

# Agriculture Workgroup (AgWG)

August 24<sup>th</sup>, 2016

10:00 AM – 3:00 PM

## Face-to-Face Meeting Summary

Meeting materials: <http://www.chesapeakebay.net/calendar/event/23302/>

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### 10:00 Welcome, introductions, roll-call, review meeting minutes

Workgroup Chairs

- Roll-call of the governance body
- Roll-call of the meeting participants
- Minutes from the July 20<sup>th</sup>-21<sup>st</sup> meeting were approved.
- Announcement: The Agricultural Ditch Management panel will hold its open stakeholder session on August 31<sup>st</sup> from 3:00 – 5:00 PM. Contact Clint Gill ([clint.gill@state.de.us](mailto:clint.gill@state.de.us)) for more information.

### 10:10 Ag Modeling Subcommittee Update

C. Dell, M. Johnston

Curt Dell, USDA, and Matt Johnston, UMD, updated the workgroup on the comments received on the Beta 3 results of the model. They also discussed their timeline and any recommended changes for the final Phase 6 model. Their [presentation](#) is available online.

#### Discussion:

- Jim Cropper: How does manure export and transport get reflected in the nutrient spread curves?
  - Johnston: We rely on state data for manure transport, and we understand that a lot of the transport data isn't being collected. So at the moment, there isn't a way for that data to be accounted for in the model.
- Ken Staver: What does 100% mean in the context of the nutrient spreads?
  - Johnston: It's 5 lbs of N that can be met either by inorganic or organic inputs.
- Bill Angstadt: For Beta 1, you gave us curves by county. Could you give us curves by county again? Then we could see which counties have more fertilizer than 120%, for example.
  - Johnston: I can do that again when we run Beta 4. But a lot of changes we're making would completely change those results.
- Jim Cropper: What about the volatilization that's applied by animals out on pasture? Do you deal with that at all?
  - Johnston: There's an in-field volatilization rate for all animal types. On pasture, it's assumed no manure incorporation, so there is some volatilization on the directly deposited manure on pasture.
- Paul Bredwell: Does any of this take into account seasonal climate changes, use of litter amendments, etc?
  - Johnston: This is an average number that's applied across all the states. The climate is brought in with the precipitation data set later on, but it doesn't affect our volatilization numbers

- Ken Staver: The application rates to the fields are made based on NMP development, so they're probably already folded into this. Would this be mixed with the recommendations from the NM panel?
  - Johnston: The approach of deriving the plant-available is similar to what a NMP would do. In the model, we stop at every step and calculate what is lost and where. In broiler litter, we have information on N content in applied litter, which puts us past the barnyard losses, so we backtrack to the barnyard using some assumption. Regarding nutrient buckets, we have a watershed level that's broken down to the county level using all of these calculations.
  - Staver: It seems to me that a lot of steps before field testing don't matter until you get to field-application.
- Chris Brosch: How close is the footprint of crops with the footprint estimate from the ag census?
  - Johnston: I don't have the total land area of acres on hand, but even if we throw out corn for grain, we still keep the same values for double cropped acres. And that's the point I was trying to make here.
- Jason Keppler: Have you been able to compare that number against other data to check it?
  - Johnston: The data matched quite well with CBL in MD and DE on row crops, but didn't match well in the rest of the watershed. So we thought this would get us closer.
- Tim Sexton noted that the ag census data may be unreliable based on poor return rate, and cautioned against using it in the model.
- Chris Brosch: Regarding biosolids – DE had a lot of confidence in the previous version. Did our pie chart change – was the problem universal?
  - Johnston: For DE it's not a problem because you don't have pasture.

#### 10:40 **Update on Modeling Workgroup Recommendations**

D. Montali

Dave Montali, MWG Co-Chair, updated the workgroup on the recommendations from the Modeling Workgroup with regard to air emissions modeling, and how this intersects with the Manure Treatment Technologies BMP and other relevant agricultural BMPs. His [presentation](#) is available online.

#### Discussion:

- Mark Dubin: It would be useful to have a jurisdictional breakout for those values. What is the timing of when we would get that information? It's relevant for our manure incorporation/injection panel. Also – what was the level of BMP implementation that was being used in the calculation?
  - Montali: I don't know the details of the calculation, but I think it may be some kind of average assessment. The modeling workgroup conference call is September 22<sup>nd</sup>.
  - Dubin: That might be too late, so if we could get it sooner, that would be helpful – even if it's a draft version.
  - Montali agreed that the Modeling Team will work to provide draft values to the AgWG as soon as they are available.

#### 10:50 **Cropland Irrigation Panel Update**

T. Sexton

Tim Sexton, Panel Chair, briefed the workgroup on the establishment of the Cropland Irrigation BMP Expert Panel, and their estimated timeline for completing recommendations and presenting their report to the Partnership for review and approval. The panel held their first introductory conference call on August 23<sup>rd</sup> and will work to schedule their open stakeholder session for September.

Discussion:

- Mark Dubin explained that the workgroup and panel hope to complete their work by November in order to get it incorporated into the Phase 6 model.
- Ken Staver asked if the panel was considering incorporating is as part of the model structure, or as a BMP efficiency for irrigation.
  - Tim Sexton replied that they will be framing irrigation as a BMP with a reduction efficiency.
- Mark Dubin noted that cropland irrigation is already included as an interim BMP in the phase 6 model for planning purposes.

11:00 **Manure Incorporation/Injection Panel Update**

C. Dell

Curt Dell, Panel Chair, briefed the workgroup on the progress made by the Manure Incorporation/Injection BMP Expert Panel, and their timeline for completing recommendations and presenting their report to the Partnership for review and approval.

Discussion

- Jason Keppler asked if the AgWG and WTWG would be able to take action on a panel report before September 30.
  - Mark Dubin noted that at this point, the panel reports will be presented to the workgroups in October for approval.
- Matt Johnston reminded everyone that the state BMP reporting deadline is still September 30.
- Curt noted that the panel is targeting mid-September for releasing their draft recommendations for Partnership review, with AgWG approval on the October 20<sup>th</sup> meeting.

11:30 **Conservation Tillage Panel Update**

W. Thomason

Wade Thomason, Panel Chair, briefed the workgroup on the progress made by the Conservation Tillage BMP Expert Panel, and their timeline for completing recommendations and presenting their report to the Partnership for review and approval. His [presentation](#) is available online.

Discussion:

- Matt Johnston: In the preliminary report, you listed the categories from CTIC which is how states are tracking this. Do those categories line up well with the four you've listed here?
  - Thomason: I believe they do, and that's all that CTIC has traditionally tracked. Though we might have to add that 60% line.
- Ken Staver: Do you see vertical tillage fitting into this BMP?
  - Thomason: It depends on residue cover. Based on this definition, vertical tillage will end up with >40% of the surface being affected by tillage. Our categories are based on % coverage for the definition value.

- Tim Sexton: Did you get into the details of these research papers for P to try and separate out those more poorly drained soils to narrow down these efficiency numbers?
  - Thomason: We didn't, but that information is not available in the published literature. It describes it as consisting of those two soils, but we would have to ask the original authors to get more information.
- Chris Brosch: Did you confirm that the studies on the screen were in situ, the implication being that we're sure they weren't benchtop studies?
  - Thomason: It's very possible – what we have here is a mixture of a lot of different things. There's mostly rainfall simulation studies, and we went into this thinking we could separate out the in situ studies, but there's just not enough observations to tear it apart and subcategorize very well.
- Ken Staver: Where do manure and fertilizer applications fit into this?
  - Thomason: At this point, it's not factored in at all. It's just the relationship between tillage.
- Lindsay Thompson: Since this panel won't have full partnership approval before September 30, is there anything you need related to this panel before September 30?
  - Johnston: For all of these panels, we have been incrementally incorporating them into the model. I would ask that as we get into September, they give us their closest estimates of their final efficiencies so we can plug them into Beta 4.

#### 12:00 **Break for Lunch**

#### 12:45 **Animal Waste Management Systems Panel Update**

S. Hawkins

Shawn Hawkins, Panel Chair, briefed the workgroup on the progress made by the Animal Waste Management Systems BMP Expert Panel, and their timeline for completing recommendations and presenting their report to the Partnership for review and approval. The panel will present their preliminary report to the AgWG at the September 7<sup>th</sup> meeting for approval. Their full report is planned to be released at the end of September.

#### Discussion:

- Matt Johnston: We're working on two sets of recoverability factors – before and after proper storage. Correct?
  - Hawkins: We've grappled with the before/after, and what we will make recoverability estimates. But the reality is that these factors haven't changed that much.
- Dave Montali: Regarding poultry, you said has a very high recoverability. Would the before condition be construed as a no-action condition?
  - Hawkins: The panel sees these structures as advantageous not necessarily to prevent physical loss of manure, but more that they provide a storage mechanism so you can land-apply the waste when nutrient demand is high. The before condition is no-litter shed – so you are correct.
  - Hawkins: The physical losses from a dry-litter system is limited by the fact that litter in the waste is deposited in the building. Then you can either land-apply or store it. Either way, the physical loss is low.
  - Bredwell: To think that a farmer is going counter to his NMP because he has a poultry house full of litter is not a reasonable assumption. These guys operate on 5-year clean-out cycles.

- Hawkins: We discussed this issue. For swine waste, we know that we accumulate solids and then we have to clean out and apply them every 6-7 years. But the panel believes that over time, that effect isn't something they should necessarily be considering. If you reach a steady state in the houses, then the amount of litter you're generating is either how much is exported or applied. The panel is focusing on the mass-balance and the physical recoverability of the litter.

#### 01:10 **Cover Crops Panel Update**

K. Staver

Ken Staver, Panel Chair, briefed the workgroup on the progress made by the Cover Crops BMP Expert Panel, and their timeline for completing recommendations and presenting their report to the Partnership for review and approval. His [presentation](#) is available online for review.

##### Discussion:

- Tim Sexton: Is the panel leaning in any particular direction for efficiencies of mixtures?
  - Staver: The panel is working on dealing with a wider range of reductions for grass mixtures than they initially anticipated.

#### 01:30 **Nutrient Management Panel Update**

F. Coale

Frank Coale, Panel Chair, will present the Nutrient Management Panel's draft recommendation report, which is [currently available](#) for comment during the 30-day Partnership review period. Frank will address questions and comments on the draft report, as well as the timeline for presenting the final draft of the report to the Partnership for review and approval. His [presentation](#) on the report is available online for review.

##### Discussion:

- Karl Brown: Hypothetically, a PSNT recommends not adding any sidedress. Would that equate to not receiving supplemental credit?
  - Coale: That would receive supplemental credit because there is a conscious decision to adjust your rate to 0.
- Fred Samadani asked if the core elements were specific to manure, or covered all organic nutrient sources.
  - Coale: Manure here is used to cover all organic nutrient sources.
- Karl Brown: What is meant by field management level?
  - Coale: We typically mean a field, but there are instances where 12 fields is a single management unit. However it's defined at the farm level.
- Tim Sexton suggested revising the terminology on the header of efficiency value table to remove the word 'efficiency', or to separate out baseline conditions in order to clarify how core non-NM is represented.
  - Tim also suggested revising the report in order to clarify the messaging and make it easier to understand.
  - Discussion among the group on what the efficiency values (or application rate factors) mean in the model.
- Karl Brown and Matt Monroe raised issue with the assumption that before 1985, the model assumes that every acre of agriculture had application rates above current LGU recommendations.

- Frank explained that in 1985, LGU recommendations were completely different then they are today, and that the difference between those recommendations was likely 20-30%.
- Concern raised over the non-NM core P values, specifically those that are 300% higher than the non-NM rate.
- Mark noted that when these rates are implemented in the model, crops may not receive the full 300% of the LGU recommended rate based on the mass balance nutrient buckets in the model.
- Jason Keppler: How exactly do the supplemental factors work? If I report an acre of NM gwm rate adjustment – does it assume that I'm capturing 15% of the runoff?
  - Coale: The panel assumed that if the supplemental credit is applied, it would be a 15% reduction.
- Chris Brosch raised concerns that each county may have different core nutrient management efficiencies based on the county-level distribution of nutrients. He suggested exploring an average effect of nutrient management.
- Other concerns raised about complexity of reporting with this new approach. Suggestion to include reporting guidelines in the appendix of the report.

02:45 **Updates on Management Board Policy Group and Phase 6 E-3 Reviews** M. Dubin

- Mark Dubin will be contacting jurisdictional representatives to solicit membership on a group to develop the Phase 6 E-3 scenarios.

02:55 **Wrap-Up/Review of Action and Decision Items/Announcements** Workgroup Chairs, M. Dubin, L. Gordon

- Matt Johnston noted that BMP Panels should work to develop efficiencies values that could be presented to the AgWG on September 7<sup>th</sup> for recommendation to be preemptively and temporarily incorporated into the model.

03:00 **Adjourn**

**Next meeting: Wednesday, September 7<sup>th</sup> from 10:00 – 3:00 PM @ CBPO Offices in Annapolis, MD**

Participants:

Lindsay Thompson	DE-MD Agribusiness Assoc.
Ed Kee	DDA
Mark Dubin	UMD
Lindsey Gordon	CRC
Matt Johnston	UMD
Rachel Rhodes	MDA
Jason Keppler	MDA
Tim Sexton	VA DCR
Bobby Long	VA DCR
Jeremy Hanson	VT
Skyler Golt	UMD
Ken Staver	UMD
Matt Monroe	WV DEP

Clint Gill	DDA
Chris Brosch	DDA
Bill Angstadt	Angstadt Consulting
Curt Dell	USDA ARS
Dave Montali	WV DEP
Greg Albrecht	NYS
Roland Owens	VA DCR
Ron Ohrel	Mid-Atlantic Dairy Association
Joel Blanco	EPA
Greg Sandi	MDE
Jeff Sweeney	EPA
Jim Cropper	Northeast Pasture Consortium
Frank Coale	UMD
Steve Taglang	PA DEP
Karl Brown	PA State Conservation Commission
Paul Bredwell	US Poultry and Egg Assoc.
Ruth Izraeli	EPA
Fred Samadani	Environmental & Water Resources Mgmt. Consulting
Bill Chain	Chesapeake Bay Foundation