July 16, 2002

National Organic Standards Board
C/O Bob Pooler
Agricultural Marketing Specialist
Room 2510 – So, Ag Stop 0268
P.O. Box 96456
Washington, D.C.
20090 – 6456

Dear Mr. Pooler,

Please find attached Acadian Seaplants official petition to have Phosphoric Acid added to NOSB National List of allowable synthetic substances in organic crop production for the purpose of reducing the pH of specific organic crop inputs.

As the worlds largest **Aquatic Plant Extract** manufacturer we have been asked by the Organic Material Review Institute (OMRI) to petition the National Organic Program (NOP) on behalf of the marine plant industry. In conjunction with OMRI, Acadian Seaplants Limited has reviewed the recently released NOP "Final Rule" regarding the possible non-compliance status of some "Aquatic Plant Extracts".

Aquatic Plant Extracts, including Acadian Seaweed Extracts, have been used in organic agriculture for over 20 years and have been listed with OMRI since its inception. The value of these products as an effective organic input in sustainable production is unquestionable. With the exclusion of Phosphoric Acid from the NOP National List, the future of Aquatic Plant Extracts may be in jeopardy.

There are many substances currently used in organic production and handling that have not been evaluated by the NSOB for inclusion on the National List. As I am sure you agree, the evaluations and subsequent inclusion of these materials on the National List must be expedited to prevent the disruption of many well-established and accepted organic crop production practices.

Phosphoric Acid is used in very low concentrations in the manufacturing process of some Aquatic Plant Products. It is added at the end of the alkaline extraction process to reduce the pH of the final extract to a more neutral setting. Lowering the pH is consistent with current organic agricultural practices being employed throughout the world. In the resulting process, Phosphoric Acid will react with the alkaline present to form phosphate salts similar to those used in fertilizers.

As Phosphoric Acid is already listed as an allowed ingredient with respect to Liquid Fish Products, we formally request Phosphoric Acid be added to the National List for Aquatic Plant Extracts as well.

Phosphoric acid is currently on the National List as a synthetic and is permitted as plant or soil amendments under 205.601(j)(7): Liquid fish products – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.

We request that the same terminology be added to the Aquatic Plant Extracts section of the Final Rule as well.

> Synthetic and allowed as plant or soil amendments under 205.601(j)(1): Aquatic plant extracts (other than hydrolyzed) – Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction. **Aquatic plant extracts – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum amount needed to lower the pH to 3.5.**

Your time and consideration in this matter is greatly appreciated.

Brad Conrad

Marketing / Regulatory – Acadian Seaplants Limited

PHOSPHORIC ACID

Synthetic Substance Allowed For Use In Organic Crop Production

1. **Substance Common Name:** Phosphoric Acid
   Other Names: Orthophosphoric Acid
   Metaphosphoric Acid
   Pyrphophoric Acid
   CAS Number: 7664-38-2
   Composition: H_3PO_4

2. **Intended & Current Uses:**

   Phosphoric Acid is currently used in manufacturing organically listed products for use as plant or soil amendments. Phosphoric Acid is used as a pH adjuster and is currently on the National List as a synthetic and allowed plant or soil amendments under 205.601(j)(7): *Liquid fish products – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.*

   Phosphoric Acid is currently being used as a pH adjuster with respect to Aquatic Plant Extracts (Seaweed Extracts) as well. We request the National List be amended to reflect the following as per Liquid Fish Products.

   Synthetic and allowed as plant or soil amendments under 205.601(j)(1): *Aquatic plant extracts (other than hydrolyzed) – Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction.* ***Aquatic plant extracts – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum amount needed to lower the pH to 3.5.***

   Phosphoric Acid is also used as equipment cleaners and sanitizers of food contact surfaces under Synthetic allowed at 205.605(b)(22): *Cleaning of food-contact surfaces and equipment only.*

   This petition is limited to the use of Phosphoric Acid in organic crop production as a plant or soil amendment and other applications are beyond the scope of this petition.

3. **List of Crop Uses:**

   Phosphoric Acid is a component used in the manufacture of Aquatic Plant Extracts as a pH adjuster. Aquatic Plant Extracts are used on a wide

range of fruits, vegetables and field crops, as well as non-food crops including ornamentals.

4. **Method of Manufacture:**

Phosphoric Acid can be made in two ways, either the wet process or the thermal (furnace) process. In the wet process, mined phosphate ore is treated with Sulfuric Acid and the resulting Phosphoric Acid is separated from the calcium sulfate crystals produced. The chemical reaction is as follows:

$$(PO_4)_2Ca_3 + 3H_2SO_4 + 6H_2O \rightarrow 3SO_4Ca * 2H_2O + PO_4H_3$$

This process conserves most of the impurities found in the ore (and is therefore mostly used for fertilizer production), but the product can be purified further for technical and food grade Phosphoric Acid. Thermal acid is made from elemental phosphorous and is considerably more expensive and purer than the wet process aid. The pure phosphorous is burned in excess air and the resulting phosphorous pentoxide is then hydrated, cooled and the acid mist collected.

5. **General Properties:**

Phosphoric Acid is a colorless, odorless solution that is about 85 to 87% by weight in all commercial strengths with an approximate Molarity of 14.7 to 15.2. It is further diluted to different concentrations depending on upon usage applications. Strongly acidic. Corrosive to concrete, most metals and fabrics.

6. **Summary of Previous Reviews:**

USDA / NOP: Phosphoric Acid is currently on the National List as a synthetic and allowed plant or soil amendments under 205.601(j)(7): *Liquid fish products – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.*

Phosphoric Acid is also used as equipment cleaners and sanitizers of food contact surfaces under Synthetic allowed at 205.605(b)(22): *Cleaning of food-contact surfaces and equipment only.*

OFPA: The substance is used and is necessary for the handling of agricultural product because if the

unavailability of wholly natural substitute products (7 USC 6517(c)(1)(A)(ii)).

International: Not mentioned in IFOAM standards.

7. **Organic Food Production Act (OFPA) 2119(M) Evaluation Criteria**
   a. ***The potential of such substances for detrimental chemical interactions with other materials used in organic farming systems.***

      Phosphoric Acid itself combines readily with many other chemicals and no known detrimental interactions within organic farming systems is known.

   b. ***The toxicity and mode of action of the substance and of its breakdown products or any contaminants and their persistence and areas of concentration in the environment.***

      In the manufacturing process of Aquatic Plant Extracts, Phosphoric Acid reacts with the alkaline present to form phosphate salts similar to those used in fertilizers.

      Well-known problems with excess phosphate polluting water with excessive algae growth is due to the nutritional value of the material to algae. This causes environmental consequences to higher life forms in the water.

      However, it is impossible to judge how much of this phosphate pollution comes from the use of Phosphoric Acid as a pH adjuster in the manufacture of Aquatic Plant Extracts and how much from the use of ordinary household laundry detergents, sewage borne phosphates and other sources.

      Phosphoric Acid in its original form will breakdown quickly in the environment and there are no toxicity issues directly related to its breakdown products.

   c. ***The probability of environmental contamination during manufacture, use, misuse or disposal of such substance***

      There can be many environmental consequences from the manufacture, misuse and disposal of phosphates in general and these cannot be separated out for Phosphoric Acid alone. About 90% of all phosphate consumption is for fertilizer use while 4.5% is used in laundry detergents. There are extreme environmental impacts from the mining of phosphate ore, which occurs in many parts of the world. Worker safety is of prime concern in the wet-process acid

and elemental phosphorous used in thermal process because of high acidity, heat released upon neutralization and toxic gases released. Manufacturing plants are equipped with proper safety procedures and equipment to deal with these issues.

d. The effect of the substance on human health.

Inorganic phosphates are not hazardous to ingest and are in fact essential mineral nutrients for proper human health. At low concentrations Phosphoric Acid is not a health hazard. There could be minor nutritional benefit from low-level ingestion of the material.

Phosphoric Acid is Generally Regarded As Safe (GRAS) by the FDA when used in accordance with Good Manufacturing Practices (GMP) and contains no residues of heavy metals or other contaminants in excess tolerances established by the FDA.

The final report to the FDA of the Select Committee on GRAS Substances indicated in 1980 that Phosphoric Acid should continue its GRAS status with no limitations other than GPM's.

Undiluted Phosphoric Acid can be hazardous and should be handled with caution. Phosphoric Acid is corrosive and should not come into contact with skin or eyes. Phosphoric Acid can produce corrosive toxic gases when heated and care should be taken to provide ventilation and protective clothing should be worn by workers.

e. The effects of the substance on biological and chemical interactions in the agro-ecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crop and livestock.

If stored, used and disposed of appropriately, Phosphoric Acid utilization in the manufacture of Aquatic Plant Extracts will have no negative interactions with soil ecosystems.

f. The alternatives to using the substance in terms of practices or other available materials.

Other acids available for adjusting the pH in Aquatic Plant Extracts include, mineral acids, such as Sulfuric and Nitric Acids as well as organic acids such as Citric and Lactic Acids. Nitric and Sulfuric Acids are more corrosive and

much more volatile than Phosphoric Acid and are generally not used as pH adjusters. Phosphoric Acid is preferred because of its low corrosiveness and low volatility in low concentrations in which it is effective for reducing pH. Citric and Lactic Acid is effective in some situations and can be used but are much weaker acids and will require higher inclusion rates to achieve the same pH adjustment.

Phosphoric Acid is being utilized as a pH adjuster in this instance. Phosphoric Acid is sometimes used in the food processing industry as a disinfectant or microbial control agent. For this purpose, there may or may not be traces of the material entering into the final food product, depending on the care with which it is used in the processing line. The alternatives to Phosphoric Acid as a microbial control agent are in the form of organic acids (i.e. Citric Acid). Phosphoric acid may not be the best possible microbial control agent. This is not the purpose of the product for this discussion.

g. Its compatibility with a system of sustainable agriculture.

Since reducing the pH to a more neutral level is a desired product characteristic in products being used in sustainable agricultural practices Phosphoric Acid appears to be among the best and safest of the acids products being used for pH reduction. The material is compatible with organic production or processing system being employed in the U.S.A and abroad.

July 16, 2002

National Organic Standards Board
C/O Bob Pooler
Agricultural Marketing Specialist
Room 2510 – So, Ag Stop 0268
P.O. Box 96456
Washington, D.C.
20090 – 6456

Dear Mr. Pooler,

Please find attached Acadian Seaplants official petition to have Phosphoric Acid added to NOSB National List of allowable synthetic substances in organic crop production for the purpose of reducing the pH of specific organic crop inputs.

As the worlds largest **Aquatic Plant Extract** manufacturer we have been asked by the Organic Material Review Institute (OMRI) to petition the National Organic Program (NOP) on behalf of the marine plant industry. In conjunction with OMRI, Acadian Seaplants Limited has reviewed the recently released NOP "Final Rule" regarding the possible non-compliance status of some "Aquatic Plant Extracts".

Aquatic Plant Extracts, including Acadian Seaweed Extracts, have been used in organic agriculture for over 20 years and have been listed with OMRI since its inception. The value of these products as an effective organic input in sustainable production is unquestionable. With the exclusion of Phosphoric Acid from the NOP National List, the future of Aquatic Plant Extracts may be in jeopardy.

There are many substances currently used in organic production and handling that have not been evaluated by the NSOB for inclusion on the National List. As I am sure you agree, the evaluations and subsequent inclusion of these materials on the National List must be expedited to prevent the disruption of many well-established and accepted organic crop production practices.

Phosphoric Acid is used in very low concentrations in the manufacturing process of some Aquatic Plant Products. It is added at the end of the alkaline extraction process to reduce the pH of the final extract to a more neutral setting. Lowering the pH is consistent with current organic agricultural practices being employed throughout the world. In the resulting process, Phosphoric Acid will react with the alkaline present to form phosphate salts similar to those used in fertilizers.

As Phosphoric Acid is already listed as an allowed ingredient with respect to Liquid Fish Products, we formally request Phosphoric Acid be added to the National List for Aquatic Plant Extracts as well.

Phosphoric acid is currently on the National List as a synthetic and is permitted as plant or soil amendments under 205.601(j)(7): Liquid fish products – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.

We request that the same terminology be added to the Aquatic Plant Extracts section of the Final Rule as well.

> Synthetic and allowed as plant or soil amendments under 205.601(j)(1): Aquatic plant extracts (other than hydrolyzed) – Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction. **Aquatic plant extracts – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum amount needed to lower the pH to 3.5.**

Your time and consideration in this matter is greatly appreciated.

Brad Conrad

Marketing / Regulatory – Acadian Seaplants Limited

PHOSPHORIC ACID

Synthetic Substance Allowed For Use In Organic Crop Production

1. **Substance Common Name:** Phosphoric Acid
   Other Names: Orthophosphoric Acid
   Metaphosphoric Acid
   Pyrphophoric Acid
   CAS Number: 7664-38-2
   Composition: H_3PO_4

2. **Intended & Current Uses:**

   Phosphoric Acid is currently used in manufacturing organically listed products for use as plant or soil amendments. Phosphoric Acid is used as a pH adjuster and is currently on the National List as a synthetic and allowed plant or soil amendments under 205.601(j)(7): *Liquid fish products – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.*

   Phosphoric Acid is currently being used as a pH adjuster with respect to Aquatic Plant Extracts (Seaweed Extracts) as well. We request the National List be amended to reflect the following as per Liquid Fish Products.

   Synthetic and allowed as plant or soil amendments under 205.601(j)(1): *Aquatic plant extracts (other than hydrolyzed) – Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction.* ***Aquatic plant extracts – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum amount needed to lower the pH to 3.5.***

   Phosphoric Acid is also used as equipment cleaners and sanitizers of food contact surfaces under Synthetic allowed at 205.605(b)(22): *Cleaning of food-contact surfaces and equipment only.*

   This petition is limited to the use of Phosphoric Acid in organic crop production as a plant or soil amendment and other applications are beyond the scope of this petition.

3. **List of Crop Uses:**

   Phosphoric Acid is a component used in the manufacture of Aquatic Plant Extracts as a pH adjuster. Aquatic Plant Extracts are used on a wide

range of fruits, vegetables and field crops, as well as non-food crops including ornamentals.

4. **Method of Manufacture:**

Phosphoric Acid can be made in two ways, either the wet process or the thermal (furnace) process. In the wet process, mined phosphate ore is treated with Sulfuric Acid and the resulting Phosphoric Acid is separated from the calcium sulfate crystals produced. The chemical reaction is as follows:

$$(PO_4)_2Ca_3 + 3H_2SO_4 + 6H_2O \rightarrow 3SO_4Ca * 2H_2O + PO_4H_3$$

This process conserves most of the impurities found in the ore (and is therefore mostly used for fertilizer production), but the product can be purified further for technical and food grade Phosphoric Acid. Thermal acid is made from elemental phosphorous and is considerably more expensive and purer than the wet process aid. The pure phosphorous is burned in excess air and the resulting phosphorous pentoxide is then hydrated, cooled and the acid mist collected.

5. **General Properties:**

Phosphoric Acid is a colorless, odorless solution that is about 85 to 87% by weight in all commercial strengths with an approximate Molarity of 14.7 to 15.2. It is further diluted to different concentrations depending on upon usage applications. Strongly acidic. Corrosive to concrete, most metals and fabrics.

6. **Summary of Previous Reviews:**

USDA / NOP: Phosphoric Acid is currently on the National List as a synthetic and allowed plant or soil amendments under 205.601(j)(7): *Liquid fish products – can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.*

Phosphoric Acid is also used as equipment cleaners and sanitizers of food contact surfaces under Synthetic allowed at 205.605(b)(22): *Cleaning of food-contact surfaces and equipment only.*

OFPA: The substance is used and is necessary for the handling of agricultural product because if the

unavailability of wholly natural substitute products (7 USC 6517(c)(1)(A)(ii)).

International: Not mentioned in IFOAM standards.

7. **Organic Food Production Act (OFPA) 2119(M) Evaluation Criteria**
   a. ***The potential of such substances for detrimental chemical interactions with other materials used in organic farming systems.***

      Phosphoric Acid itself combines readily with many other chemicals and no known detrimental interactions within organic farming systems is known.

   b. ***The toxicity and mode of action of the substance and of its breakdown products or any contaminants and their persistence and areas of concentration in the environment.***

      In the manufacturing process of Aquatic Plant Extracts, Phosphoric Acid reacts with the alkaline present to form phosphate salts similar to those used in fertilizers.

      Well-known problems with excess phosphate polluting water with excessive algae growth is due to the nutritional value of the material to algae. This causes environmental consequences to higher life forms in the water.

      However, it is impossible to judge how much of this phosphate pollution comes from the use of Phosphoric Acid as a pH adjuster in the manufacture of Aquatic Plant Extracts and how much from the use of ordinary household laundry detergents, sewage borne phosphates and other sources.

      Phosphoric Acid in its original form will breakdown quickly in the environment and there are no toxicity issues directly related to its breakdown products.

   c. ***The probability of environmental contamination during manufacture, use, misuse or disposal of such substance***

      There can be many environmental consequences from the manufacture, misuse and disposal of phosphates in general and these cannot be separated out for Phosphoric Acid alone. About 90% of all phosphate consumption is for fertilizer use while 4.5% is used in laundry detergents. There are extreme environmental impacts from the mining of phosphate ore, which occurs in many parts of the world. Worker safety is of prime concern in the wet-process acid

and elemental phosphorous used in thermal process because of high acidity, heat released upon neutralization and toxic gases released. Manufacturing plants are equipped with proper safety procedures and equipment to deal with these issues.

d. The effect of the substance on human health.

Inorganic phosphates are not hazardous to ingest and are in fact essential mineral nutrients for proper human health. At low concentrations Phosphoric Acid is not a health hazard. There could be minor nutritional benefit from low-level ingestion of the material.

Phosphoric Acid is Generally Regarded As Safe (GRAS) by the FDA when used in accordance with Good Manufacturing Practices (GMP) and contains no residues of heavy metals or other contaminants in excess tolerances established by the FDA.

The final report to the FDA of the Select Committee on GRAS Substances indicated in 1980 that Phosphoric Acid should continue its GRAS status with no limitations other than GPM's.

Undiluted Phosphoric Acid can be hazardous and should be handled with caution. Phosphoric Acid is corrosive and should not come into contact with skin or eyes. Phosphoric Acid can produce corrosive toxic gases when heated and care should be taken to provide ventilation and protective clothing should be worn by workers.

e. The effects of the substance on biological and chemical interactions in the agro-ecosystem, including the physiological effects of the substance on soil organisms (including the salt index and solubility of the soil), crop and livestock.

If stored, used and disposed of appropriately, Phosphoric Acid utilization in the manufacture of Aquatic Plant Extracts will have no negative interactions with soil ecosystems.

f. The alternatives to using the substance in terms of practices or other available materials.

Other acids available for adjusting the pH in Aquatic Plant Extracts include, mineral acids, such as Sulfuric and Nitric Acids as well as organic acids such as Citric and Lactic Acids. Nitric and Sulfuric Acids are more corrosive and

much more volatile than Phosphoric Acid and are generally not used as pH adjusters. Phosphoric Acid is preferred because of its low corrosiveness and low volatility in low concentrations in which it is effective for reducing pH. Citric and Lactic Acid is effective in some situations and can be used but are much weaker acids and will require higher inclusion rates to achieve the same pH adjustment.

Phosphoric Acid is being utilized as a pH adjuster in this instance. Phosphoric Acid is sometimes used in the food processing industry as a disinfectant or microbial control agent. For this purpose, there may or may not be traces of the material entering into the final food product, depending on the care with which it is used in the processing line. The alternatives to Phosphoric Acid as a microbial control agent are in the form of organic acids (i.e. Citric Acid). Phosphoric acid may not be the best possible microbial control agent. This is not the purpose of the product for this discussion.

g. Its compatibility with a system of sustainable agriculture.

Since reducing the pH to a more neutral level is a desired product characteristic in products being used in sustainable agricultural practices Phosphoric Acid appears to be among the best and safest of the acids products being used for pH reduction. The material is compatible with organic production or processing system being employed in the U.S.A and abroad.

Strother, Toni

From: Brad Conrad [bconrad@acadian.ca]
Sent: Tuesday, July 16, 2002 2:52 PM
To: Strother, Toni
Cc: nlpetition,
Subject: Acadian Seaplants Official Petition

PHOSPHORIC ACID Petition Final... PHOSPHORIC ACID Petition Final...

Dear Ms. Strother,

Thank you for taking the time to speak with me this afternoon. I appreciate your time and consideration in this matter. As discussed, I submitted an official petition in duplicate on April 30th, 2002 @ 1:21pm to Mr. Bob Pooler and it does not seem to be on the list of petitioned substances being reviewed in the September meeting.

I have attached the original documentation below. Do you think you can ensure the petition is secured and processed in the appropriate manner. If at all possible it would be appreciated if it could be added to the September meeting review. Our competitors have been added to the petitions being reviewed in the September review meeting. Do you think you could do a little investigation work for me and let me know why our original petition was not added to the review list as it was submitted more than 2 months ago.

Again, your kind attention to this issue is much appreciated. Below is the original note and attached petition. Please let me know if you have received the documentation in good order.

BRAD CONRAD

ORIGINAL MESSAGE:

From: Brad Conrad
Sent: Tuesday, April 30th, 2002 1:21 PM
To: nlpetition@usda.gov
Subject: Acadian Seaplants Official Petition

Dear Mr. Pooler,

Please find attached Acadian Seaplants official petition to have Phosphoric Acid added to NOSB National List of allowable synthetic substances in organic crop production for the purpose of reducing the pH of specific organic crop inputs.

As the worlds largest Aquatic Plant Extract manufacturer we have been asked by the Organic Material Review Institute (OMRI) to petition the National Organic Program (NOP) on behalf of the marine plant industry. In conjunction with OMRI, Acadian Seaplants Limited has reviewed the recently released NOP "Final Rule" regarding the possible non-compliance status of some "Aquatic Plant Extracts".

Aquatic Plant Extracts, including Acadian Seaweed Extracts, have been used in organic agriculture for over 20 years and have been listed with OMRI since its inception. The value of these products as an effective organic input in sustainable production is unquestionable. With the exclusion of Phosphoric Acid from the NOP National List, the future of Aquatic Plant Extracts may be in jeopardy.

There are many substances currently used in organic production and handling that have not been evaluated by the NSOB for inclusion on the National List. As I am sure you agree, the evaluations and subsequent inclusion of these materials on the National List must be expedited to prevent the disruption of many well-established and accepted organic crop production practices.

Phosphoric Acid is used in very low concentrations in the manufacturing process of some Aquatic Plant Products. It is added at the end of the alkaline extraction process to reduce the pH of the final extract to a more neutral setting. Lowering the pH is consistent with current organic agricultural practices being employed throughout the world. In the resulting process, Phosphoric Acid will react with the alkaline present to form phosphate salts similar to those used in fertilizers.

As Phosphoric Acid is already listed as an allowed ingredient with respect to Liquid Fish Products, we formally request Phosphoric Acid be added to the National List for Aquatic Plant Extracts as well.

Phosphoric acid is currently on the National List as a synthetic and is permitted as plant or soil amendments under 205.601(j)(7): Liquid fish products - can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum needed to lower the pH to 3.5.

We request that the same terminology be added to the Aquatic Plant Extracts section of the Final Rule as well.

Synthetic and allowed as plant or soil amendments under 205.601(j)(1): Aquatic plant extracts (other than hydrolyzed) - Extraction process is limited to the use of potassium hydroxide or sodium hydroxide; solvent amount used is limited to that amount necessary for extraction. Aquatic plant extracts - can be pH adjusted with sulfuric, citric or phosphoric acid. The amount of acid used shall not exceed the minimum amount needed to lower the pH to 3.5.

Your time and consideration in this matter is greatly appreciated.

Best regards,

Brad Conrad
Marketing Manager
Acadian Seaplants Limited
30 Brown Avenue
Dartmouth, Nova Scotia
Canada, B3B 1X8
Tel: (902) 468-2840
Fax: (902) 468-3474
Email: bconrad@acadian.ca

<<PHOSPHORIC ACID Petition Final.doc>> <<PHOSPHORIC ACID Petition Final.doc>>