

Ingredient Definitions Committee Report for Annual 2013

Tuesday 8/13/13 4:00 PM eastern St. Petes Beach, FL

COMMITTEE RECOMMENDATIONS TO BOARD/MEMBERSHIP: (approved by IDC 9/6/13)

- Move the following definitions from tentative to Official: T12.6 Barley Distillers Protein Concentrate page 363; T36.11 Dried ____ Fermentation Product page 387; T36.16 Dried L-Lysine Fermentation Product page 387; T36.10 Condensed ____ Fermentation Solubles, Page 387; T36.1 Condensed, Extracted Glutamic Acid Fermentation Product page 387; T36.17 Liquid L-Lysine Fermentation Product page 388; T57.73 Seaweed-Derived Calcium page 410; T57.265 Ammonium Chloride page 411; and T57.28 Metal Methionine Hydroxy Analogue Chelate page 411.
- 2. Delete the current tentative definition for T60.111 Biodiesel –derived Glycerin on page 417. This will enhance clarity with a more acceptable tentative definition being proposed.
- **3.** Renumber Ferrous Fumarate on page 401 from 57.75 to 57.164. It shared a number with another ingredient.
- **4.** Edit the Header for the Feed Terms section on page 341. Text provided in attachment A.
- **5.** Accept new feed terms and edits of existing terms: Part, Physical Form, Process, Protein, Fiber, Dextrose Equivalent, Diluent, and Roasted. Text provided in attachment A.
- **6.** Edit the section 100 name. Text provided in attachment A.
- **7.** Sort a large number of ingredients in table 87 and definition 33.6 into the special purpose and technical additive sections. List of items and new section provided in attachment A.
- 8. Remove Rapeseed Meal from the collective term list on page 370.
- **9.** Publish a new tentative definition for TT36.16 Dried L-Lysine Fermentation Product; TT60.111 Biodiesel-Derived Glycerin; T57.165 Zinc Hydroxychloride; T93.9 _____ Wheat Gluten; T54.33 Bovine Colostrum; T54.34 Dried Bovine Colostrum; and TT73.100 Yeast for the Production of Distillers. Text provided in attachment A. *Note: IDC moved a policy on feed terms to MBRC.*

BOARD RECOMMENDATIONS:

- 1.
- 2.

ASSOCIATION ACTIONS:

- 1.
- 2.



Meeting Minutes of IDC 8/13/13 (approved by IDC 9/6/13)

Committee Participants:

Members Present: Richard Ten Eyck, Mika Alewynse (phone), Steve Gramlich (phone), Brett Groves, Roger Hoestenbach (phone), Shannon Jordre, Ali Kashani, Mark Leblanc, Erin Bubb,, Jennifer Godwin, Judy Thompson for Abed Zeibdawi, April Hunt, Jenny Bib

Members absent: Aaron Elam, Jeri Kahana, Don Delorme, John Machado, Becky Muir, Ricky Schroeder

Committee Advisors Present: David Ailor, Jill Franks, Jan Campbell, Jonathan Goodson, Leah Wilkinson, David Meeker, Vince Sewalt, Jon Nelson, Ed Rod, Jean Hofve, Steve Traylor, Kristi Smedley, Jill Franks, Susan Thixton,

Advisors Absent: Dave Dzanis

Agenda Items:

i) added: vote on consent agenda(CA) items in Green highlight. Committee members were given the opportunity to remove items from the list for individual consideration. The remaining items were approved in one motion without debate.

Moved by Shannon Jordre, seconded by Brett Groves Motion passed

1.) Work group reports:

- a) Table 87 sort Brett Groves; *Special Purpose Products and Technical Additives. Group was comprised of about 5 or 6 persons. Brett showed the document. Mentioned that a few ingredients were listed in red and fell in both groups.*
- b) Feed Terms Header Ali Kashani: Working Group made up of about 6-7 persons. Work Group generated a report. All of the action items in the report are on the Agenda. Motion: Judy Thompson made a motion to accept a verbal report. Shannon Jordre seconded. Majority accepted. One on phone opposed
- c) Meat Meal etc Meagan Davis: group did not get to meet. They will meet and report back for Midyear meeting. Jan Jarman, Meagan Davis, Susan Thixton, Dave Meeker, Jill Franks, Leah Wilkinson. Meagan recommended to remove 2a and 2b from action items (let them remain Tentative).
- d) Harmonized Tariff Schedule (HTS) Leah Wilkinson. A group of 1 or 2. RTE had asked LW to look into HTS codes and to take a look at what these are, how they are used. At





AFIA we took a look at this and the Manager of International Trade, Gina Tumbarello, AFIA, took a try at figuring out which HTS codes corresponded to a few feed ingredients. This topic was discussed by the AFIA IADC meeting this morning. These codes can be interpreted differently by different countries. At this time, AFIA would like to continue to work on this further to see if any more work is needed. RTE thanked LW. No committee action needed.

AGENDA UPDATES

- 4(h), 4(i) and 4(j) are removed from the agenda 6(b) fish broth discussion (Meagan Davis) – is added to the agenda
- 2.) Annual investigator recommendations on tentative definitions:
 - a.) T9.40 Meat Meal, **Remains Tentative** --Meagan Davis, MSP (moved, seconded, passed)(Thompson/Groves)
 - b.) T9.41 Meat and Bone Meal, **Remains Tentative** -- Meagan Davis, MSP (Thompson, Groves)
 - c.) T33.19 Hydrogenated glycerides, **Make Official** --Ken Bowers MOTION: to insert a blank in the name and move term from tentative to official (Thompson/Bibb) not carried. Term stays in tentative status.
 - d.) T12.6 Barley Distillers Protein Concentrate, Make Official -- Steve Gramlich, MSP in CA (consent agenda)
 - e.) T36.11 Dried _____ Fermentation Product Make Official -- Jan Jarman MSP in CA
 - f.) T36.16 Dried-Lysine Fermentation Product, Make Official -- Jan Jarman (will be submitting new TT36.16 adding use in aquaculture) MSP in CA
 - g.) T36.17 Liquid L-Lysine Fermentation Product, Make Official -- Jan Jarman MSP in CA
 - h.) T60.111 Biodiesel-derived glycerin, **Make Official**, -- Erin Bubb (will be submitting new **TT60.111** with higher methanol limits) Animal based glycerin issue. In order to use both animal based and vegetable based is recommended that (T60.111) be deleted from official publication as we work on new tentative definition TT60.111 with higher methanol limits.

MOTION: delete the current definition from the official publication (Bubb/Groves) - passes

- i.) T57.73 Seaweed-Derived Calcium, Make Official, Jennifer Kormos MSP in CA
- j.) T57.265 Ammonium Chloride, Make Official, -Jennifer Kormos MSP in CA
- k.) T57.28 Metal Methionine Hydroxy Analogue Chelate, Make Official, -- Jennifer Kormos MSP in CA
- I.) T3.2 Dehydrated Alfalfa, **Remain Tentative** Erin Bubb. Comments were heard from 2 alfalfa firms on keeping the definition tentative. Both submitted letters regarding this issue to the committee prior to the meeting. Erin Bubb will report back on status of definition at the next meeting. It was later pointed out the T3.2 definition is not printed in the 2013 OP and is not eliqible for official status.

MOTION: Take no action at this time, definition remains tentative. (Bubb/Thompson) – passes





- m.) T36.10 Condensed _____ Fermentation solubles, Remain Tentative -- Jan Jarman MSP in CA
- n.) T 36.1 Condensed, Extracted Glutamic Acid Fermentation Product, Remain Tentative -Jan Jarman MSP in CA
- 3.) Recommendations to modify definitions to publish as official (tables, lists, terms)
 - a) 57.164 Ferrous Fumarate Jennifer Kormos MSP in CA
 - b) page 341, Header on feed terms Ali Kashani. Ali presented the feed term header definition to the committee. The header is needed to explain when the combination of a feed term and ingredients may be used.

MOTION: Accept the header as presented. (Jordre/Thompson) – passes

- c) "Part" Ali Kashani MSP in CA
- d) "Physical Form" Ali Kashani MSP in CA
- e) "Process" Ali Kashani MSP in CA
- f) "Protein" Ali Kashani MSP in CA
- g) "Fiber" Ali Kashani MSP in CA
- h) "Dextrose Equivalent" Ali Kashani MSP in CA
- i) "Diluent" Ali Kashani MSP in CA
- j) "Roasted" Ali Kashani MSP in CA
- k) Section 100 header Sharon Benz MSP in CA
- I) Section 87 sort, multiple ingredients Brett Groves. Special purpose products issue corn endosperm. If you look at definition 33.6 CVM has determined or found that corn endosperm oil has a reference to an old regulation 73.315 corn endosperm oil is actually a colorant. CVM would like to see corn endosperm moved out of fats and oils and into the special purpose section. Brett noted that ball clay has been withdrawn and should not be on the list but it is noted as withdrawn on the list.

MOTION: Accept the language of the sort plus the addition of 33.6 (Brett Groves/ Judy Thompson) - passes

- m) remove Rapeseed Meal from collective term list Aaron Elam MOTION: Remove rapeseed meal from collective term list. (Shannon Jordre/Erin Bubb) Passes
- n) HTS number assigning process Richard Ten Eyck, previously discussed no action needed.
- 4.) Recommendations for new Tentative Definitions.
 - a) TT 36.16 Dried L-Lysine Fermentation Product Jan Jarman MSP in CA
 - b) TT 60.111 Biodiesel-Derived Glycerin Erin Bubb. Erin Bubb moved to accept new





tentative definition. Brett Groves seconded.

Judy Thompson asked why level of methanol is as high as it is in this definition. Erin Bubb did not know. Sharon Benz said that the FDA had had a request to raise this level. All other levels were the same. Leah commented that AFIA is supportive of this moving ahead as a Tentative Definition. AFIA working on some of the specifications, especially the low level of sulfur, which is very prohibitive. There are other ingredients that have higher levels of sulfur. AFIA has been speaking with the National Biodiesel Association to find out more about this ingredient. AFIA will be working on these issues while it moves ahead as Tentative.

Voting: MOTION PASSES.

- c) T57.165 Zinc Hydroxychloride Jennifer Kormos MSP in CA
- d) T93.9 _____Wheat Gluten Steve Gramlich MOTION: to accept ___ wheat gluten (Steve Gramlich / Shannon Jorde) passes
- e) T54.33 Bovine Colostrum Meagan Davis New edits made during the meeting. Question on history Who proposed the original definition language? By a sponsor, modified by FDA and sent to IDC and BOD. It dates back to 1996. Revised language: T54.33 Bovine colostrum is lacteal secretions obtained within 48 hours post parturition. It contains 3% maximum lactose, 15% minimum total solids, and 60% minimum of the solids must be protein. The minimum specific gravity is 1.04 g/ml. MOTION: accept the language as edited by Ten Eyck and Davis. (Erin Bubb/ April Hunt) passes, 1 dissent
- f) T54.34 Dried Bovine Colostrum Meagan Davis. Raise from 5% to 8% maximum moisture. Why is this different than the other T54.33 definition? Has to do with wet to dry conversion. The maximum lactose is to ensure that it is in fact colostrum. Large difference between milk lactose content and colostrum lactose content. Is there a reason for the difference in the solids level as a portion of dry matter? 20% was a recommendation for the maximum lactose. Crude fat discussed. 24-25% recommended, but not typical. Edits were made to the definition. Revised definition: T54.34 Dried bovine colostrum is the product obtained by removing water from bovine colostrum. It contains 8% maximum moisture, 20% maximum lactose, and 50% minimum of the solids must be protein.

MOTION: accept the language as edited. (Shannon Jordre/Erin Bubb) – passes, 1 dissent

a) TT73.100 Yeast for Production of distillers, 2 mods – Richard Ten Eyck Mika offered that this firm was seeking to include this bioengineered yeast as an ingredient in distillers grains. It expresses several enzymes. RTE asked if this would be the only yeast that can be used. Mika said that no, there are S. cerevisae yeasts that are permitted in this use. These are technical substances present in an animal feed but do not necessarily appear on the label of the feed. RTE asked about statement of not being able to contain any live microbes. Mika said that bioengineered organisms





should not be present in the environment. The sponsor said that the normal distillation process would kill the microorganisms.

Motion to accept made by Shannon Jordre; 2nded by Brett Groves.

Vince Sewalt of ETA informed the IDC that bioengineered yeasts expressing intergeneric enzymes are subject to notifications to the US EPA under the TSCA Biotechnology Rule. This includes the requirement to notify the EPA prior to placing such organisms into commerce for use in fuel ethanol manufacture. The microorganisms have to be shown to be inactivated during processing prior to release into the environment. When a company makes a submission to EPA, the EPA will allow the Submitter to use a common and usual name that excludes discussion of confidential naming identity of the enzymes expressed. It is up to the submitting firm if they want to use a generic name or full disclosure. This ingredient is subject to dual regulation with potential conflicting labeling requirements. This is the 2nd organism for inclusion as a tentative definition. The first time through, the ETA did not respond because there was just a single enzyme. This time, there is more complex yeast being proposed. ETA anticipates that, seeing this more complex organism, this will result in a long list of microorganisms, all with varying enzymes expressed, without any differences in utility and little relevance to safety, hence little practical use to the State Feed Control Official. Consistent with the labeling provisions under TSCA, ETA is of the opinion that AAFCO should not define such complex organisms to the level of detail that discloses individually expressed enzymes. Instead, AAFCO should consider one single definition of genetically modified yeast that would accommodate all bioengineered yeasts for use as processing aids, with appropriate specifications to ensure safety. Further, the specification as proposed, the statement that the distillers' grains should contain no live bioengineered yeast, is a condition of use and not a specification to the yeast. It may better fit as part of a distillers' grains specification, and not part of the yeast-for-distillers-grains definition. Finally, AAFCO may actually want to consider modifying definition '96.5 Grain Distillers Dried Yeast' to accommodate bio-engineered yeast, as ethanol plants will likely want to market the spent bioengineered yeast separately, as they already do with common yeast.

Sharon Benz (FDA) noted that CVM discussed with EPA many years ago the issue of antibiotics used in the fermentation for the production of ethanol. The two agencies agreed that FDA would have primary jurisdiction when the distillers products were used in animal feed. FDA has been regulating antibiotics and other processing aids as either food additives or GRAS. She noted we have 3 GRAS notices for processing aids for biofuel production.

Vince Sewalt (ETA) said that he understands that there is dual oversight, and that the agreement between EPA and FDA is limited to only antimicrobials, wherein EPA relinquished its authority specifically under FIFRA to FDA for antibiotics and other





antimicrobials. He disagreed that new bio-engineered micro-organism are part of that agreement, as they are clearly regulated by EPA under TSCA, which includes a safety assessment with regard to exposure and environmental release via all potential release points including the distillers grains. He said ETA agrees that these substances need to be safe as residues in distillers' grains. It is typical for manufacturers to make GRAS determinations for this intended use before they sell the substance to ethanol manufacturers. He encouraged FDA to clarify the jurisdictional question with EPA and encouraged AAFCO to consult with EPA to make sure that the EPA labeling provisions are met."

Charlie Staff, Distillers Grains Technology Council. This is a genetically engineered yeast. He said that there are GE corns and GE yeasts, and he hopes that ingredients do not need to be labeled as GE. He expressed concern that this is a limiting definition. He prefers to remove "Distillers Products" from the name. He thinks that yeasts can get through the distillation process and even occasionally through the drying process. He's questioning to what extent does a plant need to kill the yeast after DDGS production.

Mika commented about plant concerns about killing the yeast. Mika feels that firms have the option to use yeasts that are not bioengineered if it cannot be killed.

Kristi Smedley, representing the sponsor, said that there has been an MCAN filed by the Sponsor with EPA. The firm went through the process and they are willing to label the product as described. Shannon asked why the definition is so specific. Kristi said that this is a new section that will have very specific requirements. This is analogous to chelated minerals, with a specific list. Mika said that it could be like this approach and that it would depend what AAFCO wanted to do. This is similar to what was established in the enzymes table. In the future, it may take up too much space in the book and hence we would move to a table format.

Voting: MOTION PASSES.

- g) Txx.xxx DeOiled _____ Distillers Steve Gramlich, Placeholder
- h) T33.10 Distillers Oil, Feed Grade Ken Bowers, Placeholder
- i) T71.35 Rapeseed Meal, Mechanically Extracted Bob Church, Placeholder
- 5.) Motions to pass items to other committees.
- a) Feed Term Policy on Parts, TO MODEL BILL, SUIP Ali Kashani

 Pass to Model Bill Committee a recommendation to add the following Uniform Policy

 Statement:

"It is acceptable to use a combination of a "process" feed term and a defined ingredient or common or usual name when describing an ingredient in the ingredient statement as long as the ingredient is not nutritionally altered from the original. If the ingredient has gone through a





recognized review process the name may include a "part" feed term."

ACTION: the feed terms working group agreed that we needed to do more than change the parts policy. It is recommended that it be a statement of uniform interpretation and policy. MOTION: Pass the Feed Term Policy on Parts to the Model Bill Committee to add the above Uniform Policy Statement. (Thompson/Kashani) – passes, 1 dissent

6.) Discussion Items:

- a.) Harmonized Tariff Schedule (HTS) Tomas / Leah
- b.) Marine Polychaete Worms and Live Artemia, no definition needed as live animals Richard/Meagan no discussion held
- c.) The following ingredients are being removed from investigator consideration. If you are the submitter please prepare a new request when you want to begin the process with AAFCO: no discussion held, this will be the only notice given.

Ingredient	Intended use	Reason for withdrawal
Algae Meal	Chondroitin source	Not a food use
Camelina Oil	Source of Omega 3 for	Should be FAP
	humans via meat, eggs	
Chlorella Meal	Color additive	Should be color additive
		petition.
Decapsulated Artemia Cyst	Shrimp Feed	Stale, no response from
		firm.
Hydrolyzed Collagen	Animal Feed	Should be collagen
		digest
Hydrolyzed Porcine Protein	Protein Source	Stale, no response from
		firm
Jatropha Kernel Meal	Animal feed	Should be FAP
Saskatoon Berries	Dog Treats	Stale, no response from
		firm

d) Late add: Fish Broth, Meagan Davis Difficult to meet the 90% protein requirement. Looking at reworking the definition. Is this something that needs to be pursued? Action: Meagan Davis will come back to IDC with a draft definition at the midyear meeting.

- 7.) Parking lot for future discussion: (moved to action item table to match other committee report formats
- 8.) Action Item Table:



Responsible	Item	Action	Timing / Status
Richard	Preservative Section	Sort out antioxidants vs. preservatives	
Mika	Chromium Levels	Identify and edit other definitions containing chromium	
IDC	GRAS –No Questions	Policy on posting in the OP. – Currently they must come through the definition request process.	
Meagan	Fish Broth	Take comments and propose a modification of the definition.	

9.) Budget requests for fiscal 14-15: none



IDC Attachment A 8/13/13

Recommendation 4.) Insert following text on page 341 (2013): Official feed terms are listed in the following section to define nouns and/or processes to provide uniformity and clear understanding of words used when describing ingredients. It is acceptable to use a combination of a "process" feed term and a defined ingredient or common or usual name when describing an ingredient in the ingredient statement as long as the ingredient is not nutritionally altered from the original. If the ingredient has gone through a recognized review process the name may include a "part" feed term.

Recommendation 5.) Accept new feed terms and edits of existing terms, publish them in the OP: Part, Physical Form, Process, Protein, Fiber, Dextrose Equivalent, Diluent, and Roasted.

Part. A subcomponent of an original material. A "part" feed term can be used in an ingredient name if the ingredient part has gone through a recognized review process.

Physical form. shape, appearance or structure of a feed based on size, texture, particle size, density, hardness, moisture/dryness or other physical characteristics. Physical form may be used to further describe an ingredient name.

Process. A method used to prepare, treat, convert or transform materials into feeds or feed ingredients. A "process" feed term can be used to further describe an ingredient name as long as the ingredient is not nutritionally altered from the original.

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

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

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

Diluent. 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.)

Roasted. (Process) Cooked, dried or browned by exposure to heat.

Recommendation 6.) Replace the name of section 100 on page 452 with this text: **"100. CFR LISTED FEED INGREDIENTS."**

Recommendation 7.) (sorting work group final report) Move these ingredients into the indicated section:

Special Purpose Products (87)



Color, Flavor, Sweetener, Tissue Pigmentor (color additive), Miscellaneous and/or General Purpose, Manure Odor Control, Crude Fiber Source, Non-protein Nitrogen Source, Roughage Replacement.

87.1 Algae Meal

87.4 Verxite *

87.5 Special Purpose Products Table

Aloe vera gel concentrate

Anise seed

Astaxanthin dimethydisuccinate

Canthaxanthin

Capsicum; red pepper

Fennel

Fenugreek seed

Fumaric acid *

Ginger

Glutamic acid

Glycyrrhizin ammoniated (spelled wrong in OP)

Monosodium glutamate

Paracoccus pigment

Phosphoric acid

Saccharin sodium

Sodium bisulfate

Tagetes (Aztec marigold) meal and extract

Titanium dioxide (spelled wrong in OP)

Yucca shidigera

33.6 Corn Endosperm Oil

87.6 Rice By-Products Fractions *

87.7 Ammoniated Rice Hulls

87.8 Polyethylene Roughage Replacement

87.9 Ammoniated Cottonseed Meal

87.11 Anhydrous Ammonia

87.14 Powdered Cellulose

87.22 Microcrystalline Cellulose

87.25 Neohesperidin Diydrochalcone

* Both Special Purpose and Technical Additive

Technical Additives

Pelleting aid, Binding agent, Surfactant, Anti-caking agent, Anti-gel, Suspension aid, Stabilizer, Emulsifier, Solubilizer, Antioxidant, Preservative, pH modulation, Surfactant, Lubricant, Dust control, Processing aid, Sequestrant, Thickener, Dispersant, Precipitating agent, Carrier, Recover proteinaceous material, Clear grease, Diluent, Acidifying agent, Bioengineered yeast (Biofuel)



87.3 Silicon Dioxide

87.4 Verxite *

87.5 Special Purpose Products Table

Aluminum sulfate Attapulgite clay 87.15 Formaldehyde 87.16 Chitosan

07.17 Daulita

87.10 Poloxalene

87.12 Bentonite

Ball clay (not accepted for use as a feed ingredient) 87.17 Perlite

Calcium silicate 87.18 Reed-Sedge Peat

Calcium aluminates 87.19 Urea Formaldehyde Condensation

Polymer

Calcium stearate

Carrageenan

Chondrus extract

Diacetyl tartaric acid esters of mono...

Diatomaceous earth

Disodium EDTA

Ethyl cellulose

Ethoxylated mono and diglycerides

Fumaric acid *

Gellan gum

Glucono-delta-lactone

Guar gum (mucilage)

Hydrophobic silica

Iron ammonium citrate

Kaolin

Lecithin

Locust bean gum

Magnesium Stearate

Methyl glucoside Coconut oil ester

Mineral oil

Mono and diglycerides of edible fat or oils....

Monosodium phosphate derivatives....

Montmorillonite clays

Paraffin

Petrolatum or a combination of mineral oil and petrolatum

Petroleum jelly

Polyethylene glycol 400 (mono and dioleate)

Polyoxyethylene glycol 400 (mono and dioleates)

Polysorbate 80

Polysorbate 60

Polyvinyl alcohol

Propylene glycol

Pyrophyllite

87.21 Kraft Lignin

87.23 Cassia Gum

87.24 Hide Glue (Technical Gelatin)

87.13 Sodium Bentonite

87.27 Formic acid)

87.28 Castor oil

T87.26 Ammonium Formate



Stearic acid
Sodium carboxymethyl-cellulose
Sodium hexametaphosphate
Sodium silico aluminate
Sodium stearoyl lactylate
Sorbitan mono-stearate with or without polysorbate 60
Talc
Tara gum
Tetra sodium pyrophosphate
Urea formaldehyde
Xanthan gum
Yellow prussiate of soda

* Both Special Purpose and Technical Additive

Recommendation 9.) Publish the following new tentative definitions:

TT36.16 Dried L-Lysine Fermentation Product is the dry biomass product from the fermentation of Corynebacterium glutamicum on an appropriate nutrient media and stabilized in accordance with good manufacturing practices. The product is intended as a source of lysine in livestock, and poultry and aquaculture feeds. The L-lysine content must not be less than 50% on a dry matter basis. The label shall include guarantees for minimum L-lysine and maximum sulfur.

TT 60.111 Biodiesel-derived glycerin is a liquid co-product of biodiesel production by a base catalyzed trans-esterification process. It must be derived from processes utilizing sources of fatty acids compliant with the term "feed grade" and if animal fat of cattle origin is utilized, sources must not contain in excess of 0.15% insoluble impurities. It must contain not less than 60% glycerin, not more than 15% water, not more that 0.5% methanol and not more than 5 ppm heavy metals. It may contain up to 8% salt and 0.1% sulfur. It must be labeled with guarantees for minimum glycerin, maximum moisture, maximum sulfur, maximum ash and maximum methanol as well as the statement "For further mixing into livestock feed." It is for use in an amount not to exceed 15% of the complete feed for ruminants and 10% of the complete feed for all other livestock species.

T57.165 Zinc hydroxychloride is the hydrolysis product of zinc chloride having the empirical formula $Zn_5(OH)_8Cl_2(H_2O)$. The particle size must not exceed 100 microns. It must contain not less than 54% zinc and is intended to be a source of zinc for use in livestock and companion animal diets. It must not contain more than 20% chloride, 90 ppm lead, 15 ppm chromium, 10 ppm arsenic, 10 ppm cadmium, and 0.2 ppm mercury.

T93.9 _____ **Wheat Gluten** is the major water-insoluble proteinaceous fraction of wheat,



consisting primarily of gliadin and glutenin proteins. Wheat gluten is prepared from wheat flour that is free from other seeds and foreign matter, by washing with water to remove most of the water-soluble non-protein components. Vital Wheat Gluten is dried gluten that has retained its viscoelasticity when hydrated, whereas Devitalized Wheat Gluten has reduced viscoelasticity as a result of denaturization by heat. Moisture content shall not exceed 10%. Wheat gluten must contain not less than 80% crude protein (crude protein based on N x 6.25), and not more than 1.5% crude fiber and 2.0% ash on a moisture-free basis. (For label identification of the viscoelastic properties, vital or devitalized, must be specified.) (Proposed, 2013).

T54.33 Bovine colostrum is lacteal secretions obtained within 48 hours post parturition. It contains 3% maximum lactose, 15% minimum total solids, and 60% minimum of the solids must be protein. The minimum specific gravity is 1.04 g/ml.

T54.34 Dried bovine colostrum is the product obtained by removing water from bovine colostrum. It contains 8% maximum moisture, 20% maximum lactose, and 50% minimum of the solids must be protein.

TT73.100 Yeast for Production of Distillers Products. The ingredients list of the yeast marketed to the ethanol manufacturer should declare the genus species of the yeast and the enzyme(s) expressed.

Saccharomyces cerevisiae expressing pyruvate formate lyase activating enzyme, pyruvate formate lyase, and bifunctional acetaldehyde-CoA/alcohol dehydrogenase from Bifidobacterium adolescentis and a glucoamylase from Saccharomycopsis fibuligera for use in dry grind corn fuel ethanol production of distillers products for animal feed. Distillers products for use in animal feed contain no live bioengineered yeast.