

Association of American Plant Food Control Officials
Terms & Definitions Committee
2018 Winter Annual Agenda
Savannah, GA
February, 2018

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: Lance Kunneman
2. **Agenda review and approval** (5 minutes) Chair
3. **Annual Meeting Report Review and Approval** (5 minutes) Chair
4. **Old Business - AAPFCO Membership Voting Items at Winter Annual 2018, 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 by the membership

T-70 Enhanced Efficiency Fertilizer – Describes fertilizer products with characteristics that allow increased nutrient availability and reduce potential of nutrient losses to the environment e.g., gaseous losses, leaching or runoff when compared to an appropriate reference product.

Membership vote to official

T-34 - Compost - is the product manufactured through the controlled aerobic, biological decomposition of biodegradable materials. The product has undergone mesophilic and thermophilic temperatures, which significantly reduces the viability of pathogens and weed seeds, and stabilizes the carbon, such that it is beneficial to plant growth. Compost is typically used as a soil amendment, but may also contribute plant nutrients.

Membership vote to official

T-106 - DMPSA - Nitrification Inhibitor consisting of an Isomeric mixture of 2-(3,4-dimethyl-1H-pyrazol-1-yl) succinic acid and 2-(4,5-dimethyl-1H-pyrazol-1-yl) succinic acid.

Membership vote to official

Ca-26 Calcium Glucoheptonate – is a complex of glucoheptonic acid and is commonly expressed as Ca Glucoheptonate

Membership vote to official

T-33 - Composting - The biological decomposition of organic matter. It is accomplished by mixing and piling in such a way to promote aerobic and/or anaerobic decay. The process inhibits pathogens, viable weed seeds, and odors. (Official 1997)
Membership vote to delete

Terms which were voted as tentative by the membership, with intent to delete.

T-29 Slow or Controlled Release Fertilizer- A fertilizer containing a plant nutrient in a form which delays its availability for plant uptake and use after application, or which extends its availability to the plant significantly longer than a reference “rapidly available nutrient fertilizer” such as ammonium nitrate or urea, ammonium phosphate or potassium chloride. Such delay of initial availability or extended time of continued availability may occur by a variety of mechanisms. These include controlled water solubility of the material (by semi-permeable coatings, occlusion, or by inherent water insolubility of polymers, natural nitrogenous organics, protein materials, or other chemical forms), by slow hydrolysis of water soluble low molecular weight compounds, or by other unknown means.
Membership vote to tentative with intent to delete

Terms which were voted as tentative by the membership, can be voted as official, stay tentative, or delete.

T-71 Slow Release Fertilizers - fertilizers in a form that release, or convert to a plant-available form, plant nutrients at a slower rate relative to an appropriate reference soluble product.
Membership vote to tentative

T-103 Controlled Release Fertilizers - a Slow Release Fertilizer that is engineered to provide nutrients over time at a predictable rate under specified conditions.
Membership vote to tentative

N-62* Feather Meal – A product from poultry processing, consisting of ground and processed (hydrolyzation, pressure, heat and/or other methods that aid in nutrient availability and provides pathogen reduction) bird feathers.
Membership vote to tentative

Ca-25 Calcium Gluconate – Is a calcium complex of gluconic acid, and is commonly expressed as Ca gluconate.
Membership vote to tentative

Mg-6 Magnesium Gluconate – is a magnesium complex of gluconic acid, and is commonly expressed as Mg gluconate.
Membership vote to tentative

Mn-20 Manganese (II) Gluconate – is a manganese (II) ~~Chelate~~ complex of gluconic acid, and is commonly expressed as Mn gluconate.
Membership vote to tentative

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

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

Membership vote to tentative

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.

Membership vote to tentative

N-67 - Calcium Ammonium Nitrate (CAN) – A nitrogenous fertilizer derived from ammonium nitrate which contains a minimum of 20% calcium material (e.g. calcite or dolomite) and a maximum of 27% nitrogen. The material can be substituted with calcium sulfate (gypsum). It is a source of water soluble nitrogen but not a source of water soluble calcium. It may be granular or prilled.

Membership vote to tentative

S-13# - Sulfur(S) - Free sulfur (S^0) in its elemental form. Sulfur particles that are less than 100μ can oxidize over time and are a source of slow release sulfur. If slow release sulfur is claimed, only the portion that is less than 100μ would be considered slow release.

Membership vote to tentative

Ca-22 Calcium ~~MEAE~~AHP – is the chelate of any soluble calcium salt and Ethanol, 2-amino-2-hydroxy-1,2,3-propanetricarboxylate.

Membership vote to tentative

Mg-3 Magnesium ~~MEAE~~AHP – is the chelate of any soluble magnesium salt and Ethanol, 2-amino-2-hydroxy-1,2,3-propanetricarboxylate.

Membership vote to tentative

Co-1 Cobalt ~~MEAE~~AHP – is the chelate of any soluble cobalt salt and Ethanol, 2-amino-2-hydroxy-1,2,3-propanetricarboxylate.

Membership vote to tentative

Cu-20 Copper ~~MEAE~~AHP – is the chelate of any soluble copper salt and Ethanol, 2-amino-2-hydroxy-1,2,3-propanetricarboxylate.

Membership vote to tentative

Fe-23 Iron ~~MEAE~~AHP – is the chelate of any soluble iron salt and Ethanol, 2-amino-2-hydroxy-1,2,3-propanetricarboxylate.

Membership vote to tentative

Mn-18 Manganese ~~MEAE~~AHP – is the chelate of any soluble manganese salt and Ethanol, 2-amino-2-hydroxy-1,2,3-propanetricarboxylate.

Membership vote to tentative

Zn-21 Zinc ~~MEAE~~AHP – is the chelate of any soluble zinc salt and Ethanol, 2-amino-2-hydroxy-1,2,3-propanetricarboxylate.

Membership vote to tentative

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

Membership vote to tentative

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

Membership vote to tentative

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

Membership vote to tentative

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

Membership vote to tentative

Mg-7 Magnesium Amino Acid Complex – is ~~an organic~~ a complex of magnesium (II) with an amino acid product and is commonly expressed as the Mg amino acid salt, e.g., magnesium glycinate.

Membership vote to tentative

Ca-27 Calcium Amino Acid Complex – is ~~an organic~~ a complex of calcium (II) with an amino acid product and is commonly expressed as the Ca amino acid salt, e.g., calcium glycinate.

Membership vote to tentative

Cu-13 Copper Amino Acid Complex – is ~~an organic~~ a complex of copper (II) with an amino acid product and is commonly expressed as the Cu amino acid salt, e.g., copper glycinate.

Membership vote to tentative

Fe-15 Iron Amino Acid Complex – is ~~an organic~~ a complex of iron (II) with an amino acid product and is commonly expressed as the Fe amino acid salt, e.g., iron glycinate.

Membership vote to tentative

Mn-12 Manganese Amino Acid Complex – is ~~an organic~~ a complex of manganese (II) with an amino acid product and is commonly expressed as the Mn amino acid salt, e.g., managanese glycinate.

Membership vote to tentative

Zn-15 Zinc Amino Acid Complex – is ~~an organic~~ a complex of zinc (II) with an amino acid product and is commonly expressed as the Zn amino acid salt, e.g., zinc glycinate.

Membership vote to tentative

5. Old Business (hours) Chair Available to move to tentative, table, or no action

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.

N-67 - Calcium Ammonium Nitrate (CAN) – A nitrogenous fertilizer derived from ammonium nitrate which contains a minimum of 20% calcium material (e.g. calcite or dolomite) and a maximum of 27% nitrogen. The material can be substituted with calcium sulfate (gypsum). It is a source of water soluble nitrogen but not a source of water soluble calcium. It may be granular or prilled.

Working Group Recommendation:

Recommendation:

6. New Business –

Inoculum Definitions submitted by Oregon Dept. of Ag. – Don Wolf. Submitted 3/3/2017.

T-? Mycorrhizal fungal propagules– are the vegetative reproductive structures of mycorrhizal fungi – hyphae, spores, sclerotia and root fragments colonized by arbuscular mycorrhizal fungi. Only the numbers of spores, sclerotia and colonized root fragments are allowed in product guarantees, as hyphae are too short-lived for product distribution and storage.

T-? Fungal spore – a specialized fungal propagule, capable of developing into an adult without fusion with another cell.

T-? Mycorrhizal fungi – are fungi that form symbiotic associations between the fungal mycelium and the roots of vascular plants. Depending on the species involved, these associations may range from mutually beneficial to parasitic. In one of the most common beneficial associations the fungi’s network of mycelium enhances a plant’s access to soil nutrients and water, and in return, the plant provides sugars and other food to the fungus. Mycorrhizal fungi are guaranteed by genus and species or strain and an amount, designated as propagules or spores per gram (for dry products) or milliliter (for liquid products).

T-? Mycorrhiza (plural mycorrhizae) – is a term used to describe the association between a mycorrhizal fungi and a plant root (*mycorrhiza* means “fungus root”). There are multiple types of associations, including ectomycorrhizae, arbuscular mycorrhizae, ericoid mycorrhizae, and others.

T-? Ectomycorrhizal fungi – are fungi whose mycelium form around plant roots, but generally do not penetrate cells of the roots. Ectomycorrhizae primarily form relationships with woody species, particularly conifers, oaks, willows, and eucalypts. Many ectomycorrhizae are specialists forming symbiotic relationships with only a closely related group of plants (e.g. *Pinus*). Only about 2% of plants form ectomycorrhizal associations.

T-? Endomycorrhizal fungi – are one of the two most common groups of mycorrhizal fungi used as agricultural inoculants. The mycelium of endomycorrhizae colonize plant root cells, increasing the plant’s access to nutrients and water. Endomycorrhizae form associations with about 80% of terrestrial vascular plant families.

T-? Endomycorrhiza(e) - A mycorrhizal association with intracellular penetration of the host root cortical cells by the fungus as well as outward extension into the surrounding soil.

T-? Arbuscular mycorrhizal fungi (AMF) – [also - vesicular arbuscular mycorrhizae (VAM)] are members of the phylum Glomeromycota, one the largest groups of endomycorrhizal fungi. The

mycelium of endomycorrhizae colonize plant roots, increasing the plant's access to nutrients and water in return for access to carbohydrates and other plant-produced materials.

T-? Beneficial bacteria – are bacteria that promote plant growth, either directly, by colonizing roots and fixing nitrogen, or indirectly, by increasing the availability of nutrients, such as phosphorus, from the soil. Beneficial bacteria may aid with water uptake. Beneficial bacteria are guaranteed by genus and species or strain and an amount, designated as colony-forming units per gram (for dry products) or milliliter (for liquid products).

T-? Colony-forming unit (CFU) – is a unit used to quantify the viable cells of bacteria, or yeast 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.

T-? Trichoderma – is a genus of fungi, present in all soils and ubiquitous in the environment. Strains of *Trichoderma* have been developed as biocontrol agents against fungal diseases of plants. As fungi, guarantees should be made for the number of propagules.

Working Group Recommendation:

DMP – Teresa Tubia, BASF (Submitted 4/4/2017, Application on AAPFCO Secure Site)

DMP (3,4-dimethylpyrazole) – is a nitrification inhibitor.

Calcium Lignosulfonate - Andy Trinh, H.I.T. Manufacturing (Submitted 7/27/2017, Application on AAPFCO Website)

Calcium Lignosulfonate – is an organic complex of calcium (II) salt of lignosulfonic acid.

Humic Acid – Change submitted by The Andersons, Chuck Anderson (Submitted 9/21/17, Application on AAPFCO Website)

Proposed change:

T-64 # - Humic Acids - are the portions of the alkali extracted humic substances that are insoluble in strongly acidic solution. They will precipitate from the alkali extract in acid solutions of pH 2 or less. They can be used as either soil amendments, foliar applications, or blended with liquid fertilizers. Their use can improve efficiency of nutrient use and minimize the potential of nutrient losses to the environment through nitrification and/or urease inhibition.

Humic Substances – Change submitted by Humic Products Trade Association, Russell Taylor

T-100 Humic Substances – the major organic 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. High concentrations of

humic substances are commercially harvested from, but not limited to, terrestrial deposits of Leonardite, oxidized lignite, oxidized sub-bituminous coals, humalite, carbonaceous shales, peat, and sapropel.

Mineralized Bat Guano – Bob Davis (10/12/17, Secure site of AAPFCO)

P - Mineralized Bat Guano – is phosphate rock that formed as accumulations of bat excrement, altered to variable extent through chemical reactions including dissolution/re-precipitation, hydration, oxidation, and leaching. It contains less than 2% fluorine.

Maleic-Itaconic Copolymers – Gary Orr, Verdesian Life Sciences (12-19-17, AAPFCO website)

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.

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

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.

Tripotassium trihydrogen phosphate dehydrate – Julia Ezgilov, ICL (1/3/18, AAPFCO Secure site)

Tripotassium trihydrogen phosphate dehydrate – Inorganic water soluble fertilizer; Double salt of Monopotassium Phosphate and Dipotassium Phosphphate. It shall contain forty two (42%) to forty five (45%) available phosphate and forty two (42%) to forty five (45%) soluble potash.

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