Terms & Definitions Committee

AGENDA

Pittsburgh, PA

Salons 2-4 Grand Ballroom

1:30 – 4:30

August 4, 2016

CALL TO ORDER

1. **Welcome, roll call of committee members and introduction of guests.** (5 minutes) Facilitator: Katie Laney

2. **Agenda review and approval** (5 minutes) Chair

3. **Annual Meeting Report Review and Approval** (5 minutes) Chair

4. **AAPFCO Membership Voting Items at Summer Annual 2016, Terms and Definitions can act on these depending on the outcome of the Membership vote.** Available to delete, stay tentative, official. (20 minutes) Chair

   T-93 **Soluble Silicon –** is that portion of the silicon contained in non-liquid fertilizer materials and/or beneficial compounds that is soluble in a mixture of 0.094 Molar Sodium Carbonate and 0.20 Molar Ammonium Nitrate and determined by a validated or approved method. It is expressed as percent Soluble Silicon (Si).

   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.

   T-71 **Slow Release Fertilizers -** are solid or liquid fertilizer products that release *(convert to a plant available form)* their nutrients at a slower rate relative to a "reference soluble" product. This may be accomplished by biodegradation and/or by limited solubility and/or by hydrolysis or other recognized chemical or biochemical means. Some examples include solid fertilizers such as: methylene urea (MU), Magnesium Potassium Phosphate and bio-solids, and liquid fertilizer such as Triazone.

   T-102 **Controlled Release Fertilizers** - are solid fertilizer products that release nutrients at a controlled rate relative to a "reference soluble" product. The controlled rate of nutrient release is achieved by modifying readily available nutrient forms with recognized physical mechanisms such as coatings, occlusions or other similar means. Some examples include Polymer coated N-P-K fertilizers, Polymer Coated Urea (PCU) and occluded fertilizers.

   N-62 **Feather Meal -** Consisting of ground and processed bird feathers, a byproduct of poultry processing.

   Working Group Recommendation:

N-62 **Feather Meal** - Ground and dried poultry feathers.

N-65 **Hydrolyzed Feather Meal** - The product resulting from the heating by steam under pressure of undecomposed feathers from slaughtered poultry.

T-103 **Aquaculture By-product** - A solid material, primarily organic matter, produced by cultivating aquatic animals and plants. It can be beneficially recycled for its ~~plant nutrient content and~~ soil amending characteristics.

T-104 **N-(n-propyl) thiophosphoric triamide (NPPT)** – Compound that is the normal propyl derivative of thiophosphoric triamides and is a urease inhibitor. CAS Number 916809-14-8.

K-22 **Potassium Sulfite** –is a potash salt (K_2SO_3) containing not less than fifty nine percent (59%) soluble potash (K_2O) and twenty percent (20%) sulfur (S). It is often sold as an aqueous solution containing twenty-three percent (23%) soluble potash (K_2O), and eight percent (8%) sulfur (S).

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

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

Mn-20 **Manganese (II) Gluconate** – is a manganese (II) chelate of gluconic acid, and is commonly expressed as Mn gluconate.

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

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

N-48 **Cottonseed Meal** – is the product remaining after extracting most of the oil from whole cottonseeds.

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

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Phosphorous acid and its potassium and calcium salts – Verdesian Life Sciences, Gary Orr

Withdrawn from agenda by Verdesian Life Sciences, 7-15-2016 email.

T-33 Composting and T-34 Compost definitions. Proposed changes

Working group: Ron Alexander, Don Wolf, Jamie Staufenbeil, Doug Alderman, Glen Murray, Robert LaGasse, Falina Hutchinson, Michelle Schott, phil davidson*

Working Group Recommendation:

CURRENT - 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)

SUGGESTED - T-33 - Composting – is the controlled biological decomposition of biodegradable materials into a stabilized product. It is an aerobic manufacturing process characterized by a thermophilic phase, which significantly destroys pathogens and weed seeds, and a mesophilic phase, which stabilizes the carbon.

CURRENT - T-34 - Compost - A biologically stable material derived from the composting process. (Official 1991)

SUGGESTED – T-34 - Compost - is the product manufactured through the controlled aerobic biological decomposition of organic material. The product has been treated by thermophilic temperatures, which significantly destroys pathogens and weed seeds, and stabilized to the point that it is beneficial to plant growth. Compost is typically used as a soil amendment, but can also contribute plant nutrients.

S 13# Sulfur(S) - Free sulfur (S°) 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.

Working group: Falina Hutchinson, Bill Hall, Sharron Webb, James Bartos, Toby Primbs, Tim Jestness TAJestness@potashcorp.com*

Working Group Recommendation:

6. **New Business** – Proposed Definitions (40 minutes) Chair. Available to move to tentative, table, or no action

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Iron HBED – Bill Easterwood, Yara North America, Inc. (Submitted 2/26/16) (Application on AAPFCO Site)

Iron HBED – is an iron (III) chelate of bis(2-hydroxybenzyl)ethylenediamine diacetic acid, and is commonly expressed as FeHBED.

Polyhalite – Julia Ezgilov, ICL Fertilizers (Submitted 5-3-2016, Application on AAPFCO secure site)

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 $K_2Ca_2Mg(SO_4)4\ 2(H_2O)$. 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).

Bat Guano – OR Dept of Ag request for definition update. (Submitted 5/20/2016, Application on AAPFCO site)

N-11 Bat Guano – is partially decomposed bat manure. (Official 1951)

Submitted change

N-11 Bat Guano - is partially decomposed bat excrement. Bat guano has an organic matter content greater than 40%, is a source of nitrogen, and may contain up to 6% available phosphate (P_2O_5).

Maleic – Itaconic Copolymer's – Gary Orr, Verdesian Life Sciences (Submitted 6/2/2016, Application on AAPFCO Secure Site)

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, Ammonium Salt – A substance composed of a partial ammonium salt of maleic – itaconic copolymer that can be mixed with liquid phosphate 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.

Calcium Glucoheptonate – Craig Robinson, Floratine Products Group (Submitted 6/7/2016, Application on AAPFCO site)

Calcium Glucoheptonate – is a complex ~~chelate~~ of glucoheptanoic acid and is commonly expressed as Ca Glucoheptonate

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Magnesium and Calcium Amino Acid Complex – Kyle Ladenburger, ENP Investments (Submitted 6/9/2016, Application on AAPFCO site)

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

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

Magnesium Ammonium Phosphate Hexahydrate – Paul Tracy, Ostara Nutrient Recovery Technologies (Submitted 6/27/2016, Application on AAPFCO site)

Magnesium Ammonium Phosphate Hexahydrate (struvite) - , chemical formulation - MgNH4PO4-6H2O is defined as a fertilizer containing a minimum of 5% nitrogen, 28% phosphate (P2O5) and 10% magnesium. It is registered under the CAS number 13478-16-5 and EINECS number 232-075-2 (SDS sheet is attached). It is listed as a slow-release fertilizer that is relatively insoluble in water, but fully soluble in citrate solution.

DMPSA – Nils Berger, Eurochem (Submitted 6/30/2016, Application on AAPFCO Secure Site)

DMPSA (Reaction mass of 2-(3,4-dimethyl-1H-pyrazol-1-yl) succinic acid and 2-(4,5-dimethyl-1H-pyrazol-1-yl) succinic acid), Nitrification Inhibitor to treat Ammonia containing fertilizer

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7. **<u>Next Steps</u> - Assignments and Agenda Items for next meeting** (5 minutes) Chair

February 22, 2016 (1 – 4:30 pm)

CALL TO ORDER

1. **Welcome, roll call of committee members and introduction of guests.** (5 minutes)
   Facilitator: Katie Laney

2. **Agenda review and approval** (5 minutes) Chair

3. **Annual Meeting Report Review and Approval** (5 minutes) Chair

4. **AAPFCO Membership Voting Items at Winter Annual 2016, Terms and Definitions can act on these depending on the outcome of the Membership vote.** Available to delete, stay tentative, official. (20 minutes) Chair

T-93 **Soluble Silicon –** is that portion of the silicon contained in non-liquid fertilizer materials and/or beneficial compounds that is soluble in a mixture of 0.094 Molar Sodium Carbonate and 0.20 Molar Ammonium Nitrate and is a measure of monosilicic acid by a validated or approved method. It is expressed as H_4SiO_4

Revised by Silicon working group
Soluble Silicon (Si) – is that portion of the silicon contained in non-liquid fertilizer materials and/or beneficial compounds that is soluble in a mixture of 0.094 Molar Sodium Carbonate and 0.20 Molar Ammonium Nitrate and determined by a validated or approved method. It is expressed as percent Soluble Silicon (Si).

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.

T-71 **Slow Release** – Are fertilizer products that release (convert to a plant-available form) their plant nutrients at a slower rate relative to a "reference soluble" product. Examples of slow-release products are coated or occluded, which control the release of soluble nutrients through coating or occlusion of the water soluble nutrient compounds, water insoluble, or slowly available water-soluble.

Recommendation of the Slow Release Committee is to revise Slow Release to Slow Release Fertilizers and the change below and to add the term Controlled Release Fertilizers.

Slow Release Fertilizers - are solid or liquid fertilizer products that release *(convert to a plant available form)* their nutrients at a slower rate relative to a "reference soluble" product. This may be accomplished by biodegradation and/or by limited solubility and/or by hydrolysis or other recognized chemical or biochemical means. Some examples include solid fertilizers such as: methylene urea (MU), Magnesium Potassium Phosphate and bio-solids, and liquid fertilizer such as Triazone. ~~The product may provide longevity claims when compared to an appropriate reference material.~~

Controlled Release Fertilizers - are solid fertilizer products that release nutrients at a controlled rate relative to a "reference soluble" product. The controlled rate of nutrient release is achieved by modifying readily available nutrient forms with recognized physical mechanisms such as coatings, occlusions or other similar means. Some examples include Polymer coated N-P-K fertilizers, Polymer Coated Urea (PCU) and occluded fertilizers. ~~Product labels must include a longevity statement.~~

Bartos, Lanie

BSC-1 **Calcium Silicate –** Is derived from naturally occurring minerals such as Wollastonite or may be synthetically derived, having the principal formula of $CaSiO_3$, and is a source of Calcium and Soluble Silicon.

Hunt, Young

N-62 **Feather Meal -** Consisting of ground and processed bird feathers, a byproduct of poultry processing.

Working Group Recommendation:

Feather Meal - Ground and dried poultry feathers. Tent. Slater Lanie Carried

Hydrolyzed Feather Meal - The product resulting from the heating by steam under pressure of undecomposed feathers from slaughtered poultry. Tent Slater ,Young (Board recommends delete)

T-77 **Low Phosphate Fertilizer –** Means fertilizer products intended for new or established urban turf or lawns, with available phosphate levels equal to or above 0.5% P_2O_5 and an application rate not to exceed 0.25 lb P_2O_5/1000 sq ft/application and 0.5 lb P_2O_5/1000 sq ft/year.

Official Lanie, Slater, Motion Carried

Calcium Polysaccharide – a complex formed by the reaction of calcium with polysaccharide long chain carbohydrates. Official WA16 Bartos, Lanie carried

Iron EDDHSA – Is an iron(III) chelate of ethylenediamine di-(2-hydroxyl-5-sulfophenylacetic) acid and is commonly expressed as FeEDDHSA. Official WA 16 Slater, Bartos carried

Discussion: Should separate Strong Chelates from Weak Chelates in the future.

UAN/Calcium Solutions – Manufactured as liquid mixtures of UAN solution and water soluble calcium solutions containing calcium chloride or calcium nitrate. If sufficient water soluble calcium is added to produce a calcium to urea nitrogen ratio equal to or greater than 0.2, the resulting product can be considered an enhanced efficiency fertilizer since the soluble calcium mitigates ammonia volatilization loss when compared to UAN, the enhanced efficiency reference product standard. Official WA16 Bartos, Lanie carried

BSC-7 Calcium Magnesium Silicates - are compounds derived from fused silicates, mined materials, or synthetically manufactured materials contained in fertilizer, fertilizer materials, fertilizer blends, and/or beneficial compounds and are sources of calcium and magnesium when extracted with a validated method that includes hydrochloric acid. They may also be a source of Soluble Silicon. Official WA16 Slater, Bartos carried

N-47 ~~Soybean Meal~~ – Is the product remaining after extracting most of the oil from whole soybeans. Delete WA16 Slater Lanie

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

Managing required statements for labeling of naturally occurring nutritive metals derived from phosphate materials – (10 minutes)

Working Group: Ben Jones, Eddies Simmons, Don Wolf, Dale Woods, Frank Sikora, Vicky Childs, Michelle shot, Betty Joe Evans, Mary Provance-Bowley, John yzenas, Bill Hall, Bill Easterwood, Jack Peters, Sandy Simon, Kerry Cooner

Working Group Recommendation:

Phosphorous acid and its potassium and calcium salts – Verdesian Life Sciences, Gary Orr (New material located on the AAPFCO secure site)

Proposed Definition: Are phosphite fertilizer products that, when applied to soil, provide phosphate at a slower rate relative to phosphate based fertilizers. (20 minutes)

Maleic – itaconic copolymer and its salts – enhanced efficiency fertilizer products for use in nitrogen or phosphorus management. (20 minutes) – Verdesian Life Sciences, Gary Orr (New material located on the AAPFCO secure site)

Proposed Definitions:

- The partial Calcium Salt of Maleic-Itaconic Copolymer – A substance composed of a partial calcium salt of Maleic-Itaconic Copolymer that stabilizes soil nitrogen when applied on granular ammoniacal nitrogen fertilizers or mixed into liquid ammoniacal nitrogen fertilizers
- The partial Ammonium Salt of Maleic-Itaconic Copolymer – A substance that, when applied to ~~mixed with~~ liquid phosphate fertilizers, reduces the fixation of phosphorus in fertilizers ~~derived from treated fertilizers~~ in soil.
- The partial Sodium Salt of Maleic-Itaconic Copolymer – A substance that, when applied to ~~liquid~~ granular phosphate fertilizers, reduces the fixation of phosphorus in fertilizers in soil. Died for lack of motion in committee

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Biosolids (Aquaculture) – Florida Organic Aquaculture, Adam Hernandez (Secure Site)

Proposed Definition: A primary organic solid material produced by farming processes that can be beneficially recycled for its plant nutrient content and soil amending characteristics.

Aquaculture By-product - A solid material, primarily organic matter, produced by cultivating aquatic animals and plants. It can be beneficially recycled for its plant nutrient content and soil amending characteristics.

Below is the most up to date definition request:
Aquaculture By-product - A solid material, primarily organic matter, produced by cultivating aquatic animals and plants. It can be beneficially recycled for its ~~plant nutrient content and~~ soil amending characteristics. Tentative WA16 Slater, Hunt carried

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N-(n-propyl) thiophosphoric triamide (NPPT) – BASF, George Fountas (Secure Site)

Proposed Definition: Compound that is the normal propyl derivative of thiophosphoric triamides and is a urease inhibitor. CAS Number 916809-14-8. (20 minutes) Tentative WA16 Lanie, Kunneman carried

6. **<u>New Business</u>** – Proposed Definitions (40 minutes) Chair. Available to move to tentative, table, or no action

Potassium Sulphite – Michael Hojjatie, Tessenderlo Kerley (Submitted 10/20/15)

Proposed Definition: is a potash salt (K_2SO_3) containing not less than fifty-nine percent (59%) ~~soluble K_2O~~ soluble potash (K_2O) and twenty percent (20%) ~~S~~ sulfur (S). It is often sold as an aqueous solution containing twenty-three percent (23%) soluble potash (K_2O), and eight percent (8%) sulfur (S). Tentative WA16 Lanie, Bartos, carried

Label: http://tirmsdev.com/Tessenderlo-Kerley-Inc-K-ROW-23-p44747#.ViUeBK2FMdU

Methods of Analyses:

AOAC Official Method 958.02 (STBP), potassium in fertilizers for measurement of K

AOAC Official Method 980.02, Sulfur in Fertilizers, Gravimetric Method, for analyses of S.

The product has a low salt index and has been recommended for in furrow use. It is safe to seedlings. This is a patented application.

Ron Alexander – Proposing changes to T-33 Composting and T-34 Compost definitions. Proposed changes were given to control officials for review. Working group will need to be formed to review proposed changes, if needed. (Submitted 11/20/15)

Sulfur – Bill Hall (Application on AAPFCO Secure Site) (Submitted 12/22/15)

S 13# Sulfur (S) - Free sulfur (S°) 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.

Gluconate – Lesley Lyle (ProPlus Products) application on AAPFCO Secure Site (Submitted 1/4/16)

Calcium Gluconate – Is a calcium complex of gluconic acid, and is commonly expressed as Ca gluconate. Tentative WA16

Magnesium Gluconate – is a magnesium complex of gluconic acid, and is commonly expressed as Mg gluconate. Tentative WA16

Manganese Gluconate – is a manganese complex of gluconic acid, and is commonly expressed as Mn gluconate. Tentative WA16

Iron Gluconate – is an iron complex of gluconic acid, and is commonly expressed as Fe gluconate. Tentative WA16

Zinc Gluconate – is a zinc complex of gluconic acid, and is commonly expressed as Zn gluconate. Tentative WA16 Lanie Young carried

Boron Gluconate – is a boron chelate of gluconic acid, and is commonly expressed as B gluconate.

GSSG – Masahiko Yamada, Kaneka Corporation (submitted 1/7/16)

Proposed Nitrogen source

Oxidized glutathione (GSSG), is a dimer of a tripeptide reduced glutathione (GSH), consisting of glycine, cysteine, and glutamic acid

P-27 Tripotassium Phosphate

Is the tripotassium salt of phosphoric acid. Pure tripotassium phosphate contains thirty-three (33%) available phosphate and sixty-six percent (66%) soluble potash. The guaranteed percentages of available phosphate and soluble potash shall be stated as part of the brand name. (Official 2002)

Cottonseed meal to tentative WA16 Slater, Lanie carried

To be combined in Oil Seed Meal Definitions suggested to delete in the future

7. **<u>Next Steps</u> - Assignments and Agenda Items for next meeting** (5 minutes) Chair