MEETING MINUTES

Dec 11, 2020

1:00 PM-3:00 PM

Ad Hoc Group- CAST CONCERNS

**Participants:**

Loretta Collins, UMD

Whitney Ashead, CRC

Ted Tessler, PA DEP

Tim Sexton, VA

Bill Angstadt, Angstadt Consulting

Brady Seeley, SCC

Clint Gill, DE

Ken Staver, UMD

Jeremy Hanson, VT

Mark Dubin, UMD

Jason Keppler, MDA

Vanessa Van Note, EPA

Cassandra Davis, NYSDEC

Kate Bresaw, PA DEP

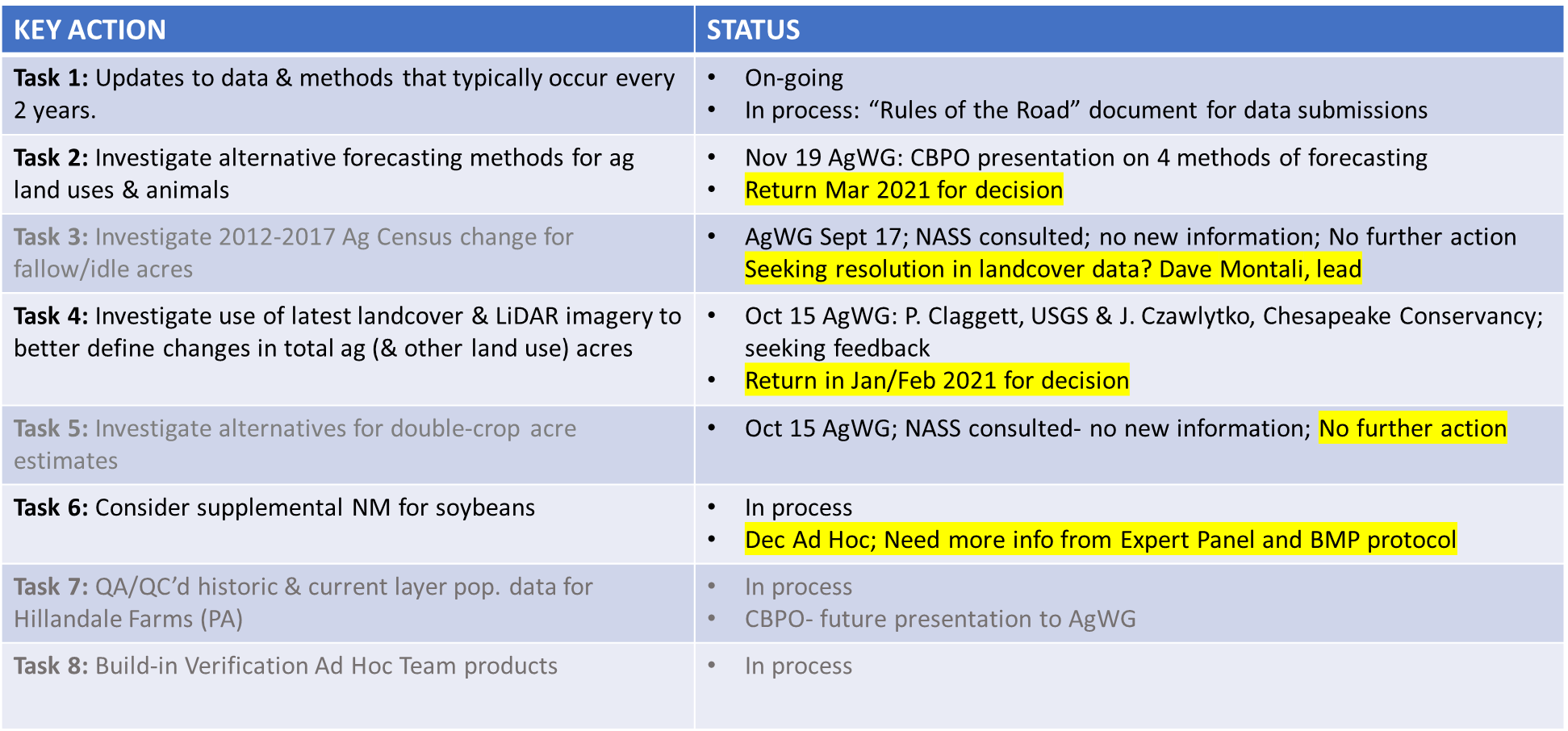
Emily Dekar, USC

**ACTION:** Pennsylvania representatives will have an internal conversation about the way they want to reframe their concern regarding nutrient management on soybeans.

**ACTION**: Continue investigation with the CBPO to better understand how shifts in full-season and double-crop soybeans are impacting modeled N loads.

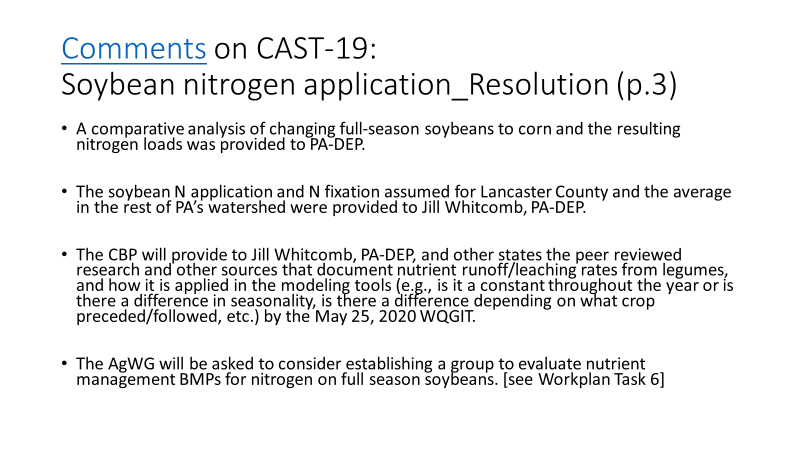
ACTION: NY will determine if there is an issue with Heavy Use Area Protection (Loafing Lot) reporting that needs to be discussed. If not, the issue will be retired from the list.

**CAST-21 Workplan Progress Updates**



**Task 6: Nutrient Management on Soybeans**

Review and discussion of the NM on soybean issue with initial Expert Panel response and discussion of BMP protocol.

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**Loretta Collins**: PA, Do you have any knowledge of getting this information?

**Kate Bresaw:** We got it, we reviewed it. There were not a whole lot of comments. We had some internal conversation. We didn't have a whole lot of conversation beyond some back and forth after receiving it.

**Loretta Collins:** That was last spring and here we are, so final resolution has not come. The issue at this point is the supplemental nutrient management. There's a supplemental nutrient management for phosphorus, but not for nitrogen.

**Tim Sexton**: There was extensive discussion about NM on full-season soybeans on the Expert Panel with no less than two dozen publications and many discussion with Jack Meisinger and the decision was unanimous that there was no supplemental N benefit of N on soybeans or nay other legume.

**Loretta Collins**: We are going to work through this and just see where we are by the end. I reached out a week ago to the official science members of the Phase 6 NM expert panel (Phase 5 was too many people) and I only got a few responses that I will go over. At the Management Board, it was stated that the NM EP did not consider NM on soybeans, which is misleading. When N loads went up because of the shift from double crop to full season soybeans, people looked to the NM Expert Panel report and found that supplemental NM for N on full season beans is not available. The Expert Panel report does not explicitly explain the reasoning for this, which makes it a challenge for partners to understand when they go to the report looking for an explanation. Even if we don’t make a change, it may be helpful to have a documented explanation from the experts. I reached out to the six members on the Phase 6 responded and 3 responded. I received no definitive responses to the question asked, primarily because the experts are far-removed from the discussions of the panel and no longer have the context to answer with confidence. And we can’t just change approved recommendations because we want to, we need to follow the science and process for determining BMP effectiveness that the partnership agreed to. Something to think about is what is the real concern here: the NM BMP, land use loading rates, or the ag census (lack of confidence in the data we are using).

**Mark Dubin**: We may want to go back and look at the presentation materials from the panel to the AgWG and maybe the comments back?

**Loretta Collins**: I didn’t see any comments or discussion in the panel appendix about this issue.

**Mark Dubin**: I’m thinking more at the AgWG level in the meeting minutes and the presentations.

**Loretta Collins:** I would like to hear from the states on where you are on this issue now.

**Bill Angstadt:** Reading the panel, Doug Beegle from PSU took the position that if you were going to apply N to full season soybeans it would suppress the fixation in a 1:1 ratio so there would be no more or less residual N if you apply nitrogen or not.

**Tim Sexton:** The research indicated and what Jack and I discussed- if you applied N fertilizer it did not substantially reduce the nitrogen- there was more residual N that you have to carry forward. My opinion is that this is more of a load allocation issue. It's not really a nutrient management issue at all. It's more how the load allocation was assigned.

**43:00 Bill Angstadt:** We know in PA, nutrients are being applied to full-season soybeans pre-planting either as manure for sulfur and phosphorus. We confirmed last meeting that full-season soybeans are eligible for manure applications. Or the other form would be P fertilizer. As we all know, phosphorus fertilizers are ammonia phosphorus fertilizers. So if you look at like mono ammonium phosphorus, which will be used in the situation, you have an analysis of 13 units of nitrogen and 52 units of phosphorus. For farmer had high yielding full season soybeans, he might be putting down 100 pounds of a phosphorus and that's 25 pounds of nitrogen. So if there's fertilizer applied, pretty much the norm would be 25 pounds of nitrogen fertilizer in Pennsylvania. So we know full season soybeans come under core nutrient management for nitrogen, phosphorus, but they only come under for supplemental nutrient management phosphorus and not nitrogen. So as Olivia and I have discussed this is kind of unrealistic, because whether it's manure application or fertilizer if you're going to put phosphorus down and you're going to place it to timing, the nitrogen is going to do the same thing. So that's what's hung us up, but I think Tim's point again is-- even if I placed nitrogen for the manure and fertilizer by incorporation, for example, before I do my full season soybeans. Am I going to end up with any different load at edge of stream for that nitrogen or will just remain residual for the next crop?

**Mark Dubin:** Tim’s remarks were that there was a lot of conversation about this on the expert panel about the effect on the legume N fixation and Jack was pretty adamant that there was not a 1:1 correlation between applied and fixated N. From that viewpoint, if you are putting N down you are going to add instead of staying at a 1:1 equilibrium with the amount of N available.

**Bill Angstadt:** So if you're going to add nitrogen and you now say incorporate it meaning placement, do you gain efficiency in that nitrogen and thus reduce the potential for a loss?

**Mark Dubin:** The way the panel looked at it they felt that the additional nitrogen contributions were minimal compared to the overall amount of availability. That is why they didn't put an emphasis on the supplementals because of that, but did treat it as a core element of the nutrient management. That was the panel's opinion and that was that was unanimous opinion for the panel at the time.

**Tim Sexton:** Does that make sense, Bill?

**Bill Angstadt:** I don’t know if any of it makes sense but we are trying to find resolution to it.

**Tim Sexton:** Doesn't matter really that you could have banded the fertilizer two by two. The fact is, that's additional nitrogen that you put down. You didn't reduce the amount of nitrogen, because you can't cut back. You can't tell the little bacteria, to not form the nodules. Jack probably more knowledge and research than anybody else. And I don't know how many hours at night we spent on the phone to make sure that I understood after reading. I don't know how many documents he sent me on nitrogen management. I guess the main point is that supplemental applications of nitrogen of any source on any legume is increasing the potential for nitrogen leaching or run off because you can't shut down the bacteria from doing what they're supposed to do.

**Bill Angstadt:** So if we're not going to repress the nodules of the bacteria and we are going to apply nitrogen pre-plant to full season soybeans, then we're going to increase the loss potential from that acre. So if we use supplemental nutrient management practices like placement for that nitrogen we apply don't we now decrease the potential for edge of stream loss?

**Tim Sexton:** No, the exact opposite. You're increasing the potential for leaching to the water table because you're not allowing the bacteria to be the only source. So you're putting down more nitrogen than the plant can utilize. So it's a negative BMP. That's the reason the panel were unanimous in saying there was no supplemental nitrogen BMP.

**Bill Angstadt:** So if a farmers going to broadcast manure before he planted soybeans, the loss will be no different- whether it's broadcast and stays on the surface or whether it's incorporated to tie it up in the soil.

**Mark Dubin:** If they were broadcasting manure it would not be considered core nutrient management. The only supplemental nitrogen that was provided for in the panel is what would carry-on with P fertilizer. The panel was very explicit about manure application and that it would not be considered part of core nutrient management.

**Tim Sexton:** Bill, manure application is not a part of core nutrient management [for soybeans] because that is an act that we allow to happen as a management of manure basically under emergency management. That it's not necessarily nutrient management but is more of a remediation effort. That would be like trying to stabilize some of these [sulfidic] soils that were exposed that go from a pH of 7 when they are covered a pH of 1.5 and you got to put down 180 tons of lime per acre in order to stabilize them. That's remediation, that's not Nutrient Management. Once you get them stabilized and you will try to grow a crop that’s something else. If a guy's lagoons is getting ready to overflow tonight and he's got to put manure down before he plants his soybeans. That's a remediation effort or emergency effort, go ahead and do it. And we will put it in the nutrient management plan and carry forward the residual nitrogen, you know, to help him stay out of trouble.

**Loretta Collins:** From my simplistic understanding, I don’t understand why there is core nutrient management from N based on what you all are saying.

**Mark Dubin:** the core was based on the premise of you had a producer going out there and putting down manure or a nitrogen and phosphorus-based fertilizer by the agronomic recommendation that you would not put down manure or a generalized formula, but people did recognize that if you are just putting out a phosphorus-based fertilizer that the formulation may have nitrogen with it. So that's the difference between a non-nutrient management full season soybean with the manure being applied on it and nutrient management full season, soybeans by not putting manure on it.

**Ken Staver:** My thought was if you put N on soybeans you were not eligible for core nutrient management credit and if you weren’t eligible for core than you weren’t eligible for supplemental. So, you have to go back further than this discussion to sort this out. Because if you are putting on N you are not eligible for core so this is bigger than the supplementals.

**Tim Sexton:** I think this is a loading assignment issue not a nutrient management issue

**Bill Angstadt:** So let me let me follow this one. One more time. So last time we affirm that full season soybeans are eligible for manure applications so that on a county basis if there's manure in that county some amount of a manure is going to be distributed across those soybeans. But once those acres received manure they automatically are no longer eligible for core nitrogen nutrient management, which means for the majority of counties in the bay are not eligible for core nitrogen on soybeans?

**Ken Staver:** I don’t think it is accurate to say that the majority of counties in the bay have manure applied before full season soybeans.

**Ted Tessler:** The model says that they do.

**Tim Sexton:** They might be eligible, but they don't receive it. I got 47 counties that never see a drop of manure. They're eligible, but there's no animals in the counties. So how do you say that they receive manure?

**Mark Dubin:** Yeah, I think Bill that you're right in the fact that you know that the full season soybeans are eligible for manure. We have to account for producers who do put the manure down and so that's part of the baseline condition. And so the BMP is moving beyond the baseline. And that's this case that the BMP definition is saying no, if you put manure down you are not eligible to be an nutrient management acre.

**Bill Angstadt:** The model doesn't identify individual producers, it identifies manure distribution application across the whole county. So if you look at the [nutrient application] slopes. You start with corn for grain corn and for silage, small grain, full seasons soybeans… Those are all part of that group of crops that received manure and so even if every acre of full season soybeans receives one pound of manure through that distribution, it's then ineligible for core nitrogen nutrient management?

**Mark Dubin:** Yeah, the way you're looking at is that yes, they're eligible to receive it. Once those acres fall underneath that nutrient management BMP reporting. Then they are now eligible for application and they're in the model. So, but the baseline condition before nutrient management, before any BMP reporting would be yes, they would be eligible for receiving it. So I think part of the part we need to look at is this goes a little bit back to what Tim said earlier part, we need to look at what is the level of nutrient management reporting is, how many acres in those counties have nutrient management reported on them? And I think, you know, in some cases, we have a limited number of acres of reported nutrient management because of various reasons. And I think in other cases where we have counties with very large excesses of manure that is another place where manure is distributed so that there is a place to put the manure on. I look at it like that, versus “because manure is put down it is no longer able to be a nutrient management acre.” That’s not the case.

**Tim Sexton:** And Bill, I'll be glad to get into some details as to how that gets separated out by how we record our nutrient management acres into the NEIEN and how that kind of separates that out almost on the side sometime, if you'd like.

**Bill Angstadt:** Thank you. Tim.

**Ken Staver**: Yeah, I think that manure distribution thing. It's sort of an entry point into distributing the commercial fertilizers sales, if I remember that discussion that's the point of that exercise, I think.

**Tim Sexton:** That’s correct. Bill, just give me a call sometime, and I'll be glad to talk with you and see if I can help you understand a little better.

**Bill Angstadt:** Thank you, Tim.

**Loretta Collins:** Any other thoughts or comments about this?

**Bill Angstadt:** What are we going to do?

**Ted Tessler:** How about we dial back the 120% application: the penalty for non-nutrient management?

**Loretta Collins:** That would put us at the point of reevaluating an approved expert panel recommendation.

**Tim Sexton:** The multiplier from non-nutrient management is based upon the effects of what happens based upon the loads assigned by the Phase 6 model and in a lot of cases there was nothing that we could do about those multipliers.

**Ted Tessler:** So what we have this multiplier. And now we have to live with it and deal with it. And without having the BMP tools to actually address the load or be able to bring reality to the assumption we're basically left with a load that we can't do anything with or we are effectively saying we are over applying.

**Tim Sexton:** That's not necessarily the case. If I can get a chance to explain to Bill maybe he can meet with people in a separate situation I think it'd be easier to understand.

**Mark Dubin:** Where the opportunity here is, is to figure out a way to the better account for NM acres in PA and manure management acres and acres that are not receiving manure. And so that's where the opportunity lies at not only just for full season soybeans, but for all the crops and I think that's probably the better bang for the buck. You might say, and at least for that larger viewpoint.

**Tim Sexton:** But it does kind of the trick, you know, as we record into the NEIEN there are certain idiosyncrasies. I've learned in the last 13 years as to how to get the maximum bang for the buck. You know, if you and Bill would like to get on a conference call I'd be glad to explain how that works.

**Bill Angstadt:** All right, I just want to add two other points. They are administrative. Pennsylvania in its WIP 3, It's future milestones is going from progress from 2019 of core nitrogen nutrient management from 365,000 acres to 930,000 acres. If the interpretation that I'm hearing is that if you're applying any nitrogen to full season soybeans, you do not qualify under core nitrogen nutrient management, that's going to eliminate a lot of acres in Pennsylvania, because the reality is for sulfur and for the phosphorus that the nitrogen gets carried along. And then the second issue is in the Conowingo WIP (CWIP). The CWIP creates this 6 million pound nitrogen reduction. very dependent on supplemental nutrient management for nitrogen, including full seasons soybean acres. So if we are not going to budge from this position, then this will bring us back to revising the CWIP and eliminating about 250,000 acres in Pennsylvania of full season soybeans that are not eligible for supplemental nitrogen nutrient management as assumed in the CWIP.

**Tim Sexton:** How many acres do you think you can run PSNT on in corn? Cause PSNT gets you a rate, timing, and placement reduction. That's a 21% reduction. That's the highest nitrogen reducer that you can think about. That cuts your total down considerably. Think about that for a little bit.

**Mark Dubin:** I think the panel relied on the agronomic recommendations coming off the land grant universities across the states. That's where this originates from so whether it's Penn State, University Maryland, Virginia Tech, that's in their agronomic recommendations and used by the Bay Program to define nutrient management. I think one of the bigger things I see is that we have some limited capabilities. Right now, representing nutrient management acres, whether they're in a certified plan or they're being done privately by producers. I think that's the greatest potential that we were kind of missing in some places right now.

**Tim Sexton:** Bill, the point I was trying to make is, you're looking for a maximum of 7% reduction, how many acres of corn is grown in the state of Pennsylvania- whether it's silage, or whether it's for grain? And you can get a 21% reduction if you follow the recommendation of a PSNT per acre, whether it says to put down a full rate or not. Change your thinking a little bit. You could make up easily there. So, like I say this have an offline discussion. Think about things a little bit and I'll explain how you feed that into the NEIEN.

**Ted Tessler:** The reality, Tim, is that there is more soybean acreage is being reported every year.

**Tim Sexton:** Well, I understand that. But you're heavily loaded counties are due to the dairy industry where there's rye silage and corn silage and the other counties that's not that big a deal. The issues where you've got the heavy manure counties.

**Ken Staver:** Yeah, and I will backup Tim on that. You know, the corn with manure, or you know those loads are double what the soybean loads are so we get that 20%. It’s 20% of the load so it's a big reduction in pounds, and that's what we're really after here in the reduction in pounds not percent. So, you know, if you get those high percentages on those high load acres. That's how you get bigger numbers.

**Bill Angstadt:** I understand all that. But you have to realize in Pennsylvania between the WIP 3 and now the CWIP our corn acres for grain and silage for core nitrogen, phosphorus and supplemental nitrogen, phosphorus to reach those goals are at 95% of E3. So Tim, you're recommendation or suggestion of just get more corn acres engaged. We're out of acres to be able to do that.

**Tim Sexton:** I need about same acreage you do to meet my goals and, you know, I understand where you're coming from. In some cases, there's still a lot to think about but soybeans aren’t going to get it for you. And it's not going to get it for me.

**Loretta Collins:** It seems like there is a conflation between the manure and the fertilizer application. It seems like you are stuck between the science on nutrient management and the need/pressure to meet TMDL goals. I was a little bit caught by surprise on the CWIP comment because if the hope is to achieve the goals with the supplemental nutrient N management on full season soybeans- we currently don’t have an approved nutrient reduction for that. Relying on a reduction that we don’t account for in the CWIP does not seem to be the right way to go. I don’t know where you all are on this, because it sounds like the LGUs have their nutrient management recommendations and this is a scenario where what the science is telling us is viewed as an obstacle to achieving reduction goals, but the planning to achieve those goals has to be based in science.

**Ken Staver:** Just a comment in general: I think one of the problems we're running into on this call is what we really wanted is a 40% reduction. Let's just say we go back to the 1988: a 40% reduction and forget all this, you know, new complicated stuff. And what we really wanted was a 40% reduction from reality, not from the ideal. We're getting into these discussions we kind of seem to sort of start with the ideal is where we are and work from there. So, I guess people get uncomfortable, saying, Oh man, we're using manure, but we don't recommend it but it feels right. That most of the full season soybeans are actually getting manure applications- significant ones because you don't apply them on the order to half a ton per acre. So you're putting out 100 pounds of N, you're not putting out 25 you're putting out 100 pounds of N when you put out three tons of manure or whatever you're putting out. It's not going to be, you know some little micro application. So that's reality. Then there is progress to be made by dealing with that which is far from what anybody at university recommends. But nevertheless, that’s reality. And if that's what's creating the load, then that is what you need to work on.

**Mark Dubin:** And can I appreciate that. I think, Bill, I was looking at some numbers from one of the PA counties (not out in the far northern West or something like that) but they were running about 10% implemented nutrient management on available acres. So for me, that's where the opportunity is. I don't think having manure on soybeans is what's making that number low, but I think it's more of the ability to be able to identify and track and report it. There's plenty of acres out there that don’t use manure in any manner- all fertilizer. I think the problem is how do we find a way to be able to identify it. and where we have folks who are putting down manure. And I know a lot of my neighbors have done that. And, you know, unfortunately, that's just not a recognized form of nutrient management.

**Loretta Collins:** I know some counties have higher manure loads based on the agriculture in that county. Even in states like MD there are still opportunities for nutrient management. I feel like what Mark and others are saying is it is chasing the wrong thing by going after nutrient management on soybeans instead of focusing other opportunities for nutrient management implementation.

**Kate Bresaw:** I understand our nutrient management plans very well and there are plenty legumes getting manure and it is written into the plans. Are you saying those acres are not being counted? How are they being distributed across the county? Because you can apply manure to the removal rate in PA.

**Mark Dubin:** I think the question goes back to Ted Tessler about reportable data on that for PA.

**Kate Bresaw:** Okay, well, we'll talk about that later.

**Bill Angstadt:** Question is, if a farmer is in compliance with his nutrient management plan in Pennsylvania, by putting manure nutrients on full season soybeans and has a balance sheet, recognizing the removal, is that acre eligible or not eligible for core nitrogen BMP in the model?

**Mark Dubin:** So the question would be to me to go back and look at Ag 38 and say, you know, do they follow the land grant university rec about putting manure on soybeans. I'm not the best person to ask.

**Kate Bresaw:** Ag 38 is based on land grant recommendations in Pennsylvania.

**Mark Dubin**: Yeah so Penn State's recommendations would be not to put manure on those acres.

**Kate Bresaw:** You can still be compliant, if you can apply based on the removal rate. So I guess my question is, how are those acres being attributed [counted]?

**Loretta Collins:** Manure is applied contrary to the recommendations and needs to be accounted for in NM plans, but where that falls in as far as reporting nutrient management to NEIEN, I don't know.

**Bill Angstadt:** Alright, so what Kate is asking is if you're applying manure on full season soybeans and you are in violation of core N nutrient management you get 1.20 penalty. Kate is saying that you can be in compliance in Pennsylvania with the land grant university and Ag 38 by applying manure to full season soybeans up to the removal rate. So, Pennsylvania, would like to have a ruling from the Chesapeake Bay Program. Can Pennsylvania report full season soybeans receiving manure within the guidelines of the language of Penn State and crop removal into NEIEN as meeting core nitrogen nutrient management?

**Ken Staver:** The point of credits is to represent some reduction in nutrient loss. If now something you've been doing, you get credit for getting core nutrient management. Well, what changed there to reduce the loss from that field?

**Ted Tesler**: Well, what we're doing is actually combating the over application that's assumed in the model. So right now, just even having a compliant operation would need to be able to report that core NM to be able to get to the 1.0 [multiplier].

**Ken Staver:** So do you think prior to doing this, everybody was over applying?

**Ted Tesler:** That is what the model thinks.

**Ken Staver:** Again, going back to the reality (what is happening on the ground). This is one of the core problems [model versus reality].

**Mark Dubin:** I think that there is not always a complete 1:1 between the land grant university recommendations and state programs. Maybe a place to start here on this would be to look at the PSU agronomic recommendations and work from there upwards. One thing the expert panel did acknowledge was that are different agronomic recs by each state and would guide how states track nutrient management.

**Kate Bresaw:** Looking at table 1.27 of the PSU agronomy guide and it says the 3.29 lbs N can be applied to soybeans.

**Mark Dubin:** Yeah, and that's what was used as part of the carrier of a residual of nitrogen that you know the phosphate fertilizer is carrying. That came from Doug Beegle.

**Kate Bresaw:** That is the basis for act 38 nutrient management planning.

**Mark Dubin:** That's in line with what the panel expert panel report says, but that's not the same as you can apply manure. It’s gonna be very difficult to apply the manure at that low level of application.

**Jason Keppler:** What was the recommendation?

**Kate Bresaw:** 3.2 # N per unit yield. I do believe that if manure is going on soybeans it is within that recommendation.

**Jason Keppler:** I'm looking at our recommendations for Maryland and to quote specifically from our nutrient management manual. This is based on a 40 bushel per acre yield goal. There's a note regarding nitrogen pounds per acre. And it says nitrogen is not needed for soybean production. However, in order to meet crop needs for phosphorus organic nutrients can be applied up to 50 pounds of nitrogen per acre. So we are using that same per unit. We're under that under one per unit of yield. This is from Maryland's nutrient management manual, which I believe came from University Maryland.

**Bill Angstadt:** Jason, How are you handling this issue? So if a farmer is doing full seasons soybeans and applies poultry litter pre-plant those full season soybeans, does that eliminate him from being in compliance with core nitrogen nutrient management?

**Jason Keppler:** Provided that they're following the land grant university recommendations and are in compliance with our program. We have a thorough accounting of all the nutrient applications that occurred in Maryland as well through our annual implementation report. On the back of AIR form farmers list out specifically the crops that are grown and the amount of nutrients that are applied to those crops on an annual basis. And they're split out into inorganic manure and other or organic sources such as bio solids and things of that sort. So yeah, we do have the capability of teasing that data out.

**Bill Angstadt:** Alright, so we're back to case question again. Pennsylvania would like to have a ruling across the six jurisdictions on the assertion that was made earlier today that if you're applying manure on full season soybeans, you are not eligible for core nitrogen nutrient management. Pennsylvania and it sounds like Maryland have been taking the position that if you're in compliance with the regulatory programs and which are aligned with the land grant universities those acres of full seasons soybeans can be eligible for core nutrient management, even with manure applications.

**Loretta Collins:** This has turned into a soybean management issue: manure versus Fertilizer. I did not contextualize it this way in the past. If it's a fertilizer-only situation and there's an assumption that a small amount of nitrogen is applied, because it's riding along with the phosphorus formulation, the supplemental NM logic would be that N is along for the ride with the phosphorus and the load would be diminished, to some extent like it is for P, not taking into account all the dynamics that Tim has mentioned earlier, talking on a very simplistic level. But now we have pivoted to core nutrient management to manured beans.

**Bill Angstadt:** Because full season soybean acres in the county does not qualify for core nitrogen management, then the supplemental nutrient management BMP is moot.

**Loretta Collins:** There's the way things have to work in the world and the planning. And then there's what you all report the BMPs to the CBP. So if you have a nutrient management plan, there's not a recommendation to apply manure to soybeans. But if you are going to use manure on soybeans, you can only use it to at a rate that will go up to 50 pound/ac. (in MD). So the NM program understands that in reality, people are going to use manure and there are some benefits to it- but there is a max threshold. So that's not preferred nutrient management. Based on the LGU guidelines, but there's an accommodation in nutrient management planning to allow for that manure application. So when you are reporting nutrient management plans to the Bay Program... I have no idea how you even split out the supplemental from core, frankly, but at least in Maryland there is very specific record keeping. For PA or any state, when you're reporting nutrient management, I assume you're reporting it based off of # of plans (acres) and at some point I would think if the plan is in compliance in the state that is what is reported whether there's manure involved or not. If there is manure application and the plan is in compliance with nutrient management don’t up you report the acres of nutrient management planning implemented under core nutrient management? you report 1000 acres of nutrient management plans to the Bay Program Office whether there's manure or not. It does not matter.

**Ken Staver:** The question is, is between compliance with state programs. And in the case in Maryland, its regulatory versus what's reported to the Bay Program and they aren't necessarily 100% the same thing. That's my impression. I could be wrong. Right, so we're going back and forth here between what's reported to the Bay Program versus being compliant with our state. The nutrient management program in Maryland is regulatory. You know, they don't match up seamlessly right.

**Jason Keppler:** I thought that at some Point the CBP completed evaluation of each of the state’s nutrient management programs to see if they were sufficient and in terms of meeting the general requirements. Maybe I'm wrong. Maybe I'm just, you know thinking of something else. But I thought that the Bay Program did that at some point.

**Bill Angstadt:** What EPA Region 3 did was look at the state regulatory nutrient management from a baseline for water quality trading. And EPA region 3 concluded, and this is a decade ago, that compliance with manure management plans in Pennsylvania was not sufficient to be a legal baseline for water quality trading.

**Jason Keppler:** Keep in mind too the requirement of each of the state or jurisdiction to verify that the NM plan is being executed, as well. So there is a verification component that comes into this that I think we still need to discuss if we're heading down this road. It's just not based on the recommendations but verifying that those farmers have met the requirements, too.

**Mark Dubin:** We did that state by state comparison as part of Phase 4 before we got to the Phase 6 model and there was an EPA review of the programs through that process.

**Jason Keppler:** I don’t think it is the responsibility of the partnership to determine if any part of the NMP meets or does not meet a certain part of the criteria. I would prefer that be determined to the EPA. It can get subjective if the Bay Program starts looking at the state program.

**Loretta Collins:** I guess we need to know where we are, I feel like the ask has shifted to this issue of manure on soybeans and applying nutrient management- which is outside the spirit of nutrient management recommendations but within some bounds of compliance as determined by each state.

**Mark Dubin:** The question might need to be because the expert panel did recognize individuality of the land grant university recommendations in the report, if PSU is now saying you can apply organic vs inorganic up to a certain level in legumes that is probably where we need to look at and have that discussion.

**Kate Bresaw:** I don’t think that is anything new.

**Mark Dubin:** Maybe there are changes we need to look into.

**Loretta Collins:** If they had all of this information in mind at the time of the panel and still came to where they came to, are we going to end up finding ourselves in the same place again?

**Ken Staver:** Are there any sources of data on the acres of soybeans that get spring manure applications (field data). That seems like a starting point if this discussion is going to go this way and we are going to say we have a situation that is not ideal but it is reality and we could go from not ideal to less not ideal but the question is how much of this practice is out there.

**Loretta Collins:** If we knew all of that, would that impact the baseline aspect?

**Ken Staver:** The baseline is that there is a whole bunch of this going on and we can show this is happening and then we can actually reduce the loads…

**Loretta Collins:** Is there a situation when we add a load in order to get the nutrient management advantage that you are looking for?

**Mark Dubin:** We need to keep in the back of our mind that the core nutrient management is actually what is changing the application rates in the modeling. Supplemental is not changing application rate. The main value is in changing the application rate, where the multipliers come in.

**Bill Angstadt:** Loretta, I would suggest that the PA representatives on this ad hoc have an internal discussion of how we would like this request rephrased or redirected and come back to you with that.

**ACTION: Pennsylvania representatives will have an internal conversation about the way they want to reframe their concern.**

**Loretta Collins:** Okay, because I think we completely left the realm of where we were before. I am wondering about DE?

**Clint Gill:** I am going to have to talk to Chris because this was a lot of new stuff but our whole situation is that this still feels like an Ag census issue.

**Loretta Collins:** That was my suspicion. So for PA still feels this is a nutrient management issue.

**Clint Gill:** This takes us into a situation with an uncontrollable load which can be pretty hard to swallow.

**Ken Staver:** If I could just put one thing in – it was about that supplemental and the driving thing was the increase in load and it went from double crop to full-season. The full season increase in load as a result from switching from double crop to full season is not a Bay-wide thing so something else going on.

**Clint Gill:** Yes, you are right about that, that was very confusing for DE as well.

**Mark Dubin:** Ken does that point to not having acres under NM for the full season is the primary driver because we are looking at higher nitrogen application in addition to the legume effect?

**Ken Staver:** I think we need to do more digging before we understand what is going on.

**Mark Dubin:** Qualifying the base condition for core is what we need to look at. The change in loads may have more to do with BMP accounting.

**Bill Angstadt:** This issue is not going to go away because of the economics. For a PA dairy farmer, the farmer is going to use dairy manure over buying fertilizer. And we would encourage that they use the manure available rather then importing fertilizer.

**Loretta Collins:** That sounds like a baseline condition we may be not addressing, but not sure.

**ACTION:** Work with the CBPO to better understand how shifts in full-season and double-crop soybeans are impacting modeled N loads.

**Ag Input Issues: Status Updates**

**Dairy Precision Feeding**

* PA has a team working on it.

**Heavy Use Area Protection**

* **Ted Tessler:** Jill specifically wanted to keep this on the agenda because there may be other states that want to address this agenda item in a larger sense but I’ve come to understand that this is reported differently in PA. If there are other states doing this reporting similarly to us, we want to keep it on but if not we can be persuaded to backing down.
* **Loretta Collins:** Does any other state have a concern of the reporting from NRCS 561?
* **Ted Tesler:** I was thinking mainly NY.
* **Cassie Davis:** I would need to reach out, I don’t think we have an issue with this but want to make sure.
* **Emily Dekar:** I would have to look into those things and have a few conversations before I would be able to talk logically on that.
* **Ted Tessler:** Okay so maybe just give us a week or two? If it doesn’t rise up, we will consider letting it go.

**ACTION:** NY will determine if there is an issue with Heavy Use Area Protection (Loafing Lot) reporting that needs to be discussed. If not, the issue will be retired from the list.

* **Loretta Collins:** Okay well it sounds like we will have a meeting in January and check in on this issue. Ken will be on the AgWG next week. Are there any other updates related to data inputs for this group?

**Winter Crop BMP**

* Charlie White will be discussing research at the AgWG in January.

**Fertilizer Sales Data**

* **Jason Keppler:** At Dept. of Ag we have been starting to discuss the fertilizer sales data and the information that the state chemists collect. We are going to continue engaging with them over the next few months and bring Lindsay and Janelle in as well. We are hoping to gain a better understanding of how the data is collected and what gets reported back up. I would guess that most jurisdictions use the same system for reporting as we are and hopefully this is helpful for others as well.

**Review of Action Items**

**ACTION:** Pennsylvania representatives will have an internal conversation about the way they want to reframe their concern regarding nutrient management on soybeans.

**ACTION**: Continue investigation with the CBPO to better understand how shifts in full-season and double-crop soybeans are impacting modeled N loads.

**ACTION:** NY will determine if there is an issue with Heavy Use Area Protection (Loafing Lot) reporting that needs to be discussed. If not, the issue will be retired from the list.

3:00 **Meeting Adjourned**