Draft Meeting Summary - Stakeholder Meeting 2: Formulation and Labeling of Organic, Natural and Biosolid Based Products

5 Post Office Square, Boston, MA

May 31, 2012

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Table of Abbreviations:

BMP = Best Management Practice
CT DEEP = Connecticut Department of Energy and Environmental Protection
EPA R1 = U.S. Environmental Protection Agency, Region 1 (New England)
Mass DEP = Massachusetts Department of Environmental Protection
N = Nitrogen
NEGC = New England Governors' Conference
NEIWPCC = New England Interstate Water Pollution Control Commission
NH DES = New Hampshire Department of Environmental Services
NPDES = National Pollutant Discharge Elimination System
P = Phosphorus
POTW = Publically Owned Treatment Works (i.e. wastewater treatment plant)
SRN = Slow Release Nitrogen
TMDL = Total Maximum Daily Load
TN = Total Nitrogen
WEP = Water Extractable Phosphorus

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Introductory Remarks

Bethany Card, Assistant Commissioner, Mass DEP:

- Partnership between the states and the EPA Region on turf fertilizer issue is very important. We are here from a state water quality management perspective.
- Nutrient water pollution is characterized by algal blooms which upset the ecological balance of lakes and rivers.
    - Long Island Sound, Great Bay, and Lake Champlain are examples of nutrient-impaired water bodies that the New England States and New York State face challenges to manage.
    - Point source discharges (POTWs, industrial discharges, etc.) are most commonly seen as the source of water quality impairments.
        - In Massachusetts (a state that is not delegated with Clean Water Act permitting authority), EPA and Mass DEP regulate point sources jointly through the NPDES program.
    - While point source discharges of nutrients have decreased significantly due to the implementation of NPDES, pollution from nonpoint sources remains largely unchecked.
        - To successfully address nutrient impaired water bodies, states must find creative ways to comprehensively address all major pollution sources.
        - Due to the complexity of nutrient problems, there can't be a single solution.
            - Every little bit of nutrient reduction helps.
- Commissioner Kimmell reached out to his other state counterpoints to discuss solutions to the problem of fertilizer runoff from turf.
    - The commissioners determined that developing regional, voluntarily guidelines would be the best solution.
        - We will be looking to the best science to help us drive this initiative.
        - We want to make sure we have some element of consistency both between states in our region and with what others have done outside the region.
- Thank you to all attendees for taking the time and effort to be at our meetings.
    - Thank you to NEIWPCC for coordinating and EPA R1 for hosting.

Clair Ryan, Nonpoint Source Coordinator, NEIWPCC:

- The New England and New York region is generally densely populated compared to other areas of the country and is not highly agricultural compared to other regions.
    - Turf grass is the crop that covers the most area in our region.
        - Unlike agricultural crops, management of turfgrass is largely decentralized – many managers (i.e. homeowners) are responsible for relatively small tracts of turf.
        - Due to the nature of nutrient pollution and the prevalence of turf across the landscape, if even a small percentage of lawns are over-fertilized, it can contribute significantly to nutrient impairments.
            - Our region has soils that are naturally rich in P compared to those in other regions.
            - Coastal areas with sandy soils and high groundwater tables are particularly vulnerable.
- The goal of our meeting is to hear industry perspectives on common sense ways that we can work together to address water quality problems.

    - We expect there may be some disparity in positions between manufacturers of organic and synthetic products.
        - Many organic products are derived from materials that contain P that cannot be removed.
- We want to identify areas of agreement and disagreement and start working towards something mutually agreeable.
    - While we don't expect come to resolution in one sitting, we anticipate that future discussions will be easier now that we have met face-to-face.
- This regional effort won't override existing state laws, and can't prevent state legislatures from considering or passing new laws, but will at least put on the radar that regional consistency is important.
- The regional initiative will include future stakeholder meetings:
    - Meeting in the early fall will focus on engaging retailers, watershed groups and municipalities to discuss outreach and education to home fertilizer applicators
        - How to reach a broad audience with a consistent message about turf BMPs
    - Meeting later in the fall will focus on engaging professional fertilizer applicators
    - Application behavior has just as much impact if not more on environmental impact as what's in the fertilizer bag.
- If you see important stakeholders missing from the table today, or know of stakeholders who would be interested in the next meetings, please don't hesitate to send contact info to cryan@newipcc.org.

Eric Williams and Barbara McMillan, NH DES:

- Important to clarify that while the stakeholder meetings associated with the regional initiative are geared towards specific stakeholder groups, they are all open meetings that anybody can attend.
- There was a recent bill proposed to regulate turf fertilizer nutrient content in New Hampshire that did not pass.
    - Legislature recognized that nutrient pollution and the agronomics of growing healthy turf are technically complex issues that are possibly better addressed through comprehensive regional guidelines.
    - A regional approach also makes sense given the prevalence of nutrient-impaired interstate waters like Great Bay.

Mark Parker and Mary Sherwin, CT DEEP:

- Thanks to attendees for coming to the table for this discussion – great to see so many here.
- The Connecticut General Assembly just passed a law restricting the use of fertilizers containing P, including biosolid based products and organics.
    - Once signed, law will go into effect in January 2013.
    - Law includes buffer zones around water bodies where no fertilization is allowed.
    - Golf courses are exempt from all provisions.
- A few years ago, Connecticut passed a state law banning use of pesticides on property belonging to preschools and K-8 schools.
- CT DEEP has been working with municipalities, landscapers and the public to increase adoption of organic lawncare practices.

- Conversation today will be particularly interesting in light of this effort.

Presentation by Dr. Martin Petrovic – Professor, Cornell University Department of Horticulture

- Dr. Petrovic gave a presentation on the environmental aspects of turf management.
  - Powerpoint slides from the presentation are available for viewing.

Presentation Notes:

- The level of pollutant loading from turf runoff is directly related to the quantity of runoff.
  - High density turf, which generally results from providing adequate nutrition, yields much less run off than low density/poor turf.
- There are environmentally sensitive areas, which might be characterized by shallow, fine and poorly drained soils, a high bedrock profile, presence of a single-source aquifer, and/or steep slopes, which have a high potential for P runoff, and these should be managed differently than non-sensitive areas.
- Generally, one of the most important functions of a lawn/turf area is to hold soil in place.
  - A study found no relationship between tested soil levels of P and P in runoff from turf systems (presumably because the turf prevented soils from eroding).
    - However, over-use of soil amendments (compost, manures) as top-dressing can elevate soil P levels to the point where P in runoff increases significantly.
      - Soil amendments have generally been excluded from state laws restricting P in turf fertilizer, but there is not a strong scientific basis for this.
- While N fertilization is generally necessary to establish dense turf, there is no need to fertilize with P unless a soil test shows that it is necessary.
  - While state laws restricting P have generally not restricted the use of fertilizers containing P during the first growing season (establishing a lawn), Dr. Petrovic argued that P use during establishment should also be based on a soil test since runoff is more likely before the lawn is fully established.
- Turf grass generally serves as a N-sink during its first several years.
  - Older turf grass areas may have reached their capacity for N and may become nitrogen sources if over fertilized – therefore N application should be less on old sites.
- Use of Slow Release Nitrogen (SRN) is particularly important in environmentally sensitive areas and when wet weather is expected.
- N leaching is much less pronounced, especially through sandy soils, when application rates are low (< 0.7 lbs N/1000ft^2)
- Late fall N application is the most risky

Presentation Q & A:

- When you discussed the use of swine manure top-dressing in your study, was this essentially raw manure?
  - No, it was composted manure that had gone through both aerobic and anaerobic decomposition processes.

- For the "high maintenance" turf in the subdivision study you discussed, who did the turf maintenance and what products/practices were prescribed?
    - Fertilizer application was done by professional applicators.
    - They recorded and told us what products they used and how much was applied, but we did not prescribe a particular regimen.
- Turf BMPs typically make recommendations related to soluble N and N that is not immediately soluble. Has there been any work to draw similar distinctions for P? Biosolid manufacturers have done their own research that shows virtually no P leaching when product is over-applied – believe that the P is bound to metals.
    - No, there has generally not been a lot of study outside of the industry to characterize sources of P and the effect of source on runoff.
    - Generally wouldn't expect to see P leaching unless it was a sandy soil
    - All soils will eventually reach capacity in their ability to tie up added P
        - Goal should be to meet plan needs without exceeding soil capacity

Legal Overview, Clair Ryan, NEIWPCC

- Ms. Ryan gave a brief overview of recent state laws related to nutrient content in turf fertilizer with a focus on how the laws treated organic, natural organic, compost and biosolid-based products.
    - Powerpoint slides from the presentation are available for viewing.

Presentation Notes:

- The state laws discussed, in order of date of passage, were those of Maine, New York, New Jersey, Maryland, Vermont and Connecticut.
    - All states other than CT exempted unmanipulated compost/manure from P bans.
    - CT, NY and MD prevent homeowners or professional applicators from applying manipulated organic and natural organic products to established turf without a soil test showing P is needed.
    - NJ allows a maximum use of 0.25 lb P/1000 ft^2 per application through use of manipulated organic fertilizers unless a test shows more P is needed.
    - VT law is a good example of a turf law that broadly exempts compost and manipulated organic fertilizer products from P restrictions.
    - NJ law is a good example of a turf law that contains a limited exemption for compost and manipulated organic fertilizer products from P restrictions (though biosolid-based products are broadly exempted).
    - CT law is a good example of a turf law with an across-the-board P ban because it makes no exceptions for compost, organic or biosolid-based products without a P test.

Technical Definitions Related to Phosphorus

Note: This section of notes does not reflect proceedings of the meeting. These definitions were collected from peer reviewed sources after the fact. They are included to facilitate understanding of many of the concepts discussed.

- **Guaranteed Analysis:** The P reported in the N-P-K guaranteed analysis on a fertilizer label represents the percentage of the product by weight composed of *Available Phosphate* (P_2O_5). *Available Phosphate* is equal to the sum of water soluble and citric acid soluble phosphate in the product. (AAPFCO 2012)

- **Water Extractable Phosphorus (WEP)**: Concentration of P measured through a WEP test. Multiple studies have shown that WEP test results for biosolids and animal manures are correlated with P levels in runoff following land application. Thus, WEP is considered to be a proxy measurement of runoff risk. There does not appear to be a single industry standard methodology for WEP testing.
  https://www.agronomy.org/publications/jeq/articles/36/5/1357

- **Plant Available Phosphorus:** Measure of the fraction of total phosphorus in a soil or fertilizer that can easily be released into solution for use by plants (relative to fixed or inert forms of P). Measured through extraction testing.
  http://www.extension.umn.edu/distribution/cropsystems/dc6795.html

- **Soil Test for Phosphorus:** A test that provides an index or general prediction of the level of plant available phosphorus in a soil. There are at least nine different soil test methodologies practiced in the U.S. and they are generally differentiated by the type of extraction agent used. The appropriate test to use depends on the type and pH of the soil being tested and other factors.
  http://www.ipm.iastate.edu/ipm/icm/2000/9-18-2000/availablep.html

Manufacturer Round Table and Discussion Items

Note: In this document, the points made my manufacturers are grouped by focus area and do not appear in the order they were given during the session. We also chose not to attribute particular comments to specific people or companies. *Comments that are followed by an asterisk (*) were reiterated by at least two manufacturers during the discussion. However, an asterisk does not imply consensus.*

General P Considerations

- Organic fertilizer producers do not want to be regulated out of the industry. (*)
- A "one size fits all" approach is probably not going to work – especially if it is driving towards zero P. (*)
  - May need to develop a separate set of guidelines for organic fertilizers.
  - The "P is P" approach that many states have taken is over-general and not supported by organic fertilizer producers.
- Consistency between states, especially on labeling requirements, is important. (*)
  - Developing custom labels for each state is cumbersome
  - Inconsistency creates favorable conditions for companies that are best able to play the game and adapt their labels – not necessarily the best products
- Important to standardize methodology for soil testing
- States may push for soil testing, but who would ensure/enforce that soil testing is done and that the appropriate product is applied?
- Need a better understanding of the environmental risks caused by P in organic turf fertilizers.

    - If risk is relatively low, it might be more effective focusing our efforts on other sources.
- Most P in watersheds is not coming from turf fertilizer – states are just trying to regulate what they can easily regulate.
- TMDLs often call for 30% reduction of P loading across the board from all sources.
    - Regulators need to seek reductions from every possible source.
- Some companies are actively trying to remove P from organic products.

Source of P and Effect on Runoff:

- Need to draw a distinction between *total P* in fertilizers and *plant available P* (*)
- Biosolid industry has done research to show that the P in biosolids tends to form solid compounds with iron that decreases its availability to plants and decreases the likelihood of runoff.
    - Solid P compounds bound to soil should only run off if soils are eroding and Dr. Petrovic's presentation showed that healthy turf systems don't allow much erosion.
- It takes longer for P to become available from organic compounds than from triple superphosphate.
- Unclear if P source makes a difference to water quality
    - If P is not "plant available" but gets into water bodies, does it make any difference to its fate in the aquatic system?
- Evaluation of P in products should be based on science and understanding of the P cycle
    - P bound as iron and aluminum compounds is not the same as P that can easily become soluble.
- All P has the capacity to become bioavailable eventually – just a matter of when
    - Dynamics of P cycling are different in soil and aquatic environments
    - P forms most prone to becoming soluble in runoff and leaving the soil system should be avoided.

Outreach and Education, Application Behavior

- Lawns are here to stay, so the question is how to manage them for the least environmental impact.
- Low levels of P in organic and biosolid products only become problematic when product is improperly applied.
- A lot of outreach needed to the public on best management practices
- Would organic fertilizer producers be willing to contribute more on the public education side to compensate for being unable to remove P from products?
    - Could you elevate commitment to helping users apply properly?

Organic Products and Soil Improvement

- Compost improves soil by increasing organic content as well as providing nutrients to plants. (*)
- Although P can't be removed from the product, organic producers have worked on how to improve soil conditions (e.g. by increasing soil fracture) and decrease nutrient runoff. (*)
- In many areas, after development the land is left with very little topsoil.
    - Should comprehensive guidelines address healthy soil structure?

        - The U.S. Compost Council is working on minimum recommendations for soil organic content post-construction.
        - Any guidance on soil structure has to be easily understood and realistic.
- Humus levels in soil fell dramatically after World War II.
    - Organic fertilizer products can help rebuild humus levels.
- Organic products list N-P-K like any other fertilizer, but are not allowed to show content of micronutrients, which increase biological activity and improve soils.

Organic Products and Waste Reduction

- Compost-based products are usually derived from materials that would otherwise be waste and provide opportunities to recycle organic matter and nutrients. (*)
- If the goal is to get the general public to adopt practices that are overall best for the environment, we should be encouraging them to use recycled products, like compost-based or biosolid-based fertilizer.
    - If not used as turf fertilizer, we have to come up with alternate methods of disposal for biosolids.
- There is a growing market for organic/ "green" lawncare products. (*)
    - It will cause confusion to the public if they are now being told that they should avoid these products because of P.
- Biosolid-based producers, who work for wastewater utilities that exist to improve water quality, would stop producing if there was strong evidence that these products were harmful to the environment.

Manipulated vs. Unmanipulated Products

- There is no scientific basis for regulating nutrient content of manipulated compost or manures but not unmanipulated products.
    - If no chemical change takes place, the effect of applying either type of product should be the same.
    - Possible that this distinction was politically motivated and done to avoid regulating agriculture – the most likely sector to be working with raw compost/manure materials.
- Unclear if meals (fish meal, bone meal, feather meal) would be considered manipulated products under these laws?
- The American Association of Plant Food Control Officials (AAPFCO) should have standard definitions that will help clarify.
- In New Jersey, the law was pushed through quickly even though certain terms remained unclear.
    - They are currently working on "clean-up" legislation that will clarify whether meals are to be considered manipulated products under the law.

Focused Discussion on Draft Guidelines

Introduction

- Draft guidelines to be discussed are a straw proposal and are not pre-determined to be the way this regional effort is going to go.
    - Producing the guidelines allowed the NEIWPCC-coordinated regional workgroup to do its homework by reviewing existing state laws and university extension guidance.

- We know that application behavior is at least as important as fertilizer content in the bigger picture of environmentally responsible turf management.
    - We plan to engage turfcare professionals and various entities that engage the general public on turf care and water quality issues in meetings later this year (September – December).

General

- Guidelines should be written in terms of *application rate* instead of *percentage in the bag*. (*)
    - Ideally, we will all be able to agree on a single maximum application rate for each nutrient/circumstance (e.g. starting lawn vs. maintaining).
- State university extension specialists are the experts on turf maintenance in their state and should play a role in developing these guidelines.
- Due to the level of regulation already on fertilizer labeling, manufacturers do not favor any approach that would require label changes.

Phosphorus Content and Labeling

- Going to zero or trace P in not manageable for organics (*)
    - If states force zero P for all turf fertilizer, it essentially pushes most organic companies out of the market.
- Since 0% P isn't manageable for organics, could we try 5% instead?
    - Some not in favor of allowing 5% P because it is an arbitrary amount and is not based on science.
- It is impractical to expect everyone to soil test.
    - Most state laws that have created exemptions for organics and biosolids don't require soil testing to justifying applying the products (e.g. NJ, VT)
    - Worry that very few soil tests would show a need for P to grow turf
        - After the NJ law passed, Rutgers has been receiving a lot of soil samples from lawns and a decent number of them are showing a need for P.
        - Research in NY showed a very small percentage of samples showing a need for P.
- Most organic and biosolid products can meet the standard in the NJ law (no more than 0.25 lbs P/1000ft^2 per application when applied to meet recommended N rate).
- Guidelines should be written in terms of water extractable P (WEP)
    - WEP tests predict the likelihood of P runoff
    - WEP tests may not be suitable for all types of organic product (emulsions, dry meals).
    - The P component of the N-P-K guaranteed analysis is *available phosphate as* P_2O_5, not total P in all its forms.
        - It is the sum of P soluble in water and P soluble in citric acid.
        - How does available phosphate relate to WEP?
        - There are inconsistencies in how different labs measure and report available phosphate.
    - If P is locked up in insoluble compounds (i.e. not WEP), there is no risk to water quality.
    - Can WEP be incorporated into the guidelines in a way that makes sense for all types of fertilizer producers?
- TMDLs and watershed-based plans for remediation are usually written for total phosphorus.

    - P types that would be considered inactive in soil can be released to the water column in the anaerobic benthic environment.
- Is this effort looking as *phosphite*, a component of fungicide that can convert to phosphate once applied?
    - No, the scope of our initiative is limited to products specifically marketed as fertilizer.
    - New York State DEC has specifically stated that the NY turf fertilizer law does not apply to phosphite in fungicides.
- Should focus on organic products that are particularly high in available phosphorus (perhaps rock phosphate, bone meal)
- Want to see more information on the extent to which turf fertilizer contributes to P impairments.
    - Varies a great deal by watershed
    - Generally never going to be the predominant P source in a watershed, but it is a source that is possible to control

Nitrogen Content and Labeling

- Most organic products don't have high total nitrogen levels, and do have high percentage of N as SRN.
- Some organic fertilizers cannot readily meet 20% SRN.
- 2lb/1000ft^2 per year is not enough for golf courses or for other high-use turf applications.
    - New Jersey limit of 3.2lbs TN/1000ft^2 per year would be better.
- Different application rates are appropriate for different site settings.
- Replace the 0.9lbs N per application with 1lb N – round numbers are preferable.

Product Labels (as related to application behavior)

- Should use Maryland approach for any label recommendations to improve consistency.
    - Perhaps look at a tiered approach where products that don't meet the P standard would have more information on the bag label.
- Should allow application of fertilizer to bare ground as a pre-treatment prior to seeding.
- Application guidelines should contain recommendation for P testing, recommendation for pH adjustment (when necessary) and recommendation for a minimum of 5% organic matter in the soil.

Outreach and Education

- Through this initiative, we need to see if we can get on the same page on education to the public. (*)
    - Outreach by states and water quality programs on fertilizer focuses too much on the "P is bad" aspect.
        - Negative messaging can scare consumers away from doing any lawn care at all.
    - Outreach could be focused on understanding the fertilizer label, spreader settings, improving application techniques?
        - University of New Hampshire Extension survey showed that most fertilizer users get their information about how to apply from the bag label.[1]

        - Manufacturer experience has been that people do not read the bag.
    - Outreach to professional applicators may be more effective as these are people who should be actively seeking education on turf management.

Recap of Major Points

- Guidelines should be written in terms of *application rate* rather than *percent content*.
- Not in favor of new labeling requirements
- Attendees would like to see a compilation of peer-reviewed studies showing run-off from fertilized turf that could impact water quality
- Most organic producers cannot make their product meet a <0.67% P standard
- Guidelines for natural, organic and biosolid-based products should be for *plant available/water extractable P* and not for *total P.*
- There are agronomic and environmental benefits to use of organic products:
    - Improved soil fracture, organic matter content and microbial activity
    - Recycling of waste products
- Need to rethink 2lbs/year N limit
- Outreach on proper fertilizer application and holistic lawn care is important

Next Steps

- NEIWPCC and EPA will coordinate to develop a draft meeting summary.
    - Draft will be circulated to attendees for comment/corrections before it is made public
- NEIWPCC will attend the June meeting of the NEGC Committee on the Environment and will provide a brief recap of the meetings to the environmental agency commissioners.
- NEIWPCC will reconvene the State/EPA Workgroup to discuss the major points of the meeting and discuss next steps and revisions to the draft guidelines.
- Revisions to the guidelines will be shared with all manufacturer participants via email with opportunities for comment.
    - Goal is to develop final guidelines by end of 2012
    - Further, the hope is that these guidelines will be formalized as MOUs between the states and the relevant stakeholders.
- NEIWPCC will distribute a contact list of members of the state/EPA initiative workgroup to manufacturer participants.
- Workgroup will work to improve communication with state departments of agriculture and will encourage them to become more engaged in the initiative.
- Workgroup will establish date and location of fall meetings (one to focus on outreach to homeowners, slated for early fall and one to focus on guidelines for professional application of fertilizer, slated for late fall).

[1]Eisenhauer, B.W., Stevenson, N. and J. Peterson. 2010. Changing Homeowners' Lawncare Behavior to Reduce Nutrient Losses in New England's Urbanizing Watersheds. http://cfpub.epa.gov/npstbx/files/Norming_Survey_LawnCare_NewEngland_July2010.pdf

Appendix A: Flip Chart/Facilitator Notes

These are "blow-by-blow" notes taken by the meeting facilitators during the Manufacturer Roundtable and Discussion of Draft Guidelines sections of the meeting. They appear in the order spoken on the day.

Comments: Organic Manufacturers – May 31, 2012

- Compost as source of organic matter, is not just fertilizer there are other benefits
- Re: Avail P – Distinguish between total P and water soluble P – Amounts vary tied to other factors
- Base use on soil test data – State labs work together
- Don't throw the baby out with bathwater – look at overall benefits of organic products
- Consider irrigation use
- Holistic view needed
- Cumbersome – Too many different labels
- Don't "regulate out" an answer to the problem.
- Organic products improve biomass, can reduce water use, helps infiltration, reduces runoff
- Nutrient package – Benefits so much more than N, P, K.
- Product has been around over 85 yrs, it is recycled waste (Milorganite)
- Research exists on benefits of slow release
- Turf will be here – So how to best minimize impact?
- Organics recycle – wastewater product
- Have made progress → improvements in environment
- Want to do what is environmentally right
- It is important to discuss how product is used
- Need to maintain healthy soils
- Materials need to be used properly
- Homeowner education needed
- Can't take Phosphorus out – not an environmental issue - Look at the big picture
- Unless needed don't distinguish between "manipulation" and "pelletized"
- Don't let regulations get in the way of doing right thing. Constraints, etc….
- Frustration about all the laws being different
- Who enforces?
- What about other Organics? Fish meal, etc, not just compost
- Manipulated manures – need to clarify term (include bone meal?)
- NJ Law – Just wanted to pass law – Now looking at details doing "clean up" of the law
- APPFCO has standard definitions to use
- Some people just want to use organics
- Perception – Using recycled waste a good thing to do
- Why not distinguish "plant available P?" In current laws – slow down organics, don't have big funding
- Organics are different from chemicals. Need to have separate guidelines
- There are new products coming out
- Organic industry is growing. We can't ignore this.
- Does water know the difference between organic and synthetic P
- 3 types of P – different results
- If water quality is the goal need to look at water soluble
- Need to look at big picture

- Are there opportunities for organics to help people understand how to use it properly?
- You are regulating who you can regulate, but are we getting at problem?
- The way you put in P needs to be based on good science / can bind P with aluminum + iron
- Consider exemptions or credits for organics
- It all becomes bio-available
- Labels can "trick" users
- Can be site specific
- Identify what impacts phosphorus availability
- Manufacturers are trying to reduce P
- Have asked for exemptions for organics
- Legislators see it all as P
- Need to share research
- Should guidelines discuss soil structure to support healthy lawns?
- Need to help folks understand difference between synthetic and organic
- What options do we have between exemption vs. no exemption?
- Min. requirements based on total P or trackable water soluble
- U.S. Compost Council has guidelines for minimum soil organic content
- Be simple, and realistic
- Hummus levels in soil down from 7" to 2". Organics can rebuild this, chemicals may not.
- Need education and outreach to all practitioners, not just homeowners
- Risk – based analysis needed. Other solutions might have better payback?
- Better quantification of the problem is needed
- Look at all sources of Nutrients
- NH needs to reduce N by 30 % - Asking all sectors to reduce 30%

Comments on Guidelines / Organics 5/31

- It is not how much is in the bag, but how its applied
- 0% P is totally unmanageable for organics – need separate guidelines
- More emphasis on soil tests, yet mostly soils wouldn't require P
- Set minimum level or exempt. 0.67 water extractable phosphate (distinguish from total P) (not in agreement)
- New Jersey law has 0.25lb of phosphorus per1000 ft2. Exemption for organics is workable
- Organic – minimum guarantee analysis. 0.67 and above, would eliminate ability to guarantee this, inputs are variable
- Labeling as designed is not something organics can do
- Biosolids are exempt in New Jersey
- Products being blended, ok with 0.25
- Where is the danger to the water, if insoluble?
- Rutgers (NJ) Soil samples are coming in needing P, yet there are no products on shelf with P
- Do we have enough data about P levels ?
- How are they measuring P?
- Organic P maybe insoluble – not all
- Consider using plant available Total P
- Need rational way to measure P
- What is the right parameter to measure
- Insoluble P bound in sediment reaches a lake and is then released. States use total P, not Sure water soluble is the only issue.
- Research study suggests using water extractable
- Need to define " organic"

- AAPPFCO uses Available P – could be various forms
- What about Phosphite → Fungicide (will convert to Phosphate)
- Are there any organic materials that are very high in P we need to keep out of sensitive areas? Such as rock phosphate and bone meal?
- 95% of New York soil samples said no P needed
- Need to consider seasonal application rate vs. annual
- Need simple communication on how to set spreader – put rest in bag
- Need to get on the same page regarding education
- Retailers won't carry biosolid based products – confused about rules, stigma
- States put up signs - scary huge X on Phosphorus
- Gets people away from using a good product
- Not just "P is bad" message
- Healthy dense turf won't get environmental impact. Get message out
- National Soil and Water Conservation District's educational materials out there
- Incentive for organics to get together same message since can't take P out
- Could do campaign on "reading the bag"
- What % of the problem is attributed to the turf industry ? the people in the room?
- Turf is not a major contributor to water quality, understood, but what can you do?
- Sources vary by watershed
- Can't rely on 1 solution (Not just wastewater treatment plants)
- Changes to the bag require many other approvals
- This is a source we can control, even if only 10% of problem
- Most organics don't have high N
- Could be problem with 20% slow release
- Clarify definition of slow release
- How to consider golf courses? 2 lb / not enough. Same for municipal fields – they need more
- How much total N to put on is impacted by other factors
- Can't all be on the bag
- The more we deviate from Maryland, the more impacts from label change
- Useful to talk about soil structure, what to do about bare ground and how to pre-seed or as part of the establishment process
- Include that soil be tested, pH adjusted, and obtain a minimum of 5% organic matter
- Plants need phosphorus. Phosphorus ban will lead to problems. Will need organics at some point

Next Steps

- Meeting Summary (draft circulated with attendee list)
- Reconvene workgroup and digest comments
- Continue to get input
- US Compost Council etc….. Get contacts
- More stakeholder meetings in the fall