

**Association of American Plant Food Control Officials
Terms & Definitions Committee
2020 Winter Annual Agenda
New Orleans, LA
February 17, 2020**

Committee Objectives

- Review list of tentative terms and definitions previously brought before the committee and vote to retain them in tentative status, move to official status, or delete them.
- Review and discuss new agenda items brought before the committee

CALL TO ORDER

1. **Welcome, roll call of committee members and introduction of guests.** (5 minutes)
Facilitator: Eddie Simons
2. **Agenda review and approval**
3. **Summer 2020 Annual Meeting Report Review and Approval** (5 minutes) Chair
4. **Old Business - AAPFCO Membership Voting Items at Winter Annual 2020, Terms and Definitions can act on these depending on the outcome of the Membership vote.** Available to delete, stay tentative, official. (1 hour) Chair

Terms will not be discussed if voted to official or deleted by the membership

Zn-22 Zinc (II) Gluconate – is a zinc (II) Chelate of gluconic acid, and is commonly expressed as Zn gluconate.

Zn-11 Zinc Glucoheptonate – is a zinc (II) chelate of glucoheptonic acid and is commonly expressed as Zn Glucoheptonate.

T-109 Maleic-Itaconic Copolymer, Calcium Salt – A substance composed of a partial calcium salt of maleic-itaconic copolymer that can be applied to granular urea fertilizers or mixed with liquid ammoniacal nitrogen/urea fertilizers.

T-110 Maleic-Itaconic Copolymer, Sodium Salt – A substance composed of a partial sodium salt of maleic-itaconic copolymer that can be applied to granular phosphate fertilizer.

T-108 Maleic-Itaconic Copolymer, Ammonium Salt – A substance composed of a partial ammonium salt of maleic-itaconic copolymer that can be mixed with liquid phosphate fertilizers.

T-113 Endomycorrhizal fungal propagules– are the structures of endomycorrhizal fungi that are capable of forming a symbiotic association with plant roots. These structures are endomycorrhizal spores and root fragments colonized by endomycorrhizal fungi.

T-114 Mycorrhizal fungi – are fungi that are capable of forming mutually beneficial symbiotic associations between the fungal mycelium and the roots of vascular plants. These fungi include endomycorrhizal fungi and ectomycorrhizal fungi.

T-116 Ectomycorrhizal fungal propagule – is a structure of ectomycorrhizal fungi that is capable of forming a symbiotic association with plant roots. These structures are spores of ectomycorrhizal fungi.

T-120 Beneficial bacteria – are bacteria that may enhance plant growth and yield, either directly by colonizing roots and fixing nitrogen, or indirectly, by increasing the availability of nutrients from the soil. Beneficial bacteria may also help plants tolerate abiotic stress and/or help with plant nutrient uptake. Beneficial bacteria are expressed as genus and species, and, if applicable strain, and guaranteed by an amount, designated as colony-forming units per gram (for dry products) or milliliter (for liquid products).

T-121 Colony-forming unit (CFU) – is a unit used to quantify the viable cells of bacteria and culturable fungi in a sample. It is a measure of the number of individual colonies formed when the inoculum is plated using microbiological culture methods appropriate for that organism.

N -67 Calcium Ammonium Nitrate – A dry fertilizer prill or granule containing as its essential ingredients only ammonium nitrate and calcium carbonate (e.g. limestone) and/or magnesium carbonate and calcium carbonate (e.g. dolomite), prepared as a homogeneous mixture, with a maximum combustible material content, expressed as organic carbon, of 0.4% by weight. The minimum content of such calcium and/or magnesium carbonates in this product is 20% by weight and their purity level is 90% by weight minimum. The calcium in this product is not water- soluble.

N-68 Ammonium Calcium Nitrate Double Salt – Is a (fertilizer grade) hydrated double salt (calcium nitrate and ammonium nitrate) formulated from nitric acid. It is a prill or granular dry product and is a single water-soluble compound but not a mixture/blend of multiple sources. This product shall contain a minimum of 15.0% nitrogen and 18.5% calcium and at least 12% water of crystallization. It has less than 10% ammonium nitrate by weight. It is further identified by CAS# 15245-12-2.

N-69 Calcium Nitrate – Is the calcium salt of nitric acid, this product shall not contain an ammonium ion. It encompasses both the anhydrous form (CAS# 10124-37-5) and the hydrated form (CAS# 13477-34-4) of the salt.

SUIP #6 would be amended as follows:

Calcium Ammonium Nitrate - In the Calcium Ammonium Nitrate production process, the carbonates are added as a fine powder with a minimum of 80 percent of the powder smaller than 250 microns. Carbonates are either added directly to the Calcium Ammonium Nitrate granulator or premixed with a concentrated ammonium nitrate solution to produce a homogeneous slurry that is fed into the granulation or prilling section. The solid Calcium Ammonium Nitrate that is produced contains an intimate homogenous mixture in which each single particle has a similar ammonium nitrate/carbonates ratio.

Mixtures (Blends) of Ammonium Nitrate and Limestone or Dolomite - A physical blend of dry fertilizer grade ammonium nitrate granules or prills with carbonates (e.g., limestone granules or chips) giving the same average chemical composition as Calcium Ammonium Nitrate does not qualify under this definition if any of

its individual blended constituents containing ammonium nitrate have more than 80 percent by weight of ammonium nitrate or are not intimate mixtures of ammonium nitrate and carbonates. The Calcium Ammonium Nitrate designation is exclusively reserved for a fertilizer matching the defined criteria of composition and production.

T-122 Duromide – Reaction product of N-(n-butyl)thiophosphoric triamide, urea and formaldehyde, that acts as a urease inhibitor (CAS Number 2093385-47-6).

T-123 Polyacrylamide – A water-soluble (linear polymer) substance used for soil amendment, wherein the substance is copolymerized and applied in dry granular or emulsion forms to soils. The substance is characteristically anionic, and is made up of variable ratios of acrylamide and acrylic acid monomer. Usage can reduce soil-surface sealing and soil erosion due to irrigation or rain events.

N-70 Ammonium Bicarbonate – The bicarbonate salt of the ammonium ion with the chemical formula of $(\text{NH}_4)\text{HCO}_3$. It shall contain not less than 17% total nitrogen. CAS# 1066-33-7. In its solid form ammonium bicarbonate is water soluble.

BSC-8 Uncalcined Diatomaceous Earth – containing amorphous silicon dioxide of the *Melosira granulata* species is a natural source of soluble silicon, Ca, Mg, and Fe.

N-66 Ammoniated Calcium Nitrate – consisting of a hydrated double salt of calcium nitrate and ammonium nitrate having the chemical formula $[5\text{Ca}(\text{NO}_3)_2 \cdot \text{NH}_4\text{NO}_3 \cdot 10\text{H}_2\text{O}]$, CAS# 15245-12-2]. Both the granulated or prilled product (15.5-0-0) provide water soluble nitrogen and calcium.
Motion to DELETE

5. **Some more Old Business** – Terms membership is voting as tentative

Fe-25 Iron (II) Gluconate – is an iron(II) ~~Chelate~~ complex of gluconic acid, and is commonly expressed as Fe gluconate.

Cu-12 Copper Glucoheptonate – is a copper (II) ~~ehelate~~ complex of glucoheptonic acid and is commonly expressed as Cu Glucoheptonate.

Fe-14 Iron Glucoheptonate – is an iron (III) ~~ehelate~~ complex of glucoheptonic acid and is commonly expressed as Fe Glucoheptonate.

Mn-11 Manganese Glucoheptonate – is a manganese (II) ~~ehelate~~ complex of glucoheptonic acid and is commonly expressed as Mn Glucoheptonate.

Coir– The processed husk of coconut (*Cocos nucifera*) consisting of pith and/or fiber.

Note: pith or fiber, or both. All pith or all fiber, or a combination of both.

Buffered Coir– Coir that has been treated with a water soluble calcium salt (such as calcium chloride, calcium nitrate, etc.) in solution for the purpose of displacing/removing excessive sodium and potassium ions.

N-68 Corn Steep Liquor – A water-soluble by-product of corn wet milling. It may be produced by soaking cleaned shelled corn in dilute sulfur dioxide solution, followed by corn solids removal and concentration of the steep water by evaporation. The resulting corn steep liquor is a source of nitrogen.

K-23 Seaweed – Macroscopic multicellular marine algae.

K-11 Kelp – (Seaweed) is the dried marine algae of the botanical divisions of Rhodophyta (red algae), Phaeophyta (brown algae), and Chlorophyta (green algae).

K-11 Kelp – Marine algae belonging to the orders Laminariales in the class Phaeophyceae. Kelp is classified as a seaweed.

6. New Business –

Volcanic Ash (Dacitic) – Anne-Laure Guihur, TSG (7-6-18, AAPFCO Secure site)

Volcanic Ash (Dacitic) – Composed of small (< 2 mm) fragments of pumice and other mineral matter deposited during an explosive volcanic eruption, with an overall composition equivalent to dacite, a high-silica volcanic rock formed from crystallized lava. Deposits also may include some larger fragments. It can be used as a source of primary nutrients (such as Potassium) secondary nutrients (such as Calcium and Magnesium), micronutrients (such as Iron), and beneficial substances (such as Silicon), and as a soil conditioner.

*Working group created: Greg Cunningham, James Bartos, *Anne-Laure Guihur, Frank Sikora, Marty Campfield*

Humic Substances – Jared Lighthart, Tranlin, Inc (11-2-18, AAPFCO website)

T-100 Humic Substances – Constituents of soil organic matter and the aquatic environment, consisting of complex heterogeneous mixtures of carbon-based substances formed by biochemical reactions during the decay and transformation of plant and microbial remains. They are primarily composed of three main fractions, called humic acids, fulvic acids, and humin, which are operationally defined by their solubility in dilute alkali and acid solutions. Sources of humic substances are commercially harvested from terrestrial deposits which include, but are not limited to, Leonardite, oxidized lignite, oxidized sub-bituminous coals, humalite, carbonaceous shales (including humic shale), peat, ~~and sapropel,~~ and plant materials.

Working Group: Jared Lighthart, Greg Cunningham, Ron alexander, David Chinn, Lawrence Mayhew, Matt Haynes, Rick Killebrew, someone from CA

Mult Nutrient Products (MNP)

It was discussed at the AAPFCO Administrators Seminar to create a Multi-Nutrient Products category to encompass those Official Fertilizer Definitions which did not necessarily have a main

nutrient which would place them under one of the other nutrient categories. It was proposed that the following Terms be placed under this new heading:

FMNP-98 Basalt is a common fine-grained igneous volcanic rock. In its finely ground state where 20 percent passes a 100 mesh sieve. It is a source of secondary and micro nutrients. (Official 2014)

FMNP-97 Herbivore Insect Frass is the excreta of plant-eating insects which is produced in a controlled environment and consist primarily of the digested material passed by plant-eating insects. It is a source of Nitrogen, Phosphate and Potash. (Official 2014)

FMNP-106 Polyhalite The naturally occurring mineral from sedimentary marine evaporates, which is a hydrated sulfate of potassium (K), calcium (Ca) and magnesium (Mg) having the formula $K_2Ca_2Mg(SO_4)_4 \cdot 2(H_2O)$. Containing not less than thirteen percent (13%) soluble potash (K_2O), three percent (3%) Magnesium (Mg), eleven percent (11%) Calcium (Ca) and eighteen percent (18%) Sulfur (S). (Tentative WA 2017, Official SA 2017)

Create a Soil Amendment Products area within the Definitions section and change the following terms to this category

FSAP-52 Forest Products Untreated wood and its untreated byproducts generated from the harvest of timber. These products may include lumber, saw dust, bark and similar materials but do not include reprocessed wood from fabricated consumer or industrial products. (Official 2002)

FSAP -42 Sphagnum Peat Moss A material obtained from a sphagnum peat deposit (bog) of which an oven dried sample contains a minimum of 66 2/3% sphagnum moss fiber by weight. Those fibers shall be stems and leaves that have recognizable fibrous and cellular structure. (Official 1995)

FSAP -67 Vermicompost Is earthworm castings that have undergone non-thermophilically biological oxidation and stabilization. (Official 2006)

FSAP -68 Vermicompost Extract Is the water extract of vermicompost and may contain suspended material. (Official 2006)

Move the following Definitions to terms

P-1 Phosphate Is the amount of pentavalent phosphorus {P(V)} present in the material calculated as phosphorus pentoxide (P_2O_5). (Official 1997)

P-2 Available Phosphate Is the sum of the water soluble and the citrate soluble phosphate. (Official 1993)

K-1 Potash The term Potash designates potassium oxide (K_2O). (Official 1957)

K-2 Soluble Potash Is that portion of the potash contained in fertilizer or fertilizer materials which is soluble in aqueous ammonium oxalate, aqueous ammonium citrate, or water, according to an applicable AOAC International method. (Official 1986)

Ca-1 Agricultural Liming Materials Are products whose calcium and magnesium compounds are capable of neutralizing soil acidity and which are used for that purpose. (Official 2000)

Delete the following terms as they are covered under N-61 Oilseed Meal

T-86 Castor Pomace is the product remaining after extracting oil from castor seed. (Official 2013)

T-90 Tung Pomace is the product remaining after extracting oil from tungseed. (Official 2013)

Move T-95 Amino Acids to Nitrogen Products

T-95 Amino Acids Are a recognized source of nitrogen and the basic structural units of proteins. They consist of an amino group, a carboxyl group, hydrogen atoms, and a distinctive side group. (Official 2014)

Water Extractable Phosphorus – Ron Alexander (12-20-19) AAPFCO Website

T-xxx Water Extractable Phosphorus – the amount of phosphate in a carbon-based fertilizer that is readily water soluble, as determined by the SERA (Southern Extension & Research Activity) -17 test method.

Change to Polyacrylamide term – Rebecca Thomas, The Scotts Company

T-123 Polyacrylamide – A water-soluble (linear polymer) substance used for soil amendment, wherein the substance is copolymerized and applied in dry granular or emulsion forms to soils. The substance is characteristically anionic, and is made up of variable ratios of acrylamide and acrylic acid monomer. Usage can reduce soil-surface sealing and soil erosion due to irrigation or rain events.

Proposed changes

T-123 Polyacrylamide - A soil amendment, wherein the acrylamide monomer is copolymerized with varying ratios of acrylic acid monomers in varying chain lengths. These polymers can be linear or cross linked and are applied to soils or mixed with soils to improve water use efficiency, reduce soil-surface sealing and soil erosion due to irrigation or rain events.

Seabird Guano – Keith Freeman (10-15-19) AAPFCO Website. Waiting on additional data

Seabird Guano - A mined, dry, and hardened fecal excrement from marine birds, used as an organic source of phosphate - P₂O₅. Seabird guano contains <1% N, <1%K, organic matter <5%. Available P₂O₅ ranges from 5 - 12%. Total P₂O₅ averages 18 - 25%.

Potassium Formate – Ashish Deshmukh (12-12-19). Waiting on additional data

Potassium Formate: KCHO₂ is the potassium salt of formic acid. It shall contain not less than 40% soluble potash (K₂O).

7. Next Steps - Assignments and Agenda Items for next meeting