

AgWG Input Data Concerns

WQGIT

November 30th, 2020

CAST-21 Workplan (Working Draft)- AgWG Update

Approved data and method changes need to be finalized through the WQGIT by Sept. 1, 2021

KEY ACTION	STATUS
Task 1: Updates to data & methods that typically occur every 2 years.	<ul style="list-style-type: none"> On-going In process: “Rules of the Road” document for data submissions
Task 2: Investigate alternative forecasting methods for ag land uses & animals	<ul style="list-style-type: none"> In process Nov 19: CBPO presentation on 4 methods of forecasting Return March 2021 for decision
Task 3: Investigate 2012-2017 Ag Census change for fallow/idle acres	<ul style="list-style-type: none"> Sept 17 AgWG presentation (L. Collins, D. Montali) Consulted NASS, no AgWG feedback No further action: Seek clarity via landcover & LiDAR imagery (Task 4)
Task 4: Investigate use of latest landcover & LiDAR imagery to better define changes in total ag (& other land use) acres	<ul style="list-style-type: none"> Oct 15 AgWG: P. Claggett, USGS & J. Czawlytko, Chesapeake Conservancy Send inquiries to Peter Claggett Return in Jan/Feb 2021 for decision
Task 5: Investigate alternatives for double-crop acre estimates	<ul style="list-style-type: none"> Oct 15 Oct AgWG (O. Devereux) Consulted NASS: agreed with estimation method, no partnership feedback No further action
Task 6: Consider supplemental NM for soybeans	<ul style="list-style-type: none"> Dec Ad Hoc & AgWG
Task 7: QA/QC'd historic & current layer pop. data for Hillandale Farms (PA)	<ul style="list-style-type: none"> In process CBPO- future presentation to AgWG
Task 8: Build-in Verification Ad Hoc Team products	<ul style="list-style-type: none"> In process Monthly Meetings

Reminder - CAST 21 Schedule:

- Sept 1, 2021 - All data and methods approved
- Nov 1, 2021 - CAST-21 Beta release
- Jan 1, 2022 - Final CAST-21 release

September AgWG Call:

Action: The Ad Hoc Cast Concerns group will discuss and prioritize CAST concerns raised in addition to the current "CAST-21 Workplan" and bring recommendations back to the AgWG.

October AgWG Call:

Action: AgWG members and interested parties are asked to review materials and send feedback to Loretta Collins (lcollins@chesapeakebay.net) and Gary Felton (gfelton@umd.edu) regarding today's discussion of CAST concerns by COB Friday November 6th.

November AgWG Call:

Reviewed outcomes of feedback period and ad hoc recommendations. No concerns expressed.

CAST-21 Workplan Goal: Accommodate new data and methods with CAST 2021 for changes that have been approved by the Partnership up until COB Sept. 1, 2021

Challenges

Resources

- Capacity is limited at the CBPO & state agencies

BMP Effectiveness Protocol

- Care to follow science

July 2020 AgWG Action: Loretta Collins will reach out to the state jurisdictional members to curate a list of issues to be addressed related to Phase 6 watershed model ag inputs before release of CAST-21. An ad hoc group will be formed to discuss these issues, seek resolution, and bring recommendations back to the AgWG.

Animal Data

Crop Production/Acres

**Nutrient
Applications/Assumptions**

BMP Tracking & Reporting

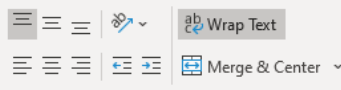
BMP Effectiveness/Modeling





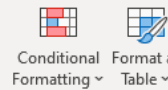
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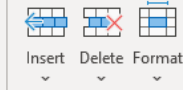






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Backfill, Local tracking of manure; 1. PA needs better tracking and reporting- pilot project Penn Ag Industries lead, SCC, PA 4r Alliance, manure-haulers & brokers possible regulatory change 2. PA wants study group on inter-county manure trans budgets. AgWG study group: how to do thi? Need farmers to reduce applications but need to move. Liq manure is short distance- NEED INCENTIVES for short-distance MT. MTT- Jason/Ted

[illegible]

Ag Inputs into the Phase 6 Chesapeake Bay Watershed Model (CAST)

Summary of Concerns & Ad Hoc Response

Updated Draft

September 2020 AgWG Action: The Ad Hoc Cast Concerns group will discuss and prioritize [CAST](#) concerns raised in addition to the current “[CAST-21 Draft Workplan](#)” and bring recommendations back to the [AgWG](#).

Ad Hoc November Recommendation: Create a tracking mechanism for jurisdictions’ wish list for 2-year CAST updates & the next model phase.

Greyed-out issues resolved



State	Cluster	Concern & Updates	CAST-21 Priority? /Status	Action (First Steps)	FEEDBACK RECEIVED & NOTES (NOV)
MD/NY	Animal Data	Improve animal population estimates <ul style="list-style-type: none"> Explore other estimating options: Dairy, Equine, Beef Accounting for partial CBW counties. 	High/on-going with CAST updates- (CAST-21 Workplan: TASK 1)	Winter 2020-2021 <ul style="list-style-type: none"> Loretta Collins will address NASS annual surveys for dairy. State report partial county animal population ratios to CBPO. Mark Dubin will update AgWG on animal characterization studies. 	Loretta work with CBPO staff on possible use of annual NASS data for dairy Schedule Mark Dubin for AgWG update
MD/PA	Crop Production Data	Improve annual crop estimates <ul style="list-style-type: none"> Annual Implementation Reports (AIR-MD) USDA-FSA crop reporting National Commodity Crop Productivity Index (NRCS) 	High/on-going with CAST updates- (CAST-21 Workplan: TASK 1)	<ul style="list-style-type: none"> MD will reach out to state FSA office Encourage assignment of USDA liaison to the CBP (how? TBD) to facilitate better communication and understanding of data options 	Seek periodic updates.
MD/PA/VA/NY	Nutrient Assumptions	Fertilizer Sales and Use Data: engaging state chemists	High/on-going with CAST updates- (CAST-21 Workplan: TASK 1)	<ul style="list-style-type: none"> State & industry partners work w/ state chemist to improve submission to AAPFCO. 	Collaboration between MDA and industry partners working with state chemists to create template for all Bay states to improved data submissions to AAPFCO. CBPO assistance unnecessary.
NY/PA	Nutrient Assumptions	Nutrient Management on Pasture: <ul style="list-style-type: none"> Request inclusion of soybeans and small grain & soybeans as “manure eligible” to better reflect real-world management and relieve pasture of excess manure applications. 	N/A: RESOLVED Nov 13, 2020	Winter/Spring 2021: Facilitate discussions btw AgWG , MWG and/or CAST team on <ul style="list-style-type: none"> updating “Fertilizer Only” land uses or crop types and subsequent impacts and/or 	hopefully before Phase 7- Bill A (for PA) You expressed Modeling Team concern on both refinements adjusting “nutrient spread

Feedback Received

Nutrient Management on Pasture

- Review of CAST data sources for Phase 6 with Ad Hoc Group
 - Issue resolved

“Winter Crop” BMP

- Would like to resolve before new watershed model- Bill A.
 - Schedule presentation on recent research on N fate following fall-manured forage crops.

CAST Workplan Task 1:

Updates to data & methods that typically occur every 2 years.

Animal Data

Animal Populations: explore other estimating options
(MD/NY; Task 1)

Crop Production/Acres

Crop Production Acres: improve annual estimates
(MD; Task 1)

Nutrient Applications/Assumptions

Fertilizer Sales and Use Data (MD; Task 1)

Improving Ag Data?

KEY ACTION

Task 1: Updates to data & methods that typically occurring every 2 years.

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CRITICAL CONCEPT:

To maintain integrity of CBWM there are two options for new data sets:

- Provide data all the way back through 1985.
OR
- Use the trend in new data sets for the years available.

CBWM= Chesapeake Bay Watershed Model

Crop Acreage Data

Alternative methods to account for fitting Ag Census data to CBP needs?

- Adjusting methods for estimating crop acres (e.g. double crops)

Alternative/supplemental data sets

- Other data sets at the state or federal level?

Crop
Application
Goal

Animal Population Data

Additional NASS Annual Survey Data may be available to inform population trends.

- Dairy, Beef Cattle, Layers, Swine...

Direct from industry data can inform animal population trends between census years.

- Requires careful cooperation, legal, privacy assurances

Manure Generated

Other Data Issues (new data incorporation every 2 years)

Soil P data

- Gary Shenk [Sept 2018 presentation](#) to AgWG on data set incorporated into the CBWM
- **Additional soil P data is welcome and encouraged**

Manure Nutrient Concentration Data

- Changes in management may result in changes in nutrient concentrations
- **Additional manure concentration data is welcome and encouraged**

Fertilizer Data

- More accurate allocation of fertilizer within the CBW?

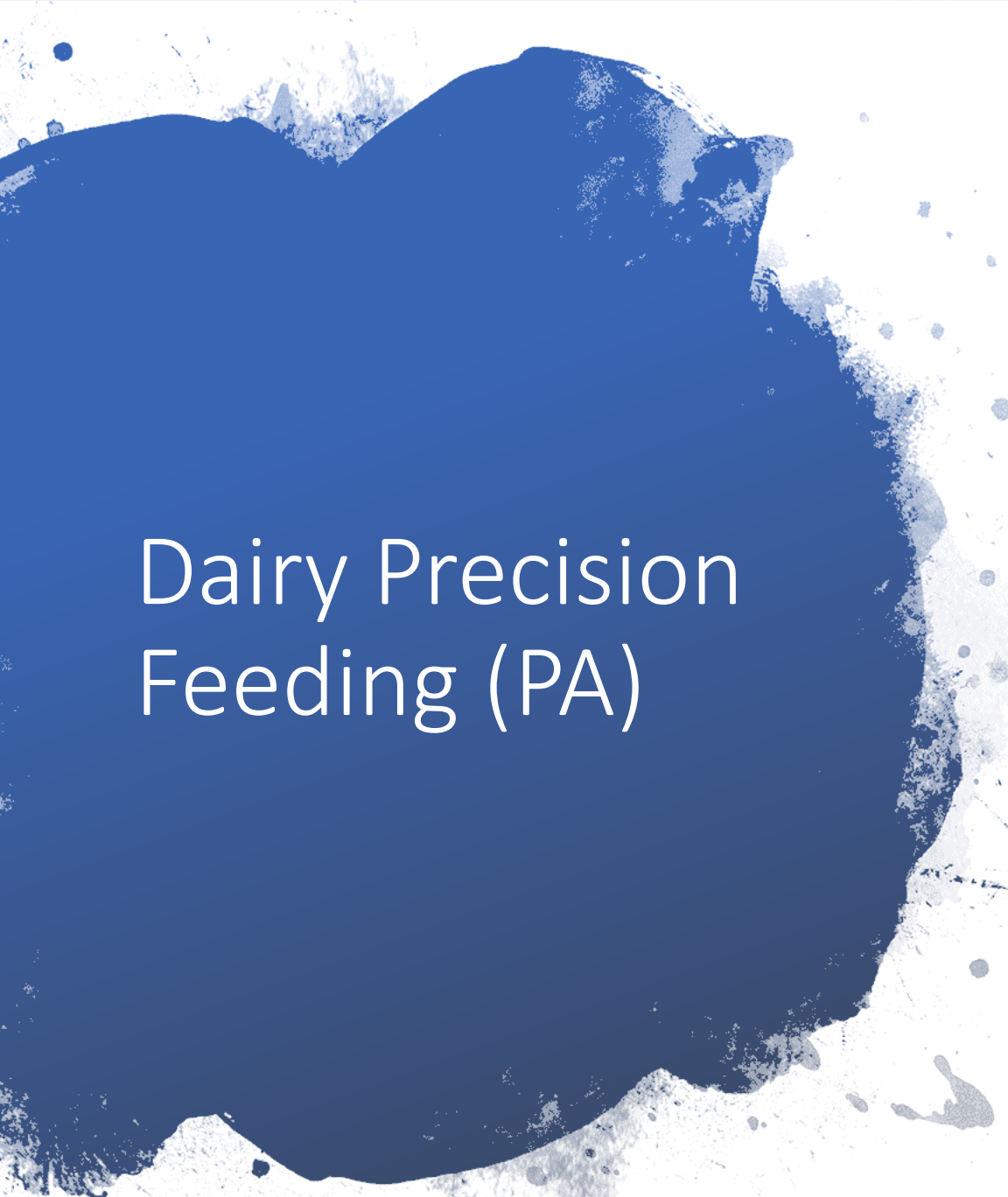
4. Define Inorganic Fertilizer
Available to Crops

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BMP Tracking & Reporting

Dairy Precision Feeding (PA)

Heavy Use Area Protection- NRCS 561 (PA)



Dairy Precision Feeding (PA)

Ask:





- Request developing alternative methods to develop the needed data.
- Is there an effective approach in the mold of phytase use in poultry?

Challenge:

- Enabling and ensuring accurate tracking of farm operations (implemented on voluntary basis)
- Dairy Precision Feeding BMP recs from 2009 (merits revisiting)

WIP III SNAPSHOT:

Dairy Precision Feeding

State	2019 Progress % Implementation	WIP 2025 % Implementation (AU)
DE	0 	100 (4308.11)
MD	0 	47 (19400.0)
NY	3.8	3.7 (10371.0)
PA	0 	42.2 (25879.34)
VA	0 	100 (68962.26)
WV	0	0

State	Cluster	Concern & Updates	CAST-21 Priority?*/ Status	Action (First Steps)	FEEDBACK RECEIVED & NOTES (NOV)
PA	BMP Tracking & Reporting	Dairy Precision Feeding: <ul style="list-style-type: none"> PA has an initial approach to develop data for reporting but long way to go. Request developing alternative methods to develop the needed data. "Pennsylvania stakeholders are engaged in how we can develop this data, however, as with phytase use, we believe there may be more effective methods that the partnership should explore instead of running down individual feed mixtures and "head under management" level reporting." 	Medium/Possible for 2021 progress reporting- <i>if approved by relevant groups in the partnership.</i>	PA facilitate presentation and discussion to the AgWG/Ad Hoc on suggested change in implementation tracking based on updated science on MUN and tracking. Dairy expertise necessary (e.g. Penn State dairy specialist).	Phytase use is currently not tracked as a BMP but is accounted for through the incorporation of updated nutrient concentration data for manure/litter. PA will take the lead in bringing issue forward for consideration.
PA	BMP Tracking & Reporting	Heavy Use Area Protection (HUAP) <ul style="list-style-type: none"> In Pennsylvania, poultry pads are reported under NRCS CPS 313 (Waste Storage Facility) and we see no conflict in mapping NRCS CPS 561 (HUAP) to CBP BMP Loafing Lot Management. 	Medium/Possible for 2021 progress reporting- <i>if approved by relevant groups in the partnership.</i>	<u>Suggested Fall/Winter 2021</u> Schedule a review of tracking/reporting of Loafing Lot Management BMP across jurisdictions to determine feasibility of reporting NRCS CPS 561 as creditable. Include CBPO staff and AgWG/ad hoc/WTWG. (excludes poultry pads)	Can NRCS crosswalk mapping be different for different states depending on their tracking methods for barnyard BMPs and AWMS BMP?

BMP Effectiveness/Modeling

Winter Crop (NY/PA)

Manure Transport / Manure Treatment Technologies (PA)



“Winter Crop”

Ask:

- New BMP recognizing forage-based cropping systems

Challenge:

- Expert Panel needed
 - Resource limitations



Manure Transport / Manure Treatment Technologies (MTT)

Ask:

- AgWG sponsored study group
 - inter-county manure transport
 - MTT & nutrient backfill concerns

Challenge:

- Unresolved(?) issues related to MTT & N backfill (circa 2017)- *need to check on this*
- Agricultural input data for the Phase 6 CBWM* is collected, analyzed, and interpreted on a county-level
 - Crediting transport within-county or across river segments is not feasible with Phase 6 CBWM

State	Cluster	Concern & Updates	CAST-21 Priority?*/Status	Action (First Steps)	FEEDBACK RECEIVED & NOTES (NOV)
NY/PA/MD	BMP Effectiveness	“Winter Crop” Category <ul style="list-style-type: none"> Request category for: “Systems where dairy farmers are taking off corn silage end of August 1 to September coming back with fall manure applications and then following up that with winter forage crops. These are neither commodity or traditional cover crops, they're truly forage crops, where they're doing multi species- particularly for the reason of spring grazing or harvest as feed. They are removing these crops to cycle the nitrogen within their farming operations. Perhaps it's even better defined as what we now have as a legume or legume grass mix hay land use.” 	Low/ next watershed model	<u>Winter/Spring 2021</u> <ul style="list-style-type: none"> Invite Dr. Charlie White, Penn State, to discuss recent research on nitrogen fate in terms of manured winter forage and green chop. Follow-up discussion on Expert Panel needed, available resources and timeline. 	<p>(hopefully before Phase 7)- Bill A</p> <p>(Dr. White could be scheduled sooner or reviewed on-line; the EP charter (refine the need) does not have to be delayed for 6-8 months) Bill A</p>
PA	BMP Effectiveness	Manure Transport/ Manure Treatment Technologies <ul style="list-style-type: none"> Request for a study group within the AgWG to better understand county nutrient budgets and applications. We are requesting a study group within the AgWG to look at how we would do this, as the modeling workgroup is looking at finer scale river segments 	Low/ next watershed model	<u>Summer 2021/Fall 2021</u> Facilitate communication between AgWG Ad Hoc and MWG/CBPO staff to further discuss manure transport possibilities. Possibly structure specific group to engage this issue.	<p>What is the timeline for a Phase 7 model? What are the fundamental changes to be expected? When does a group need to be convened to address ag inputs and how should it be organized? Discussion with CBPO needed.</p>

AgWG Ag Hoc

Jurisdictional reps reviewing submitted concerns
Monthly updates to the AgWG



Ad Hoc November Recommendation: Create a tracking mechanism for jurisdictions' wish list for 2-year CAST updates & the next model phase.



Nov 30

- Water Quality GIT Update

Dec 17

- AgWG cover crop discussion
- Updates from ad hoc/CAST items

Early 2021

- Update
 - NASS annual surveys (Task 1)
- Decision on forecasting (Task 2)
- Decision on land cover/LiDAR data (Task 4)
- Updated research
 - N fate for fall manure on forage crops (“winter crop”)
 - Dairy Precision Feeding