Summary of Actions & Decisions

Decision: The AgWG approved the May AgWG Meeting Minutes.

Action: Dr. Virginia Ishler will work with Jackie Pickford to distribute the MUN fact sheets to the AgWG. Members are encouraged to contact Dr. Ishler (vishler@gmail.com) if they have any comments, questions, or input on her Dairy Precision Feeding BMP Presentation and research.

Decision: CAST-21 Draft Workplan Task 6: *Consider additions to current methods for "crediting" Nutrient Management on soybeans and propose options*. **The AgWG did not achieve consensus to support a change to the Supplemental Nitrogen Nutrient Management BMP on the full-season soybean land use (Rate, Timing, and/or Placement).** Long-term recommendations for the AgWG include a review of ag loading rates, continued efforts to improve accuracy of crop data sources, and improved understanding of real-world soybean management for future incorporation into CAST (watershed model).

Intro

10:00   **Welcome, introductions, roll-call, review meeting minutes**   Workgroup Chair
- **Decision:** The AgWG approved the May AgWG Meeting Minutes.
- NEXT MEETING: Thursday, July 15th, 10AM-12PM: Conference Call

Accounting & Reporting

10:05   **Rapid Review: Animal BMPs - Dairy Precision Feeding (5 min)**   Loretta Collins
Loretta Collins, UMD- AgWG Coordinator, provided quick context to the discussion on alternative methods to tracking and reporting Dairy Precision Feeding for those less familiar with the BMP.

10:10   **Dairy Precision Feeding BMP (45 min)**   Virginia Ishler
In response to a request to a request from PA to revise the tracking and reporting criteria for the CBP Dairy Precision Feeding (DPF) BMP, Dr. Virginia Ishler, Penn State, discussed the potential for utilizing Milk Urea Nitrogen (MUN) as a means to quantify DPF implementation. DPF implementation had increased over recent years because the on-farm economic and animal-welfare benefits are proven, however tracking implementation at the farm-level continues to be challenging.

Discussion

Kelly Shenk (in chat): I'd like to know what does dairy data presented represent in terms of dairies in watershed - what states, what sizes? Thank you!

Virginia Ishler: This is strictly PA data. We only included the counties that were fully encompassed in the Chesapeake Bay Watershed. We also don't know if there's an overlap between the 1400 Co-op farms and the farms that the DHIA [Dairy Herd Improvement Association] provided, because some that the co-op provided were not identified due to privacy concerns. So looking forward we would have to address that.

Tim Sexton: Do you think the best formula to do the reduction calculation would be looking at the MUN numbers and number of cows in a particular county? Or how would we go about determining the reduction?

Virginia Ishler: We're brainstorming ways to do that. That's why the cow numbers are so important. We need to know the geographical area and the number of cows.

Tim Sexton: Not everyone participates in the DHIA but I think using the co-op numbers would be more complete.

Virginia Ishler: Yes, we agree. The co-ops have more data points too, so it would work as a more robust dataset.

Gary Felton: Do you have a set of fact sheets on MUN?

Virginia Ishler: Yes, we have an MUN fact sheet. I'll send it to Loretta and Jackie to distribute to the group.

Greg Albrecht: Could this have an impact in the BMP framework in how we verify current performance, as in Phase 6? And then maybe we would revisit the BMP for Phase 7?

Loretta Collins: I think the major driver for this was figuring out how to get this into 2021 Progress.

Gary Felton: I think the general issue is that the development is there, but there are complications of recording that have not been considered in the development. So there are difficulties in the reporting.

Greg Albrecht: I'd like to be a part of that discussion if I can.

Virginia Ishler: I think there's an opportunity here, producers have been approaching me asking about why they can't get credit for practices they're already implementing.

Gary Felton: Yes there is definitely potential. However, there's also an issue with data and privacy that is working against that.

Virginia Ishler: RIght. I think it's important that we start having conversations with co-ops to see how we can do this without identifying the farms, such as supplying zip codes, for example.

Dave Graybill: Have you looked at benchmark programs that are attached to county programs?

Virginia Ishler: For financial benchmarks?

Dave Graybill: Well working with PA Farm Bureau, we have an accounting side to that and we have a lot of tax returns and a dairy analysis associated with that. The information you're looking for may be lying in that dataset.

Virginia Ishler: When we do financial analysis, MUN's aren't typically included in that record so that may be a challenge.

Dave Graybill: Right, but we might be able to see the exact cow numbers. I'll have to get back to you to see if those numbers are in that dataset.

Ken Staver: Concerning your smaller herds and lower efficiencies - do you have any sense about how they fit into the trends?

Virginia Ishler: Do you mean grazing or pasture herds?

Ken Staver: I assumed that smaller herds graze more.

Virginia Ishler: A lot of the herds we work with don't utilize a lot of grazing. If we used the co-op data, I think it would be easier to capture that.

Ken Staver: How do the plain sect folks fit into all of this?

Virginia Ishler: A lot of the farms that we work with are Amish and the nutritionists have done a great job formulating for the lower levels. It comes down to their feed efficiency. Some of them are really good and have decent production, but there's also some that aren't.

Ken Staver: What about the larger herds, focusing more on genetics in terms of productivity? Such as homing in on the top producing cows. Is there a component of that in this?

Virginia Ishler: When you look at the level of milk production in the feed efficiencies, I would say that has to be a factor in this. So yes, I think so.

Action: Dr. Virginia Ishler will work with Jackie Pickford to distribute the MUN fact sheets to the AgWG. Members are encouraged to contact Dr. Ishler (vishler@gmail.com) if they have any comments, questions, or input on her Dairy Precision Feeding BMP Presentation and research.

Data & Modeling

11:00 **CAST-21 Spreadsheet (20 min)** Olivia Devereux

Olivia Devereux, Devereux Consulting, reviewed the ag inputs to CAST and updates received so far for CAST- 2021. Under "Track Progress" on the CAST website the CAST Data Update Frequency table is available for download as a guide for partners responsible for data submissions. Olivia will review this table and the most recent data submissions by the jurisdictions.

Discussion

Dave Montali: Are we currently trending animal waste post 2013? Or has that been held constant?

Olivia Devereux: It's held constant post 2013, unless we receive additional data.

Greg Albrecht: Is there an opportunity to provide updated state specific soil P data prior to Phase 7?

Olivia Devereux: I don't know how we would incorporate that at this point because it was part of the calibration. We would have to talk with the modeling WG about that.

Loretta Collins: I think we identified soil P data as part of Phase 7, but I would share your data now with the modeling team because I know how much time and work it takes to clean up, review, etc. One state has already shared theirs.

Vanessa Van Note: I'm prepping the soil P data right now so you can email me about your additional data.

Greg Albrecht: Perfect, we're working on a better dataset for NY right now.

Amanda (in chat): if getting data from NY is ever an issue, please let us know!

Dave Graybill (in chat): Which labs work with you now?

Olivia Devereux (in chat): Soil test data was provided by AgriAnalysis (P lbs/a), Penn State (Mehlich 3 ppm), Virginia Tech (Mechlich 3 ppm), and University of DE (P-Fertility Index Value). The University of MD provided data as a percent of samples in the Mehlich 3 range between 1954 and 2002, University of MD in 1992 as Mehlich 3. University of MD closed their lab in the early 2000s.

More information on the soil test data is in Section 3.9. Section 3 is available on the CAST website at:

https://cast.chesapeakebay.net/Documentation/ModelDocumentation

Chris Brosch: We're anticipating a report on mortality management, but it has been delayed. If the report is complete with appendices, but we're waiting on the review of workgroups, is that sufficient enough for you to "pre-program" it so that it's ready for CAST?

Olivia Devereux: Well it's not a technical issue. It's that the partnership has to approve it before it can be used in CAST. So nothing can be programmed into CAST without first being approved by the partnership.

CBP Assignments

CAST-21 DRAFT WORKPLAN TASK 6

11:20 **Addressing Full-Season Soybean Nutrient Management (20 min)**

Workgroup Chair

 In May, the AgWG was asked to endorse or not endorse application of a non-zero reduction efficiency for the Supplemental Nitrogen Nutrient Management BMP on the full-season soybean load source (rate, timing, and/or placement) Gary Felton, chair, continued the May AgWG discussion related to nutrient management on full-season soybeans. An initial vote on the decision item came after the clock ran out on the meeting and did not result in consensus. Time

for discussion of the vote continued and the AgWG determined a path forward for CAST-21 Workplan Task 6.

May 20 Governance Vote:
Endorse: 2
Not Endorse: 8
Hold:1
No Vote: 4
Not Present: 5

May 20 Materials for Reference:
[Nutrient Management on Full-Season Soybeans Presentation](#)
[Nutrient Management on Full-Season Soybeans Summary Doc](#)
[Updated CAST Load Source Acres](#)

Discussion:
Gary Felton: Is there a strong urge to vote on this again?

Frank Schneider: We will not be changing our vote.

Kristen Saacke Blunk: Has there been a discussion about what it would take to change the "no" votes? Or what the reasons are that they disagree?

Gary Felton: We had a discussion about why they disagreed. We did not discuss what it would take to change the votes.

Loretta Collins: We have been discussing this at the Ad-Hoc for months and have had conversations, both in group and through emails, and we were not able to achieve consensus. The ad-hoc consists of all the AgWG jurisdictional members or their voting proxies, so it's not surprising that we didn't achieve consensus here. But we have had a significant amount of discussion on the topic.

Ted Tesler: I would ask the members to seriously consider what we're asking for here. Crops are done in rotations and in that process, there's more to it than just having this non-zero value that can't be managed with a BMP. Fixation is a natural process and the management of those acres over that rotation for supplemental practices typically are carried throughout the rotation, so this hampers our inability to track and support supplemental BMPs and is also creating a load that we can't address.

Loretta Collins: One of the main points that folks who voted against this made was that nitrogen fixation cannot be addressed by nutrient management but the N load from fixation can be addressed by a number of other BMPs at our disposal. Another issue that was brought up was expectations brought up by our E3 scenarios [which do not assume that N fixation can be controlled].

Gary Felton: I think this is an issue that we agreed we need to discuss more. We need to look at the science a little bit more, it was just not something we were going to get done by the end of August.

Chris Brosch: Is there a path forward for the folks that have concerns?

Gary Felton: We are hampered by EPA policy right now in that they don't want to convene expert panels. So the AgWG might have to take on some of that work - look for new literature, see what research is out there, hold discussions in our ad-hoc, etc. to find science that supports the non-zero efficiency.

Loretta Collins: This issue gets to Phase 7 development. We don't have consensus on changing the supplemental BMP, but everybody agrees that we need to take another look at the assumptions we have for loading rates, etc. We don't have tons of information to work with, so a lot of it is based on best professional judgement. But overall, there is clearly a rationale to look at this again. Starting next month, Gary Shenk will come to the AgWG to talk about what the Bay Program is looking for in Phase 7.

Chris Brosch: That's the answer I was looking for, thank you. I think the jurisdictions are looking for some clarity and leadership of when those conversations were going to take place and under what architecture

we can expect. I think last time, some things were done in a fashion that we didn't have a lot of time to get the literature we needed in order to defend the changes we wanted to be made.

Olivia Devereux: There were three separate efforts to develop land use loading rates. So there was a lot of searching for the right number and the first two efforts were deemed unsatisfactory based on literature reviews conducted, so hopefully this time around we can only have one group.

Chris Brosch: I would certainly want to learn from our failed approaches, I think we wasted a lot of time last time around.

Decision: CAST-21 Draft Workplan Task 6: *Consider additions to current methods for "crediting" Nutrient Management on soybeans and propose options*. **The AgWG did not achieve consensus to support a change to the Supplemental Nitrogen Nutrient Management BMP on the full-season soybean land use (Rate, Timing, and/or Placement).** Long-term recommendations for the AgWG include a review of ag loading rates, continued efforts to improve accuracy of crop data sources, and improved understanding of real-world soybean management for future incorporation into CAST (watershed model).

11:40   **Ag Data Concerns (10 min)**   Loretta Collins
         The CAST concerns ad hoc group has been meeting monthly since September to discuss the draft "CAST-21 Workplan" items and additional concerns that were raised by the AgWG's jurisdictional membership. Loretta Collins, AgWG coordinator, provided an update on these issues and highlighted data that the CBPO is seeking from the jurisdictions.

11:50   **New Business & Announcements (5 min)**
   ● **Why and What For: Funder Experiences in Collaborative Agricultural Water Programming,** June 17th 1-2 PM EST
      o   Borrowing from experiences in Chesapeake Bay grant making, this webinar will feature insights from funders on some of the formative research and grantmaking driving this renewed emphasis on partnerships, practical frameworks for advancing collaborative agricultural water initiatives, case studies and lessons learned from successful local initiatives in the Mid-Atlantic region effectively unlocking partnerships and collaboration to drive conservation adoption.
      o   WEBINAR IS FREE BUT REGISTRATION IS REQUIRED AT: Click **link HERE**
      o   For more information, contact Andi Rogers at ANDI@SWDRESOURCES.COM
   ● **Quantifying Connectivity and its Effects on Sediment Budgeting for an Agricultural Basin, Chesapeake Bay Watershed, USA**, June 22nd @ 11am
      o   This study sought to determine the sources, storage and delivery of sediment using a sediment budget approach for the pasture and forested Smith Creek watershed, Virginia USA, a tributary to the Chesapeake Bay.
      o   Seminar, log in here to join. (No pre-registration. MS Teams)
   ● **2021 North American Agroforestry Conference,** June 28th-July 2nd
      o   The 2021 North American Agroforestry Conference will bring together farmers, landowners, researchers, climate scientists, investors, philanthropists, policymakers, and global leaders on climate change, carbon drawdown, and agroforestry.
         https://www.savannainstitute.org/agroforestry-2021/#
   ● **76th Soil & Water Conservation Society International Annual Conference**, July 26th-28th
      o   Provides the opportunity for attendees around the world to share their conservation stories and bring natural resource management solutions from far and wide into their homes and offices. (Virtual Event)

- o   More info [here](#).
- **Delaware Maryland 4R Field Day**, Aug 26th
  - o   Chestertown, MD (in-person)
  - o   Register [here](#).
- **Animal Mortality** Expert Panel Report – Finalizing report (summer 2021)
- **Other Announcements? -** send to Jackie Pickford (Pickford.Jacqueline@epa.gov) for inclusion in "Recap" email

11:55   **Review of Action and Decision Items (5 min)**
12:00   **Adjourn**

Next Meeting
<mark>Thursday, July 15th, 10AM-12PM: Conference Call</mark>

Meeting Chat
From Kelly Shenk to Everyone: 10:05 AM
Congratulations Dave Graybill for the "outstanding dairy farm sustainability" award – a national award given by the Innovation Center for U.S. Dairy.
https://www.usdairy.com/media/press-releases/2021-dairy-sustainability-awards-winners-10-year-anniversary
From Kenneth W. Staver Jr to Everyone: 10:06 AM
Ken Staver UMD
From Kristen Saacke Blunk to Everyone: 10:07 AM
WOW on the "outstanding dairy farm sustainability award" Dave Graybill!!! CONGRATS and thank you for ALL you do for agriculture and the Bay.
From Me to Everyone: 10:07 AM
Congrats Dave!
From Marel King, CBC to Everyone: 10:09 AM
Congratulations Dave!
From Me to Everyone: 10:11 AM
Link to Calendar Page:
https://www.chesapeakebay.net/what/event/agriculture_workgroup_conference_call_june_20211
From Loretta Mae Collins to Everyone: 10:14 AM
Good Morning and Welcome! If you were not announced or missed Roll Call please enter you full name and affiliation in the Chat Box.
From Kristen Saacke Blunk to Everyone: 10:17 AM
This Northeast SARE funding was CRITICAL in part because it spanned a longer-grant period timeframe than typical - as in 5-8 years - as opposed to 3-5. The longer term funding enabled better opportunities for the researchers to look at and adapt to the data as it was analyzed ...
From amanda.barber to Everyone: 10:18 AM
Sorry, Amanda Barber, NY is here. I had trouble getting into Zoom today, but third time's the charm.
From Loretta Mae Collins to Everyone: 10:25 AM

Good Morning and Welcome! If you were not announced or missed Roll Call please enter you full name and affiliation in the Chat Box.

From Matt Royer to Everyone: 10:26 AM

Matt Royer, Penn State Ag & Environment Center

From Ted T to Everyone: 10:26 AM

Ted Tesler, PADEP

From Kelly Shenk to Everyone: 10:36 AM

I'd like to know what does dairy data presented represent in terms of dairies in watershed - what states, what sizes? Thank you!

From Dave Graybill to Everyone: 10:45 AM

Great presentation! These numbers are very much like what has happened on our dairy farm over the years covered.

From Kelly Shenk to Everyone: 10:46 AM

Thank you Ginny! That answers my question. Awesome presentation! K

From Karl Brown to Everyone: 10:47 AM

Great Presentation. Thank you

From Ricky Whitmore to Everyone: 10:47 AM

Great presentation, good to hear that MUNs trends seem to be reducing, now we just have to figure out how to report it. Thank you!

From Kristen Saacke Blunk to Everyone: 10:48 AM

Really exciting presentation - and looking at >15+ years of data and work that Ginny and her colleagues have tracked to provide this level of intel.

From Ricky Whitmore to Everyone: 10:50 AM

could you put a link to that fact sheet in the chat as well if possible?

From Kelly Shenk to Everyone: 10:53 AM

Yes, protect farmer privacy - CBP has lots of success stories in how to protect privacy AND credit farmers conservation work.

From Greg Albrecht to Everyone: 10:56 AM

Thanks, Virginia!

From Olivia Devereux to Everyone: 10:57 AM

Break Reading: https://www.sciencedirect.com/science/article/pii/S0022030217303867

From Greg Albrecht to Everyone: 11:02 AM

Note, if broader scale MUN data is available well before diet P data, it's still a worthy pursuit toward crediting improvements in N source reduction.

From Dave Graybill to Everyone: 11:17 AM

which labs work with you now

From VANESSA VANNOTE to Everyone: 11:20 AM

Hi Greg, my email is vannote.vanessa@epa.gov .

From amanda.barber to Everyone: 11:21 AM

If getting data from NY is ever an issue, please let us know!

From Greg Albrecht to Everyone: 11:22 AM

Thanks, Vanessa!

From Leon Tillman to Everyone: 11:28 AM

I have to jump off for another meeting. I appreciate the presentations and information discussed.

From Olivia Devereux to Everyone: 11:33 AM

Soil test data was provided by AgriAnalysis (P lbs/a), Penn State (Mehlich 3 ppm), Virginia Tech (Mechlich 3 ppm), and University of DE (P-Fertility Index Value). The University of MD provided data as a percent of samples in the Mehlich 3 range between 1954 and 2002, University of MD in 1992 as Mehlich 3. University of MD closed their lab in the early 2000s.

More information on the soil test data is in Section 3.9. Section 3 is available on the CAST website at: https://cast.chesapeakebay.net/Documentation/ModelDocumentation

From Kristen Saacke Blunk to Everyone: 11:33 AM

Thank you Gary and Loretta for clarifying. I wasn't clear on how that was handled. Now I am. :)

From Dave Graybill to Everyone: 11:34 AM

thanks, that helps me understand your work. can you find out where soil samples go that need other types of tests and must go far out of state to be analyzed, ie. Woods lab in Maine comes to mind.

From Olivia Devereux to Everyone: 11:38 AM

@Dave: We are happy to reach out to any lab. I did not contact Woods lab. I worked off a list of recommended labs from UMD and also labs identified through conversations with other labs. It sounds like Vanessa will be acquiring the data this time around, and may want to begin putting together a list.

@Ted: If there are no BMPs to control fixation, then those non-existent BMPs are not in the E3 scenario. Therefore, PA's planning target does not include responsibility for controlling the soybean load as of 2010, the basis for the no action and E3 scenario. Under the 'accounting for growth' provision of the midpoint assessment, PA is responsible for anything that people do in the watershed that changes loads; increasing population, developing forest land, or growing more soybeans.

From Ricky Whitmore to Everyone: 11:48 AM

This is Ricky from Adams County PA. If I drop my email here can someone please keep me up to date on the Hillandale discussions?

rwhitmore@adamscounty.us

From VANESSA VANNOTE to Everyone: 11:50 AM

Hi Dave, feel free to contact me with questions on the Soil P data. Thanks!

Ricky, we will provide an update to the AgWG (hopefully) at the end of July. I can email you with an update as well.

From Ricky Whitmore to Everyone: 11:51 AM

That would be great thank you Vanessa. I will also plan to attend whatever meeting that is being discussed at as well

Thank you Mark

From Greg Albrecht to Everyone: 11:56 AM

Congratulations!

From Ricky Whitmore to Everyone: 11:56 AM

Thank you everyone!

From VANESSA VANNOTE to Everyone: 11:56 AM

Congratulations, Dave!

Participants

Jackie Pickford, CRC
Loretta Collins, UMD/CBPO
Gary Felton, UMD
Jeremy Daubert, VT
Clint Gill, DDA
Chris Brosch, DDA
Bill Tharpe, MDA
Greg Albrecht, NY Dept of Ag & Markets
Amanda Barber, NY SWCD
Frank Schneider, PA SCC
Kate Bresaw, PA DEP
Tim Sexton, VA DCR
Marel King, CBC
Dave Graybill, Farm Bureau
Matt Kowalski, CBF
Ken Staver, UMD
Paul Bredwell, US Poultry & Egg Association
RO Britt, Smithfield Foods
Tim Rosen, ShoreRivers
Matt Royer, Penn State
Ted Tesler, PA DEP
Elliott Kellner, WVU
Victor Clark, Farm Freezers
Leah Martino, EPA
Vanessa Van Note, EPA
Mark Nardi, USGS MD-DE-DC WSC
Olivia Devereux, Devereux Consulting
Ricky Whitmore, CAP Coordinator Adams County Conservation District
Mark Dubin, UME/CBPO
Patrick Thompson, EnergyWorks Group
Carlington Wallace, ICPRB
Virginia Ishler, Penn State
Dave Mortensen
Jeff Sweeny, EPA
Joel Blanco-Gonzalez, USEPA
Karl Brown
Karl Blankenship
Katie Walker, Chesapeake Conservancy
Kristen Saacke Blunk, Headwaters LLC

Leah Martino, EPA
Leon Tillman, NRCS
Ricky Whitmore
Ruth T. Cassilly, UMD/CBPO
Dave Montali, WV