Phase 6 Manure Management Plans Use of Book Values Guidance from EPA

Chesapeake Bay Program Partnership's Agriculture Workgroup

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Background

- November 28, 2016 CBP's WQGIT approved the Phase 6 Nutrient Management BMP Expert Panel's un-amended October 18, 2016 Final Report
- Also approved the inclusion of language inserted into a separate Appendix G to the Panel's final report
- The WQGIT charged EPA with:
  - Developing guidance on the level, type and scope of data and documentation that a jurisdiction needs to submit to fully address the adopted Appendix G language
  - Consulting with Panel members, other recognized experts

Appendix G Language

“Where book values are used in lieu of site-specific manure or soil analyses, the jurisdiction’s program must be sufficiently conservative to ensure that implementation of the standard process is sufficiently restrictive to be protective of water quality.

Jurisdictions reporting book value based nutrient management for credit in the Chesapeake Bay Program’s modeling system must provide a description and justification documenting how their program, including the methods for calculating the book values, meets this standard as part of their EPA approved BMP verification program plan.”

Appendix G Language

"Where book values are used in lieu of site-specific manure or soil analyses, the jurisdiction's program must be **sufficiently conservative** to ensure that implementation of the standard process is sufficiently restrictive to be protective of water quality.

Jurisdictions reporting book value based nutrient management for credit in the Chesapeake Bay Program's modeling system must provide a **description and justification** documenting how their program, including the methods for calculating the book values, meets this standard as part of their EPA approved BMP verification program plan."

Requested Documentation

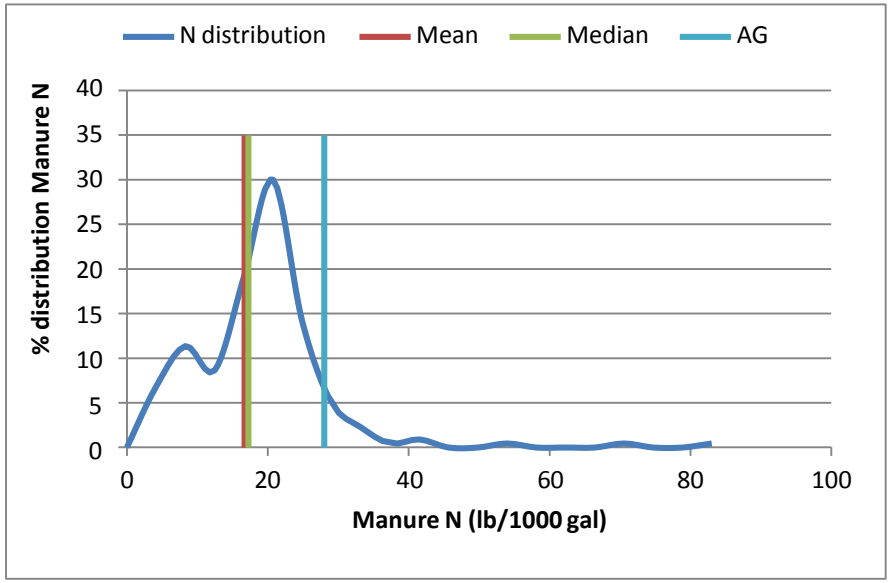
In its guidance, EPA asked jurisdictions to provide three sets of documentation to demonstrate their program is “sufficiently conservative to ensure that implementation of the standard process is sufficiently restrictive to be protective of water quality”:

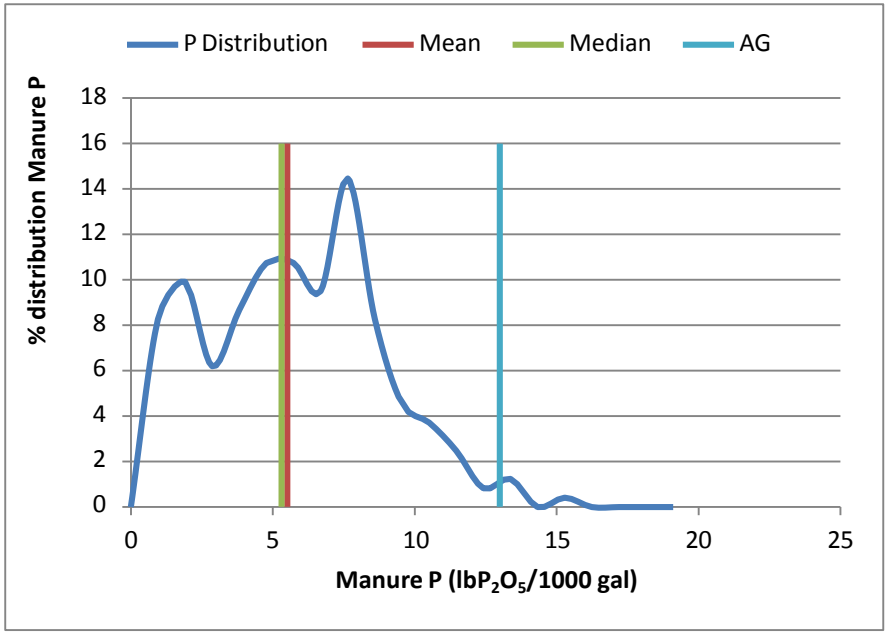
- Use of manure nutrient book values
- Use of default soil-test phosphorus values
- Use of soil-test P default values and manure nutrient book values in manure management plans

Use of Manure Nutrient Book Values

To address the question as to whether the use of the book values are sufficiently conservative, the jurisdiction is asked to provide documentation describing the basis for how the published manure nutrient values were derived

- Numeric and statistical range of analytical manure nutrient values for nitrogen and phosphorus by species
- Statistical methods utilized to derive the manure nutrient values
- Source(s) and relative age of the analytical manure nutrient data


N distribution
Mean
Median
AG
% distribution Manure N
40
35
30
25
20
15
10
5
0
0
20
40
60
80
100
Manure N (lb/1000 gal)


P Distribution
Mean
Median
AG
% distribution Manure P
18
16
14
12
10
8
6
4
2
0
0
5
10
15
20
25
Manure P (lbP2O5/1000 gal)

Use of Soil-Test P Default Values

The jurisdiction is also asked to provide documentation describing the process by which, in the absence of available phosphorus soil nutrient analysis:

- What default process can be implemented
- What specific assumptions about phosphorus soil residual are made
- How are crop specific annual phosphorus removal rates selected as part of the manure management planning process

Use of Soil-Test P Default/Manure Nutrient Book Values in Manure Management Plans

To address the conservative nature of the jurisdiction's program replying on soil-test P default values and manure nutrient book values, documentation is requested on how many of manure management plans (numerically and by acreage) segregated by the primary livestock and poultry species on the operation, were developed and are being implemented by utilizing one of the following methods:

1) Use of default soil test P and default manure values;

2) Use of default soil test P and site-specific manure nutrient analysis;

3) Use of site-specific soil test P values and default manure values; or

4) Use of site-specific soil test P values and site-specific manure nutrient analysis.

Use of Soil-Test P Default/Manure Nutrient Book Values in Manure Management Plans

1) **Use of default soil test P and default manure values**;
2) Use of default soil test P and site-specific manure nutrient analysis;
3) Use of site-specific soil test P values and default manure values; or
4) **Use of site-specific soil test P values and site-specific manure nutrient analysis**.

APPENDIX A

Table 10. Tabulated Data from Conservation Districts (28) in Pennsylvania's Chesapeake Bay Watershed for the previous 18-month period (July 1, 2015 through December 31, 2016)

NAME OF COUNTY CONSERVATION DISTRICT: ENTIRE BAY WATERSHED

NAME OF POINT OF CONTACT: FRANK SCHNEIDER

CHESAPEAKE BAY MMP SURVEY

PRIMARY ANIMAL TYPE

		Dairy			Beef			Turkey			Sheep			Goat			Equine			Other		
	Questions on MMPs Either Developed or Reviewed by County Conservation District Staff	Estimated Total Number of Dairy Plans	Estimated Total Number of Dairy MMP Acres	Percentage of Total MMP for Dairy	Estimated Total Number of Beef Plans	Estimated Total Number of Beef MMP Acres	Percentage of Total MMP for Beef	Estimated Total Number of Turkey Plans	Estimated Total Number of Turkey MMP Acres	Percentage of Total MMP for Turkey	Estimated Total Number of Sheep Plans	Estimated Total Number of Sheep MMP Acres	Percentage of Total MMP for Sheep	Estimated Total Number of Goat Plans	Estimated Total Number of Goat MMP Acres	Percentage of Total MMP for Goats	Estimated Total Number of Equine Plans	Estimated Total Number of Equine MMP Acres	Percentage of Total MMP for Equine	Estimated Total Number of Other Plans	Estimated Total Number of Other MMP Acres	Percentage of Total MMP for Other
	PHOSPHORUS REMOVAL APPLICATION RATES																					
1	Manure Management Plans that were written using **Crop Phosphorus Removal Based Application Rates** (manure analysis **not** available, soil analysis **not** available)	157	26080	50%	229	25997	82%		0	0%	18	967	61%	18	277	97%	235	3998	89%	61	5565	54%
2	Manure Management Plans that were written using **Crop Phosphorus Removal Based Application Rates** (manure analysis available, soil analysis **not** available)		0	0%		0	0%		0	0%		0	0%		0	0%		0	0%		0	0%
3	Manure Management Plans that were written using **Crop Phosphorus Removal Based Application Rates** (manure analysis **not** available, soil analysis available)	25	3411	7%		0	0%		0	0%	1	400	25%		0	0%	1	32	1%	3	261	3%
4	Manure Management Plans that were written using **Crop Phosphorus Removal Based Application Rates** (manure analysis available, soil analysis available)	1	212	0.4%	1	158	0.5%		0	0%		0	0%		0	0%		0	0%	1	186	2%
	NITROGEN BASED APPLICATION RATES																					
5	Manure Management Planss that were written using **Nitrogen Based Application Rates** (manure analysis **not** available, soil analysis available)	73	13623	26%	61	5478	17%	1	85	10%	2	224	14%	1	10	3%	14	481	11%	31	2982	29%
6	Manure Management Plans that were written using **Nitrogen Based Application Rates** (manure analysis available, soil analysis available)	24	9043	17%	2	215	1%	2	745	90%		0	0%		0	0%		0	0%	9	1351	13%
	TOTAL:	**280**	**52369**	**100%**	**293**	**31848**	**100%**	**3**	**830**	**100%**	**21**	**1591**	**100%**	**19**	**287**	**100%**	**250**	**4511**	**100%**	**105**	**10345**	**100%**

March 2, 2017

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Recommended Follow Through

- Shared EPA's final response along with Pennsylvania's complete documentation with Ag Workgroup
- Ask Pennsylvania DEP/SCC to share findings and lessons learned with Ag Workgroup
- Take state partners' feedback and use to set agendas for future Ag Workgroup collaborative actions
- Continue to learn, adapt from the entire Phase 6 Nutrient Management Expert Panel experience

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