanged, to the abomasum, yet is available to the animal in the intestine.

**Sauce.** A multiple component fluid dressing or topping consisting of a combination of one or more ingredients imparting special characteristics or flavors. It may be formulated separately and added to another ingredient or combination of ingredients.

**Scalped, scalping.** (Process) Having removed larger material by screening.

**Scratch.** (Physical form) Whole, cracked, or coarsely cut grain. Similar terms: scratch grain, scratch feed.

**Screened, screening.** (Process) Having separated various sized particles by passing over and/or through screens.

**Seed.** (Part) The fertilized and ripened ovule of a plant.

**Self fed.** A feeding system where animals have continuous free access to some or all component(s) of a ration, either individually or as mixtures.

**Separating.** (Process) Classification of particles by size, shape, and/or density.

**Separating, magnetic.** (Process) Removing ferrous material by magnetic attraction.

**Shells.** (Part) The hard, fibrous, or calcareous covering of a plant or animal product, i.e., nut, egg, oyster.

**Shoots.** (Part) The immature aerial parts of plants, stems with leaves and other appendages in contrast to the roots.

**Shorts.** (Part) Fine particles of bran, germ, flour, or offal from the tail of the mill from commercial flour milling.

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**Sifted.** (Process) Materials that have been passed through wire sieves to separate particles in different sizes. The separation of finer materials than would be done by screening.

**Sizing.** (Process) See screening.

**Skimmed.** (Process) Material from which floating solid material has been removed. It is also applied to milk from which fat has been removed by centrifuging.

**Skin.** (Part) Outer coverings of fruits or seeds, as the rinds, husks, or peels. May also apply to dermal tissue of animals.

**Sludge.** The suspended or dissolved solid matter resulting from the processing of animal or plant tissue for human food.

**Solubles.** Liquid containing dissolved substances obtained from processing animal or plant materials. It may contain some fine suspended solids.

**Solvent extracted.** (Process) A product from which oil has been removed by solvents.

**Spent.** Exhausted of active or effective properties, i.e., absorbing activity.

**Spray dehydrated.** (Process) Material which has been dried by spraying on the surface of a heated drum. It is recovered by scraping from the drum.

**Spray Dried.** Material which has been dried by spraying or atomizing into a draft of heated dry air.

**\_\_\_\_\_ Stabilized.** (Process) To retard degradation of ingredients. (The process used to be specified)

**Stalk(s).** (Part) The main stem of a herbaceous plant often with its dependent parts as leaves, twigs and fruit.

**Starch.** (Part) A white, granular polymer of plant origin. The principal part of seed endosperm.

**Steamed, steaming.** (Process) Having treated ingredients with steam to alter physical and/or chemical properties. Similar terms: steam cooked, steam rendered, tanked.

**Steep-extracted, steep-extracting.** (Process) Soaked in water or other liquid (as in the wet milling of corn) to remove soluble materials.

**Steepwater.** Water containing soluble materials extracted by steep-extraction, i.e., by soaking in water or other liquid (as in the wet milling of corn).

**Stem.** (Part) The coarse, aerial parts of plants which serve as supporting structures for leaves, buds, fruit, etc.

**Sterols.** (Part) Solid cyclic alcohols which are the major constituents of the unsaponifiable portion of animal and vegetable fats and oils.

**Stick.** See stickwater, presswater.

**Stickwater, fish.** (Part) The aqueous extract of cooked fish free from the oil. Stickwater contains the aqueous cell solutions of the fish and any water used in processing.

**Stickwater, meat.** (Part) The aqueous extract of meat free from the fat. Meat stickwater is the result of the wet rendering of meat products and contains the aqueous cell solution, the soluble glue proteins, and the water condensed from steam used in wet rendering.

**Stillage.** (Part) The mash from fermentation of grains after removal of alcohol by distillation.

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**Stover.** (Part) The stalks and leaves of corn after the ears, or sorghum after the heads have been harvested.

**Straw.** (Part) The plant residue remaining after separation of the seeds in threshing. It includes chaff.

**Sun-cured.** (Process) Material dried by exposure in open air to the direct rays of the sun.

**Supplement.** A feed used with another to improve the nutritive balance or performance of the total and intended to be:

- (1) Fed undiluted as a supplement to other feeds; or,
- (2) Offered free choice with other parts of the ration separately available; or
- (3) Further diluted and mixed to produce a complete feed.

**Syrup.** (Part) Concentrated juice of a fruit or plant.

**Tallow.** (Part) Animal fats with titer above 40°C.

**Tankage** (Part) See carcass residue.

**Tempered, tempering.** (Process) See conditioned, conditioning.

**Titer.** A property of fat determined by the solidification point of the fatty acids liberated by hydrolysis.

**Toasted.** (Process) Browned, dried, or parched by exposure to a fire, or to gas or electric heat.

**Trace minerals.** Mineral nutrients required by animals in micro amounts only (measured in milligrams per pound or smaller units.)

**Tubers.** (Part) Short, thickened fleshy stems or terminal portions of stems or rhizomes that are usually formed underground, bear minute scaled leaves, each with a bud capable under suitable conditions of developing into a new plant, and constitutes the resting stage of various plants.

**Twigs.** (Part) Small shoots or branches, usually without leaves, portions of stems of variable length or size.

**Type A medicated article** is intended solely for use in the manufacture of another Type A medicated article or a Type B or Type C medicated feed. It consists of a new animal drug(s), with or without carrier (e.g., calcium carbonate, rice hull, corn gluten) with or without inactive ingredients. The manufacture of a Type A medicated article requires an application approved under 21 CFR 514.105.

**Type B medicated feed** is intended solely for the manufacture of other medicated feeds (Type B or Type C). It contains a substantial quantity of nutrients including vitamins and/or minerals and/or other nutritional ingredients in an amount not less than 25 percent of the weight. It is manufactured by diluting a Type A medicated article or another Type B medicated feed. The maximum concentration of animal drug(s) in a Type B medicated feed is 200 times the highest continuous use level for Category I drugs and 100 times the highest continuous use level for Category II drugs. The term "highest continuous use level" means the highest dosage at which the drug is approved for continuous use (14 days or more), or, if the drug is not approved for continuous use, it means the highest level used for disease prevention or control. If the drug is approved for multiple species at different use levels, the highest approved level of use would govern under this definition. The manufacture of a Type B medicated feed from a Category II, Type A medicated article requires a medicated feed mill license application approved under 21 CFR 515.20.

**Type C medicated feed** is intended as the complete feed for the animal or may be fed "top dressed" (added on top of usual ration) or offered "free choice" (e.g.,



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supplement) in conjunction with other animal feed. It contains a substantial quantity of nutrients including vitamins, minerals, and/or other nutritional ingredients. It is manufactured by diluting a Type A medicated article or a Type B medicated feed. A Type C medicated feed may be further diluted to produce another Type C medicated feed. The manufacture of a Type C medicated feed from a Category II, Type A medicated article requires a medicated feed mill license application approved under 21 CFR 515.20.

**Uncleaned.** (Physical form) Containing foreign material.

**Unsaponifiable matter.** (Part) Ether soluble material extractable after complete reaction with strong alkali.

**Vines.** (Part) Any plant whose stems require support, or lie on the ground.

**Viscera.** (Part) All the organs in the great cavity of the body, excluding contents of the intestinal tract.

**Viscera, fish.** (Part) All organs in the great cavity of the body; it includes the gills, heart, liver, spleen, stomach, and intestines.

**Viscera, mammals.** (Part) All organs in the great cavity of the body; it includes the esophagus, heart, liver, spleen, stomach, and intestines, but excludes the contents of the intestinal tract.

**Viscera, poultry.** (Part) All organs in the great cavity of the body; it includes the esophagus, heart, liver, spleen, stomach, crop, gizzard, undeveloped eggs, and intestines.

**Vitaminize, vitaminized.** (Process) To provide or supplement with vitamins.

**Vitamins.** Organic compounds that function as parts of enzyme systems essential for the transmission of energy and the regulation of metabolisms of the body.

**Wafered, wafering.** (Process) Having agglomerated a feed of a fibrous nature by compressing into a form usually having a diameter or cross section measurement greater than its length.

**Wafers.** (Physical form) A form of agglomerated feed based on fibrous ingredients in which the finished form usually has a diameter or cross section measurement greater than its length.

**Waste.** (Part) See refuse.

**Water Extract.** The aqueous phase containing dissolved materials resulting from the treatment (e.g. by mixing or boiling) of a solid with water. All or part of the solid matrix may be dissolved in the extract.

**Weathered.** (Process) A material which has been subjected to the action of the elements.

**Wet.** (Physical form) Material containing liquid or which has been soaked or moistened with water or other liquid.

**Wet-milled.** (Process) Steeped in water with or without sulfur dioxide to soften the kernel in order to facilitate the separation of the various component parts.

**Wet-rendered, wet-rendering.** (Process) Cooked with steam under pressure in closed tanks.

**Whey.** (Part) The watery part of milk separated from the curd.

**Whey solids.** (Part) The solids of whey (proteins, fats, lactose, ash, and lactic acid)

**Whole.** (Physical form) Complete, entire.

**Whole pressed, whole pressing.** (Process) Having the entire seed to remove oil.



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**Wilted.** (Physical form) A product without turgor as a result of water loss.

**Wort.** (Part) The liquid portion of malted grain. It is a solution of malt sugar and other water-soluble extracts from malted mash.



**Board listens to reports from AAFCO committees.**

# EXHIBIT 2

**MODEL REGULATIONS FOR PET FOOD AND SPECIALTY PET FOOD  
under the  
Model Bill**

Section Editor—Dave Syverson, MN

These Model Regulations are approved by the Association of American Feed Control Officials (AAFCO) under the Model Bill and in conjunction with the Model Regulations. States proposing to adopt these Model Regulations for Pet Food and Specialty Pet Food under their own state feed law are encouraged to adopt AAFCO's Model Regulations for feed, which also apply to pet food and specialty pet food, unless otherwise noted within these regulations.

Pursuant to due publication and public hearing required by the provisions of Chapter \_\_\_\_\_ of the Laws of this State, the \_\_\_\_\_ has adopted the following Rules and Regulations.

**Regulation PF1. Definitions and Terms**

The definitions in the Model Bill and Model Feed Regulations shall apply in addition to the following:

- (a) **Principal Display Panel** means the part of a label that is most likely to be displayed, presented, shown or examined under normal and customary conditions of display for retail sale.
- (b) **Ingredient Statement** means a collective and contiguous listing on the label of the ingredients of which the pet food or specialty pet food is composed.
- (c) **Immediate Container** means the unit, can, box, tin, bag, or other receptacle or covering in which a pet food or specialty pet food is displayed for sale to retail purchasers, but does not include containers used as shipping containers.
- (d) **All Life Stages** means gestation/lactation, growth, and adult maintenance life stages.
- (e) **Family** means a group of products, which are nutritionally adequate for any or all life stages based on their nutritional similarity to a lead product, which has been successfully test-fed according to an AAFCO feeding protocol(s).

**Regulation PF2. Label Format and Labeling**

- (a) Pet food and specialty pet food shall be labeled with the following information prescribed in this Regulation:
  - (1) Product name and brand name, if any, on the principal display panel as stipulated in Regulation PF3;
  - (2) A Statement specifying the species name of pet or specialty pet for which the food is intended, conspicuously designated on the principal display panel;
  - (3) Quantity statement, as defined in Section 3(v) of the Model Bill, on the principal display panel;
  - (4) Guaranteed analysis as stipulated in Regulation PF4;
  - (5) Ingredient statement as stipulated in Regulation PF5(a);
  - (6) A statement of nutritional adequacy or purpose if required under Regulation PF7;
  - (7) Feeding directions if required under Regulation PF8; and
  - (8) Name and address of the manufacturer or distributor as stipulated in Regulation PF11.
- (b) When a pet food or specialty pet food enclosed in an outer container or wrapper is intended for retail sale, all required label information shall appear on the outer container or wrapper.

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- (c) A vignette, graphic, or pictorial representation on a pet food or specialty pet food label shall not misrepresent the contents of the package.
- (d) The use of the word "proven" in connection with a label claim for a pet food or specialty pet food is not permitted unless the claim is substantiated by scientific or other empirical evidence.
- (e) No statement shall appear upon the label or labeling of a pet food or specialty pet food which makes false or misleading comparisons between that product and any other product.
- (f) A personal or commercial endorsement is permitted on a pet food or specialty pet food label provided the endorsement is not false or misleading.
- (g) A statement on a pet food or specialty pet food label stating "Improved", "New", or similar designation shall be substantiated and limited to six (6) months production.
- (h) A statement on a pet food or specialty pet food label stating preference or comparative attribute claims shall be substantiated and limited to one (1) year production, after which the claim shall be removed or re-substantiated.

**Regulation PF3. Brand and Product Names**

- (a) The words "100%", or "All", or words of similar designation shall not be used in the brand or product name of a pet food or specialty pet food if the product contains more than one ingredient, not including water sufficient for processing, decharacterizing agents, or trace amounts of preservatives and condiments.
- (b) An ingredient or a combination of ingredients may form a part of the product name of a pet food or specialty pet food:
  - (1) When the ingredient(s) derived from animals, poultry, or fish constitutes at least 95% of the total weight of the product. Water sufficient for processing may be excluded when calculating the percentage, however, the ingredient(s) shall constitute at least 70% of the total product weight.
  - (2) When any ingredient(s) constitutes at least 25% of the weight of the product, provided that:
    - A. Water sufficient for processing may be excluded when calculating the percentage, however, the ingredients(s) shall constitute at least 10% of the total product weight; and
    - B. A descriptor is used with the ingredient name(s). This descriptor shall imply other ingredients are included in the product formula. Examples of descriptors include "dinner", "platter", "entree", "formula", and "recipe"; and
    - C. The descriptor shall be in the same size, style, and color print as the ingredient name(s).
  - (3) When a combination of ingredients which are included in the product name in accordance with Regulation PF3(b) meets all of the following:
    - A. Each ingredient constitutes at least 3% of the product weight, excluding water sufficient for processing; and
    - B. The names of the ingredients appear in the order of their respective predominance by weight in the product; and
    - C. All such ingredient names appear on the label in the same size, style, and color print.
- (c) When the name of any ingredient appears in the product name of a pet food specialty pet food or elsewhere on the product label and includes a descriptor such as "with" or similar designation, the named ingredient(s) must each constitute at least 3% of the product weight exclusive of water for processing. If the names of more than one ingredient are shown, they shall appear in their respective order of

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predominance by weight in the product. The 3% minimum level shall not apply to claims for nutrients, such as, but not limited to, vitamins, minerals, and fatty acids, as well as condiments. The word "with," or similar designation, and named ingredients shall be in the same size, style, color and case print and be of no greater size than:

Panel Size	Max "with claim" Type Size
< 5 sq. in.	1/8"
5-25 sq. in.	1/4"
25-100 sq. in.	3/8"
100-400 sq. in.	1/2"
400 sq. in. +	1"

- (d) A flavor designation may be included as part of the product name or elsewhere on the label of a pet food or specialty pet food when the flavor designation meets all of the following:
- (1) The flavor designation:
    - A. Conforms to the name of the ingredient as listed in the ingredient statement; or
    - B. Is identified by the source of the flavor in the ingredient statement; and
  - (2) The word "flavor" is printed in the same size type and with an equal degree of conspicuousness as the name of the flavor designation; and
  - (3) Substantiation of the flavor designation, the flavor claim, or the ingredient source is provided upon request.
- (e) The product name of the pet food or specialty pet food shall not be derived from one or more ingredients unless all ingredients are included in the name, except as specified by Regulation PF3 (b) or (c); provided that the name of an ingredient or combination of ingredients may be used as a part of the product name if:
- (1) The ingredient or combination of ingredients is present in sufficient quantity to impart a distinctive characteristic to the product or is present in amounts which have a material bearing upon the price of the product or upon acceptance of the product by the purchaser thereof; or
  - (2) It does not constitute a representation that the ingredient or combination of ingredients is present to the exclusion of other ingredients.
- (f) Contractions or coined names referring to ingredients shall not be used in the brand name of a pet food or specialty pet food unless it is in compliance with Regulation PF3 (b), (c), or (d).

#### Regulation PF4. Expression of Guarantees

- (a) The "Guaranteed Analysis" shall be listed in the following order and format unless otherwise specified in these Regulations:
- (1) A pet food or specialty pet food label shall list the following required guarantees;
    - A. Minimum percentage of crude protein;
    - B. Minimum percentage of crude fat;
    - C. Maximum percentage of crude fat, if required by Regulation PF10;
    - D. Maximum percentage of crude fiber;
    - E. Maximum percentage of moisture; and
    - F. Additional guarantees shall follow moisture.

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- (2) When ash is listed in the guaranteed analysis on a pet food or specialty pet food label, it shall be guaranteed as a maximum percentage and shall immediately follow moisture.
- (3) A dog or cat food label shall list other required or voluntary guarantees in the same order and units of the nutrients in the AAFCO Dog (or Cat) Food Nutrient Profiles. Guarantees for substances not listed in the AAFCO Dog (or Cat) Food Nutrient Profiles, or not otherwise provided for in these Regulations, shall immediately follow the listing of the recognized nutrients and shall be accompanied by an asterisk referring to the disclaimer "not recognized as an essential nutrient by the AAFCO Dog (or Cat) Food Nutrient Profiles". The disclaimer shall appear immediately after the last such guarantee in the same size type as the guarantees.
- (4) A specialty pet food label shall list other required or voluntary guarantees as required by Model Regulation 3(a) (4)X.
- (b) The sliding scale method of expressing a guaranteed analysis on a pet food or specialty pet food label (for example, "Minimum crude protein 15-18%") is prohibited.
- (c) The label of a pet food or a specialty pet food which is formulated as and represented to be a mineral supplement shall include:
  - (1) Minimum guarantees for all minerals from sources declared in the ingredient statement and established by an AAFCO-recognized nutrient profile, expressed as the element in units specified in the nutrient profile; or
  - (2) Minimum guarantees for all minerals from sources declared in the ingredient statement expressed as the element in units specified in Model Regulation 4(b) when no species-specific nutrient profile has been recognized by AAFCO; and provided that
  - (3) Mineral guarantees required by Regulation PF4 (c)(1) and (2) may be expressed in milligrams (mg) per unit (e.g., tablets, capsules, granules, or liquids) consistent with those employed in the quantity statement and directions for use; and
  - (4) A weight equivalent (e.g., 1 fl. oz. = 28 grams) for liquid products.
- (d) The label of a pet food or a specialty pet food which is formulated as and represented to be a vitamin supplement shall include:
  - (1) Minimum guarantees for all vitamins from sources declared in the ingredient statement and established by an AAFCO-recognized nutrient profile, expressed in units specified in the nutrient profile; or
  - (2) Minimum guarantees for all vitamins from sources declared in the ingredient statement expressed in units specified in Model Regulation 4(c) when no species-specific nutrient profile has been recognized by AAFCO; and provided that
  - (3) Vitamin guarantees required by Regulation PF4(d)(1) and (2), may be expressed in approved units (e.g., IU, mg, g) per unit (e.g., tablets, capsules, granules, or liquids) consistent with those employed in the quantity statement and directions for use; and
  - (4) A weight equivalent (e.g., 1 fl. oz. = 28 grams) for liquid products.
- (e) When the label of a pet food or specialty pet food includes a comparison of the nutrient content of the food with levels established by an AAFCO-recognized nutrient profile, such as a table of comparison, a percentage, or any other designation referring to an individual nutrient or all of the nutrient levels, the following apply:
  - (1) The product shall meet the AAFCO-recognized nutrient profile; and



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- (2) The statement of comparison shall be preceded by a statement that the product meets the AAFCO-recognized profile: however, the statement that the product meets the AAFCO-recognized nutrient profile is not required provided that the nutritional adequacy statement as per Regulation PF7(a)(1) or PF7(b)(2)(A) appears elsewhere on the product label; and
  - (3) The statement of comparison of the nutrient content shall constitute a guarantee, but need not be repeated in the guaranteed analysis; and
  - (4) The statement of comparison may appear on the label separate and apart from the guaranteed analysis.
- (f) The maximum moisture declared on a pet food or specialty pet food label shall not exceed 78.00% or the natural moisture content of the ingredients, whichever is higher. However, pet food and specialty pet food such as, but not limited to, those consisting principally of stew, gravy, sauce, broth, aspic, juice, or a milk replacer, and which are so labeled, may contain moisture in excess of 78.00%.
- (g) Guarantees for crude protein, crude fat, and crude fiber are not required when the pet food or specialty pet food is intended for purposes other than to furnish these substances or they are of minor significance relative to the primary purpose of the product, such as a mineral or vitamin supplement.
- (h) Guarantees for microorganisms and enzymes shall be stated in the format as stipulated in Model Regulations 4(g) and (h).

**Regulation PF5. Ingredients**

- (a) Each ingredient of a pet food or specialty pet food shall be listed in the ingredient statement as follows:
- (1) The names of all ingredients in the ingredient statement shall be shown in letters or type of the same size, style and color;
  - (2) The ingredients shall be listed in descending order by their predominance by weight in non-quantitative terms;
  - (3) Ingredients shall be listed and identified by the name and definition established by AAFCO; and
  - (4) Any ingredient for which no name and definition have been so established shall be identified by the common or usual name of the ingredient.
- (b) The ingredients "meat" or "meat by-products" shall be qualified to designate the animal from which the meat or meat by-products are derived unless the meat or meat by-products are derived from cattle, swine, sheep, goats, or any combination thereof. For example, ingredients derived from horses shall be listed as "horsemeat" or "horsemeat by-products".
- (c) Brand or trade names shall not be used in the ingredient statement.
- (d) A reference to the quality, nature, form, or other attribute of an ingredient shall be allowed when the reference meets all of the following:
- (1) The designation is not false or misleading;
  - (2) The ingredient imparts a distinctive characteristic to the pet food or specialty pet food because it possesses that attribute; and
  - (3) A reference to quality or grade of the ingredient does not appear in the ingredient statement.

**Regulation PF6. Drugs and Pet Food Additives**

- (a) An artificial color may be used in a pet food or specialty pet food only if it has been shown to be harmless to pets or specialty pets. The permanent or provisional listing of an artificial color in the United States Food and Drug regulations as safe for use, together with the conditions, limitations, and tolerances, if any,

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incorporated therein, shall be deemed to be satisfactory evidence that the color is, when used pursuant to such regulations, harmless to pets or specialty pets.

- (b) Evidence may be required to prove the safety and efficacy or utility of a pet food or specialty pet food which contains additives or drugs, when used according to directions furnished on the label. Satisfactory evidence of the safety and efficacy of a pet food or specialty pet food may be established:
  - (1) When the pet food or specialty pet food contains such additives, the use of which conforms to the requirements of the applicable regulation in the Code of Federal Regulations, Title 21, or which are "prior sanctioned" or "informal review sanctioned" or "Generally Recognized as Safe" for such use; or
  - (2) When the pet food or specialty pet food itself is a drug or contains a drug as defined in Section 3 (g) of the Model Bill and is "generally recognized as safe and effective" for the labeled use or is marketed subject to an application approved by the Food and Drug Administration under Title 21, U.S.C. 360(b).
- (c) When a drug is included in a pet food or specialty pet food, the format required by Model Regulation 3(a)(2) for labeling medicated feeds shall be used.

### Regulation PF7. Nutritional Adequacy

- (a) The label of a pet food or specialty pet food which is intended for all life stages of the pet or specialty pet may include an unqualified claim, directly or indirectly, such as "complete and balanced", "perfect", "scientific", or "100% nutritious" if at least one of the following apply:
  - (1) The product meets the nutrient requirements for all life stages established by an AAFCO-recognized nutrient profile; or
  - (2) The product meets the criteria for all life stages as substantiated by completion of the appropriate AAFCO-recognized animal feeding protocol(s); or
  - (3) The product is a member of a product family which is nutritionally similar to a lead product which contains a combination of ingredients that has been fed to a normal animal as the sole source of nourishment in accordance with the testing procedures established by AAFCO for all life stages, provided that:
    - A. The nutritional similarity of the family product can be substantiated according to the Procedures for Establishing Pet Food Product Families developed by AAFCO; and
    - B. The family product meets the criteria for all life stages; and
    - C. Under circumstances of reasonable doubt, the (State Control Official) may require the manufacturer to perform additional testing of the family product in order to substantiate the claim of nutritional adequacy.
- (b) The label of a pet food or specialty pet food which is intended for a limited purpose or a specific life stage, but not for all life stages, may include a qualified claim such as "complete and balanced", "perfect", "scientific", or "100% nutritious" when the product and claim meets all of the following:
  - (1) The claim is qualified with a statement of the limited purpose or specific life stage for which the product is intended or suitable, for example, "complete and balanced for puppies (or kittens)". The claim and the required qualification shall be juxtaposed on the same label panel and in the same size, style and color print; and
  - (2) The product meets at least one of the following:
    - A. The nutrient requirements for the limited purpose or specific life stage established by an AAFCO-recognized nutrient profile; or

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- B. The criteria for a limited purpose or a specific life stage as substantiated by completion of the appropriate AAFCO-recognized animal feeding protocol(s); or
  - C. The requirements of a product family which is nutritionally similar to a lead product which contains a combination of ingredients which, when fed for such limited purpose, will satisfy the nutrient requirements for such limited purpose and has had its capabilities in this regard demonstrated by adequate testing, and provided that:
    - i. The nutritional similarity of the family product can be substantiated according to the Procedures for Establishing Pet Food Product Families developed by AAFCO; and
    - ii. The family product meets the criteria for such limited purpose; and
    - iii. Under circumstances of reasonable doubt, the (State Control Official) may require the manufacturer to perform additional testing for the family product to substantiate the claim of nutritional adequacy.
- (c) Dog and cat food labels shall include a statement of nutritional adequacy or purpose of the product except when the dog or cat food is clearly and conspicuously identified on the principal display panel as a "snack," "treat," or "supplement". The statement shall consist of one of the following:
- (1) A claim that the dog or cat food meets the requirements of one or more of the recognized categories of nutritional adequacy: gestation/lactation, growth, maintenance, and all life stages. The claim shall be stated verbatim as one of the following:
    - A. "(Name of product) is formulated to meet the nutritional levels established by the AAFCO Dog (or Cat) Food Nutrient Profiles for \_\_\_\_\_. " (Blank is to be completed by using the stage or stages of the pet's life, such as, gestation/lactation, growth, maintenance or the words "All Life Stages"); or
    - B. "Animal feeding tests using AAFCO procedures substantiate that (Name of Product) provides complete and balanced nutrition for \_\_\_\_\_. " (Blank is to be completed by using the stage or stages of the pet's life tested, such as, gestation/lactation, growth, maintenance or the words "All Life Stages"); or
    - C. "(Name of Product) provides complete and balanced nutrition for \_\_\_\_\_ (Blank is to be completed by using the stage or stages of the pet's life, such as gestation, lactation, growth, maintenance or the words "All Life Stages") and is comparable in nutritional adequacy to a product which has been substantiated using AAFCO feeding tests."
  - (2) A nutritional or dietary claim for purposes other than those listed in Regulation PF7(a) or (b) if the claim is scientifically substantiated; or
  - (3) The statement: "This product is intended for intermittent or supplemental feeding only", if a product does not meet the requirements of Regulation PF7(a) or (b) or any other special nutritional or dietary need and so is suitable only for limited or intermittent or supplementary feeding.
- (d) A product intended for use by, or under the supervision or direction of a veterinarian shall make a statement in accordance with Regulation PF7(c)(1) or (3).
- (e) A signed affidavit attesting that the product meets the requirements of Regulation PF7(a) or PF7(b)(2) shall be submitted to the \_\_\_\_\_ upon request.
- (f) If the nutrient content of a product does not meet those nutrient requirements established by an AAFCO-recognized nutrient profile, or if no requirement has been established by an AAFCO recognized nutritional authority for the life

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stage(s) of the intended species, the claimed nutritional adequacy or purpose of the product shall be scientifically substantiated.

- (g) The following AAFCO-recognized nutritional authority, nutrient profile, and/or animal feeding protocol shall be acceptable as the basis for a claim of nutritional adequacy:
- (1) As an AAFCO-recognized nutrient profile or nutritional authority:
    - A. For dogs, the AAFCO Dog Food Nutrient Profiles;
    - B. For cats, the AAFCO Cat Food Nutrient Profiles;
    - C. For specialty pets, the nutrient recommendations approved by the Committee on Animal Nutrition of the National Research Council of the National Academy of Sciences, provided that, this nutrient recommendation is recognized only for the specific specialty pet for which the profile is intended.
  - (2) As an AAFCO-recognized animal feeding protocol(s), the AAFCO Dog and Cat Food Feeding Protocols.

**Regulation PF8. Feeding Directions**

- (a) Dog or cat food, including snacks or treats, labeled as complete and balanced for any or all life stages, as provided in Regulation PF7(c)(1), except those pet foods labeled in accordance with Regulation PF7(d), shall list feeding directions on the product label. These directions shall be consistent with the intended use(s) indicated in the nutritional adequacy statement, unless a limited use or more limited life stage designation is declared elsewhere (e.g., "adult formula"). These directions shall be expressed in common terms and shall appear prominently on the label. Feeding directions shall, at a minimum, state, "Feed (weight/unit of product) per (weight only) of dog (or cat)". The frequency of feeding shall also be specified.
- (b) When a dog or cat food is intended for use by or under the supervision or direction of a veterinarian, the statement: "Use only as directed by your veterinarian" may be used in lieu of feeding directions.
- (c) Specialty pet food, including snacks or treats, labeled as complete and balanced for any or all life stages, as provided in Regulation PF7(a), shall list feeding directions on the product label. These feeding directions shall be adequate to meet the nutrient requirements of the intended species of specialty pet as recommended by the AAFCO-recognized nutritional authority. These directions shall be expressed in common terms and shall appear prominently on the label. The frequency of feeding shall also be specified.

**Regulation PF9. Statements of Calorie Content**

- (a) Except as required in Regulation PF10, the label of a dog or cat food may bear a statement of calorie content when the label meets all of the following:
  - (1) The statement shall be separate and distinct from the "Guaranteed Analysis" and shall appear under the heading "Calorie Content";
  - (2) The statement shall be measured in terms of metabolizable energy (ME) on an "as fed" basis and must be expressed as "kilocalories per kilogram" ("kcal/kg") of product, and may also be expressed as kilocalories per familiar household measure (e.g., cans, cups, pounds); and
  - (3) The calorie content is determined by one of the following methods:
    - A. By calculation using the following "Modified Atwater" formula:

$$\text{ME(kcal/kg)} = 10[(3.5 \times \text{CP}) + (8.5 \times \text{CF}) + (3.5 \times \text{NFE})]$$

Where: ME = Metabolizable Energy  
 CP = % crude protein "as fed"  
 CF = % crude fat "as fed"  
 NFE = % nitrogen-free extract (carbohydrate) "as fed"  
 and the percentages of CP and CF are the arithmetic averages from proximate analyses of at least four production batches of the product, and the NFE is calculated as the difference between 100 and the sum of CP, CF, and the percentages of crude fiber, moisture and ash (determined in the same manner as CP and CF); or

- B. In accordance with a testing procedure established by AAFCO.
- (4) An affidavit shall be provided upon request to the \_\_\_\_\_, substantiating that the calorie content was determined by:
- A. Regulation PF9(a)(3)A in which case the results of all the analyses used in the calculation shall accompany the affidavit; or
  - B. Regulation PF9(a)(3)B in which case the summary data used in the determination of calorie content shall accompany the affidavit.
- (5) The calorie content statement shall appear as one of the following:
- A. The claim on the label or other labeling shall be followed parenthetically by the word "calculated" when the calorie content is determined in accordance with Regulation PF9(a)(3)A; or
  - B. The value of calorie content stated on the label which is determined in accordance with Regulation PF9(a)(3)B shall not exceed or understate the value determined in accordance with Regulation PF9(a)(3)A by more than 15%.
- (b) Comparative claims shall not be false, misleading, or given undue emphasis and shall be based on the same methodology for the products compared.

#### **Regulation PF10. Descriptive Terms**

(a) Calorie Terms

(1) "Light"

- A. A dog food product which bears on its label the terms "light", "lite", "low calorie", or words of similar designation shall:
  - i. Contain no more than 3100 kcal ME/kg for products containing less than 20% moisture, no more than 2500 kcal ME/kg for products containing 20% or more but less than 65% moisture, and no more than 900 kcal ME/kg for products containing 65% or more moisture; and
  - ii. Include on the label a calorie content statement:
    - aa. In accordance with the format provided in Regulation PF9; and
    - bb. Which states no more than 3100 kcal ME/kg for products containing less than 20% moisture, no more than 2500 kcal ME/kg for products containing 20% or more but less than 65% moisture, and no more than 900 kcal ME/kg for products containing 65% or more moisture; and
  - iii. Include on the label feeding directions which reflect a reduction in calorie intake consistent with the intended use.
- B. A cat food product which bears on its label the terms "light", "lite", "low calorie", or words of similar designation shall:
  - i. Contain no more than 3250 kcal ME/kg for products containing less than 20% moisture, no more than 2650 kcal ME/kg for products



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containing 20% or more but less than 65% moisture, and no more than 950 kcal ME/kg for products containing 65% or more moisture; and

- ii. Include on the label a calorie content statement:
  - aa. In accordance with the format provided in Regulation PF9; and
  - bb. Which states no more than 3250 kcal ME/kg for products containing less than 20% moisture, no more than 2650 kcal ME/kg for products containing 20% or more but less than 65% moisture, and no more than 950 kcal ME/kg for products containing 65% or more moisture; and
- iii. Include on the label feeding directions which reflect a reduction in calorie intake consistent with the intended use.

(2) "Less" or "Reduced Calories"

- A. A dog or cat food product which bears on its label a claim of "less calories", "reduced calories", or words of similar designation, shall include on the label:
  - i. The name of the product of comparison and the percentage of calorie reduction (expressed on an equal weight basis) explicitly stated and juxtaposed with the largest or most prominent use of the claim on each panel of the label on which the term appears; and
  - ii. The comparative statement printed in type of the same color and style and at least one-half the type size used in the claim; and
  - iii. A calorie content statement in accordance with the format provided in Regulation PF9; and
  - iv. Feeding directions which reflect a reduction in calories compared to feeding directions for the product of comparison.
- B. A comparison between products in different categories of moisture content (i.e., less than 20%, 20% or more but less than 65%, 65% or more) is misleading.

(b) Fat Terms

(3) "Lean"

- A. A dog food product which bears on its label the terms "lean", "low fat", or words of similar designation shall:
  - i. Contain no more than 9% crude fat for products containing less than 20% moisture, no more than 7% crude fat for products containing 20% or more but less than 65% moisture, and no more than 4% crude fat for products containing 65% or more moisture;
  - ii. Include on the product label in the Guaranteed Analysis:
    - aa. A maximum crude fat guarantee immediately following the minimum crude fat guarantee in addition to the mandatory guaranteed analysis information as specified in Regulation PF4(a)(1); and
    - bb. A maximum crude fat guarantee which is no more than 9% crude fat for products containing less than 20% moisture, no more than 7% crude fat for products containing 20% or more but less than 65% moisture, and no more than 4% crude fat for products containing 65% or more moisture.
- B. A cat food product which bears on its label the terms "lean", "low fat", or words of similar designation shall:
  - i. Contain a maximum percentage of crude fat which is no more than 10% crude fat for products containing less than 20% moisture, no more than 8% crude fat for products containing 20% or more but less



- than 65% moisture, and no more than 5% crude fat for products containing 65% or more moisture; and
- ii. Include on the product label in the Guaranteed Analysis:
    - aa. A maximum crude fat guarantee immediately following the minimum crude fat guarantee in addition to the mandatory guaranteed analysis information as specified in Regulation PF4(a)(1); and
    - bb. A maximum crude fat guarantee which is no more than 10% crude fat for products containing less than 20% moisture, no more than 8% crude fat for products containing 20% or more but less than 65% moisture, and no more than 5% crude fat for products containing 65% or more moisture.
- (4) "Less" or "Reduced Fat"
- A. A dog or cat food product which bears on its label a claim of "less fat", "reduced fat", or words of similar designation, shall include on the label:
    - i. The name of the product of comparison and the percentage of fat reduction (expressed on an equal weight basis) explicitly stated and juxtaposed with the largest or most prominent use of the claim on each panel of the label on which the term appears; and
    - ii. The comparative statement printed in type of the same color and style and at least one-half the type size used in the claim; and
    - iii. A maximum crude fat guarantee in the Guaranteed Analysis immediately following the minimum crude fat guarantee in addition to the mandatory guaranteed analysis information as specified in Regulation PF4(a)(1).
  - B. A comparison on the label between products in different categories of moisture content (i.e., less than 20%, 20% or more but less than 65%, 65% or more) is misleading.

**Regulation PF11. Manufacturer or Distributor; Name and Address**

- (a) The label of a pet food or specialty pet food shall specify the name and address of the manufacturer or distributor. The statement of the place of business shall include the street address, city, state, and zip code; however, the street address may be omitted if such street address is shown in a current city directory or telephone directory for the city listed on the label.
- (b) When a person manufactures or distributes a pet food or specialty pet food in a place other than the principal place of business, the label may state the principal place of business in lieu of the actual place where each package of such pet food or specialty pet food was manufactured or packaged or from where each package is to be distributed.

**GUIDELINES FOR TARTAR CONTROL CLAIMS**

The AAFCO Pet Food Committee supports and recommends the following guidelines as developed by the Center for Veterinary Medicine of the U.S. Food and Drug Administration for dental health claims with respect to rawhides, biscuits, and other pet food products:

- (1) Foods bearing claims to cleanse, freshen, or whiten teeth by virtue of their abrasive or mechanical action are not objectionable.
- (2) Foods bearing claims for plaque or tartar reduction or prevention, or control of breath odor may be misbranded. However, if these claims are made only with

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respect to the products' abrasive action, enforcement would be a low priority. Thus, CVM is exercising discretion by not objecting to these types of claims at this time.

- (3) Foods bearing expressed or implied drug claims to prevent or treat dental diseases (e.g., gingivitis, gum problems, tooth loss) are not permissible unless they are the subject of approved New Animal Drug Applications.
- (4) Food ingredients that are not GRAS (generally recognized as safe) for the intended purpose of affecting the teeth or gums may be unapproved food additives or unapproved drugs, depending on the nature of the claim.
- (5) Foods bearing claims for plaque or tartar reduction, preventions, or control of breath odor that achieve their effect, in part or in total, by means other than mechanical action must have an approved New Animal Drug Application or a letter of no objection from the FDA prior to being marketed.

#### GUIDELINES FOR NATURAL CLAIMS

AAFCO recommends and supports the following guidelines for use of the term "natural" in the labeling of commercial feeds, pet foods, and specialty pet foods.

- (1) In the AAFCO-defined feed term "natural", the use of the term "natural" is only acceptable in reference to the product as a whole when all of the ingredients and components of ingredients meet the definition.
- (2) In the definition, the use of the term "natural" is false and misleading if any chemically synthesized ingredients are present in the product; however, AAFCO recommends that exceptions be made in the cases when chemically synthesized vitamins, minerals, or other trace nutrients are present as ingredients in the product, provided that the product is not a dietary supplement and that a disclaimer is used to inform the consumer that the vitamins, minerals or other trace minerals are not natural.

AAFCO recommends that an acceptable use of the disclaimer would be stated as follows on the product labeling:

- A. The disclaimer, such as "Natural with added vitamins, minerals, and other trace nutrients (include the items as appropriate to match the chemically synthesized ingredient(s)), is juxtaposed with the term "natural"; and
  - B. The disclaimer appears with the largest or most prominent use of the term "natural" on each panel of the label on which the term appears, in the same style and color print and at least one-half the size of the term "natural"; and
  - C. All other ingredients and components of ingredients in the product meet the definition of the AAFCO-approved feed term "natural".
- (3) If the disclaimer that is juxtaposed with the term "natural" is used only to identify in generic terms those vitamins, minerals and other trace nutrients which are not natural, AAFCO recommends that the disclaimer should not be construed as a nutrient claim which would warrant vitamin and mineral guarantees. However, if the disclaimer makes reference to a specific nutrient (e.g., "with added calcium"), a guarantee would be warranted.
  - (4) AAFCO also recommends that exceptions be made when the term "natural" is used only in reference to a specific ingredient (e.g., "natural cheese flavor"), even though the product as a whole may not meet the definition of the AAFCO-defined feed term "natural," and that the reference does not imply that the product as a whole is "natural".