

## Meeting Minutes

May 26, 2021

11:00 AM-12:00 PM

Ad Hoc Group- CAST CONCERNS

Meeting Materials: [Google Drive](#)

### **Summary of Actions and Decisions**

**Action:** Loretta Collins and Jackie Pickford will consolidate dairy precision feeding discussion points that were brought up at today's meeting to help facilitate discussion and feedback from the AgWG on June 17th.

**Action:** Olivia Devereux will provide PA dairy nutrient concentration CAST data.

11:00 **Welcome, CAST-21 Workplan Progress Updates (15 min) - [Presentation](#)**  
Loretta reviewed updates from the AgWG and other ag input updates.

11:15 **Dairy Precision Feeding (40 min) - [Presentation](#)**  
Virginia Isler, Penn State, discussed collaborative work done to address a request from PA to revise the tracking and reporting criteria for the CBP Dairy Precision Feeding BMP by utilizing Milk Urea Nitrogen (MUN) as a means to quantify implementation.

### **Discussion**

**Mark Dubin:** I agree that if there's an opportunity to work more closely with the milk co-ops that would be great. There are other examples out there too. I'm working with VA Tech on commercial livestock production research projects and we've been working on company by company data sharing agreements where we can access facility by facility production data, so maybe there's an opportunity there that could be translated to this work.

**Frank Schneider:** Ginny and I have talked about that - not the specifics of data sharing agreements, but we spoke about Penn State collecting the data and holding on to it. We're having the discussions now but we're not too far along at this point.

**Mark Dubin:** It definitely takes some work. I think being able to demonstrate the security of the data is key. We seem to find that projects tend to have to prove themselves before companies really open up their books. Maybe working on a small scale first and then once you can demonstrate the process, companies tend to be more willing to open themselves up to it.

**Virginia Ishler:** We've talked about even just getting zip codes instead of addresses. I mean we're still not sure what kind of data the co-ops are collecting. For you, having the cow numbers is going to be important. But we don't know how their databases are set up, so we need to have that conversation. I'm curious about others' opinions: do you think this has the potential to make some impacts that would help meet the 2025 deadlines?

**Olivia Devereux:** From a modeling perspective I am so grateful that you dug into this and can quantify the amount of MUN. It's certainly something we can use to modify the amount of nutrients coming from dairy cows. It's also useful because you're sharing this information broadly and it is changing the way the industry is feeding its animals. Something we still need to understand: Is it a farm by farm charge or is it all across the board in the industry? If it's farm by farm, we might want to treat it as a BMP in the model.

**Virginia Ishler:** I think over the years with these educational initiatives and popular press, I think we will be able to see the effects and benefits of that.

**Frank Schneider:** In PA we were looking at this more as a BMP to be applied versus revising the dairy load input. The issue that we have with the current precision feeding BMP is the farm verification, which is just not workable for us with the amount of staff we have and the amount of dairy farms.

**Olivia Devereux:** Yeah that would make sense. If it's not across the board then it should be put in as a BMP. But that means PA would have to track and verify that.

**Bill Angstadt:** To clarify - I think PA would really like to encourage all the states to look at this data and propose to do load changes within CAST. It would be similar to how \_\_\_ was done with poultry and swine to change the load. It would be really challenging for us to have this as a BMP and to track and verify all of these individual farms with our manpower. The question is should we enter this into the model through a load change or a load reduction through a dairy precision feed BMP?

**Olivia Devereux:** I'll remind everyone that when the poultry industry implemented the feed additive which reduced the amount of P that was produced by the poultry, it was phased in by the feed sellers over a period of several years and it was used across the board. You couldn't get feed without that additive. So in the model we phased it in accordingly. We could consider something similar here. Or we could do it as a BMP, but the states would have to track that.

**Bill Angstadt:** I'm not suggesting it's exactly like the feed additive. This is truly individual management. Maybe we can start with a broader brush. I would suggest that PA wants to do a load change reduction similar to the feed additive so, starting with all the states with dairy herds at, say, 50% for 2021, and use the 24% N reduction that's in the BMP expert panel report, with the goal of phasing it towards 2025 at 5% a year. Ted, what do you think?

**Ted Tesler:** No doubt it would be easier if we did this in a broader brush. Mark, could you let me know what is the age of the manure residual data set that is currently being used in the model, specifically for bell production cows?

**Mark Dubin:** Okay we can pull that out and let you know what the published date was for that last data set for Phase 6. To clarify with the feed additive, that definitely was something looked at industry-wide, but we did struggle with that for years because it was difficult for states to track and report. So that was changed with the Phase 6 model and we were able to develop specific nutrient excretion data for different types of poultry and swine so that was used to basically replace the BMP as a model input based on populations. It's a slightly different process but at least for the other species like dairy they're still using the national standards.

**Ted Tesler:** If there's an opportunity to update that, that would be great. We're in a crossroads of addressing it as a model input or as a BMP where we need to track the herds, which would be incredibly difficult for us.

**Mark Dubin:** We may not be able to change the load input for Phase 6 but we may want to consider changing it for Phase 7 and in the meantime figure out how we want to approach that.

**Bill Angstadt:** Olivia - there is all this N in the model as "excreted" and then you've got volatilization from application, storage, etc. and all of this N loss from 70% of farmers, but because they're doing the lower protein the N doesn't exist. So it doesn't make sense to try to put BMPs, even precision dairy, later on in the flow chart when you've had all this N volatilizing when the N was never excreted. It makes more sense to me to put it as a load change.

**Olivia Devereux:** The reason I suggested the BMP is because it would work as a load change, but it would just be started at a certain date. Otherwise we would be changing loads back throughout time, which doesn't seem appropriate. Ultimately I think it would be up to Jeff Sweeny and EPA to determine what they deem acceptable from a verification standpoint.

**Bill Angstadt:** Ted, we need to look back at BMP protocols to see how we could make this work more efficiently then trying to verify every individual cow. I think there are options for these annual practices to do self-recording through a certified third-party or inventory process.

**Ted Tesler:** Yeah that's where I think the cooperative data would be key - to try and aggregate this data into a more usable form, where we have multiple herds under one co-op data set.

**Bill Angstadt:** One final point - we've been talking about N but in precision dairy feeding there is also phosphorus. Kate, do you want to talk about that?

**Kate Bresaw:** If we can use MUN to verify the BMP, then the expert panel has already identified a P reduction that is associated with that BMP. We are just looking for data to support using MUN to verify the BMP.

**Bill Angstadt:** If we do this as a BMP and the MUN creates the data to report it as a BMP as a 25% load reduction, does the 25% P reduction automatically come along with the MUN data?

**Virginia Ishler:** I don't think you could necessarily equate N and P reductions. The 30% herds with high MUNs have low efficiency, I would suspect that they have high P intake. It would be more muddled with the 70% low MUN herds. It's not as clear cut.

**Mark Dubin:** Part of what the expert panel report was looking at was using MUN and [manure] analysis testing as well. We have good grounds to work on with MUN with N, but we might need some more work making connections with P. Ginny, have you done any comparisons between the 2005 ASAE excretion data and the information you have?

**Virginia Ishler:** No I haven't looked at that, but I can.

**Loretta Collins:** Does everyone want to continue this conversation at the next AGWG meeting or do you want to continue this discussion here for another month before we take it to the AgWG?

**Frank Schneider:** I think it would be beneficial to take it to the AgWG, just so they see what we're looking at. We'll get a more diverse set of comments and questions.

**Action:** Loretta Collins and Jackie Pickford will consolidate dairy precision feeding discussion points that were brought up at today's meeting to help facilitate discussion and feedback from the AgWG on June 17th.

**Action:** Olivia Devereux will provide PA dairy nutrient concentration CAST data.

11:55 **Review of Actions (5 min)**

12:00 **Adjourn**

### **Participants**

Jackie Pickford, CRC

Loretta Collins, UMD/CBPO

Emily Dekar, USC

Ted Tessler, PA DEP

Bill Angstadt, Angstadt Consulting

Brady Seeley, PA DEP

Cassandra Davis, NY DEC

Clint Gill, DDA

Frank Schneider, PA SCC

Jason Keppler, MDA

Kate Bresaw, PA DEP

Mark Dubin, UMD/CBPO

Olivia Devereux, Devereux Consulting

Ruth Cassilly, UMD/CBPO

Vanessa Van Note, EPA/CBPO

Virginia Ishler, PSU