Action Opportunities Worksheet

Team: Micronutrient, Trace Metals & Contaminants – Sharon Webb

Near Term

Nutrient-nonnutrient method
- Practice samples to collaborators
- Include 2 digestates
- Evaluate results/fixing glitches

Water & soluble testing Mg & Zn
- Blend oxide & sulfate mineral samples (10
- Define methods to be used
- Who will do what

Long Term

Nutrient-nonnutrient method
- Samples to collaborators
- Include 2 digestates
- Evaluate statistics results
- Write up final paper

Water & soluble testing Mg & Zn
- Digest & analyze in duplicate
- Evaluate results
- Perform Statistics on results

Action Priorities Worksheet

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Not Capable/High Priority

- Matching of AAPFCO definitions with appropriate methods

Capable/High Priority

Action Priorities Worksheet

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Not Capable/Low Priority	Capable/Low Priority

Action Assignments

Team: Micronutrient, Trace Metals & Contaminants – Sharon Webb

1	**Action Idea: Respond to Reviewers' Comments on Simultaneouos Determination of Nutrient and Nonnutrient Metals in Fertilizer**	**Champion:** Sharon	**Date 02/25/16 Started** **Target Completion**:

WHAT needs to be done?	WHO will do it?	WHEN will it be done?

Action Assignments

Team: Micronutrient, Trace Metals & Contaminants – Sharon Webb

2 **Action Idea: Collaborative Study of above method**	**Champion:** Sharon	**Date Started**
		Target: Completion:

WHAT needs to be done?	**WHO will do it?**	**WHEN will it be done?**	✓
1. ERP Review	Sharon	03/15/17	
2. Email reminders/interests participants	Sharon	04/01/17	
3. Send out 2 of each for practice: digested and undigested for lab ability	Sharon	08/01/17	
4. Review results and fix glitches	Sharon/Group	12/01/17	
5. Send out collaborative study samples	Sharon	06/01/18	
6. Review & statistics results	Sharon	10/01/18	
7. Write paper and stats up	Sharon	12/23/18	

Action Assignments

Team: Micronutrient, Trace Metals & Contaminants – Sharon Webb

3 **Action Idea: Water and/or Soluble minerals**	**Champion:** Sharon	**Date Started:** 02/20/14 **Target Completion:** 02/2018	
WHAT needs to be done?	**WHO will do it?**	**WHEN will it be done?**	✓
Series of Samples: Oxide to sulfate (100-0%)	Bill	03/31/17	
Determine Magruder samples w/different sources (i.e. sugar, chelates, etc…)	?????	?????	
ID Methods (Sharon email Deb)	Group/Sharon		
Evaluate applicability of methods to definitions	Group	02/2018	
Analyze mixed oxide/sulfate samples	Group		
Evaluate statistics of results	Sharon	01/2018	
Present results to Methods Forum	Sharon	02/2018	
Evaluate/decide next steps	Group	02/2018	
Outline procedure for interlaboratory ministudy (IM)			
Gather and send materials for IM			
Stats of results			
Evaluate of results			
Recommendations			

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Methods to try (page 1 of 2)

Ammonium Citrate, pH=5 (or EDTA Citrate, pH=5)

1. 1 g of sample in 250 flask.
2. Add 100 mL of extract solution.
3. Stopper and put in shaker.
4. Once the temperature of the extract solution reaches 65 C, shake for 50 minutes on high.
5. Shake for 10 minutes on low.
6. Once the flasks with extract have cooled for about 30 minutes outside of the shaker, filter.
7. Add 10 mL of 1:1 HNO_3:H_2O.
8. Bring to a boil and boil for about one minute.
9. Let cool to about room temperature then fill to volume with deionized water.
10. Mix by inverting the stoppered flasks at least 10 times.
11. Take to ICP Room.

Water

1. 1 g of sample in 250 flask.
2. Add 100 mL of deionized water.
3. Stopper and put in shaker.
4. Once the temperature of the extract solution reaches 65 C, shake for 50 minutes on high.
5. Shake for 10 minutes on low.
6. Once the flasks with extract have cooled for about 30 minutes outside of the shaker, fill the flask to the line with deionized water.
7. Mix by inverting the stoppered flasks at least 10 times.
8. Take to ICP Room.

Mehlich III (change pH to 5?) (Sharon to discuss with Frank & Solomon)

1. 1 g of sample in 250 flask.
2. Add 100 mL of extract solution.
3. Stopper and put in shaker.
4. Once the temperature of the extract solution reaches 65 C, shake for 50 minutes on high.
5. Shake for 10 minutes on low.
6. Once the flasks with extract have cooled for about 30 minutes outside of the shaker, fill the flask to the line with deionized water.
7. Mix by inverting the stoppered flasks at least 10 times.
8. Take to ICP Room.

Florida method water soluble Mg (AOAC 937.02(B))

1. 1 g of sample in 500 flask.
2. Add 350 mL of deionized water.
3. Put on hot plate and let come to a boil.
4. Boil for about an hour.
5. Let cool to about room temperature.
6. Fill to volume.
7. Stopper and mix by inverting at least 10 times.
8. Filter if needed.
9. Take to ICP Room.

Methods to try (page 2 of 2)

Florida method soluble Zn (wait for Patty's email)

1. Weigh 0.5 g of sample in 200 flask contains 100 mL of pH=6 extraction solution. (Mass of sample to use varies based on expected guarantee. Extraction solution is 0.24 M bis-(hydroxymethyl)-2,2',2"-nitrilotriethanol (c8h19no5) and HCl.)
2. Fill to volume with deionized water.
3. Stopper and shake vigorously for at least 30 seconds.
4. Sample must be analyzed within 1 hour of weighing into the extraction solution.
5. Take to AA Room.