

Implementation data summary from 2013 NRI-CEAP Chesapeake Bay Report

NRCS-CEAP 2013

Appropriate Rate Criteria

- Nitrogen application rate criteria apply to *each crop* in the rotation.
- The rate of nitrogen application, including the sum of commercial nitrogen fertilizer and manure nitrogen available for crops in the year of application, is—
 - less than 1.4 times the amount of nitrogen removed in the crop yield at harvest for *each crop*, except for cotton and small grain crops;
 - less than 1.6 times the amount of nitrogen removed in the crop yield at harvest for small grain crops (wheat, barley, oats, rice, rye, buckwheat, emmer, spelt, and triticale); and
 - less than 60 pounds of nitrogen per bale of cotton harvested.
- Phosphorus application rate criteria apply to the *full crop rotation* to account for infrequent applications intended to provide phosphorus for multiple crops or crop years, which is often the case with manure applications.⁶
- The rate of phosphorus application, including both manure and commercial fertilizer, summed over all applications and crops in the rotation is less than 1.2 times the amount of phosphorus removed in the crop yields at harvest summed over all crops in the rotation.

Table 2.7. Nitrogen management practices and percent of cropped acres within each category for the Chesapeake Bay region, 2003-06 and 2011.

Nitrogen*	2003-06 acres	2011 acres	2003-06 percent	2011 percent
No N applied to any crop in rotation	214,000	87,000	5	2
For acres where N is applied:			95	98
Commercial Fertilizer Only	2,457,000	2,177,000	60	51
Manure with or without Commercial Fertilizer	1,608,000	2,089,000	40	49
Rate of application:				
Acres receiving commercial fertilizer and/or manure applications:				
All crops in rotation meet the nitrogen rate criteria described in text			32	23
Some but not all crops in rotation meet the nitrogen rate criteria described in text			54	71
No crops in rotation meet the nitrogen rate criteria described in text			13	6
Acres receiving commercial fertilizer applications only:				
All crops in rotation meet the nitrogen rate criteria described in text			42	35
Some but not all crops in rotation meet the nitrogen rate criteria described in text			52	62
No crops in rotation meet the nitrogen rate criteria described in text			6	3
Acres receiving manure with or without commercial fertilizer applications:				
All crops in rotation meet the nitrogen rate criteria described in text			17	9
Some but not all crops in rotation meet the nitrogen rate criteria described in text			59	82
No crops in rotation meet the nitrogen rate criteria described in text			24	9
Time of application:				
Acres receiving commercial fertilizer and/or manure applications:				
All crops in rotation have application of nitrogen fertilizer less than 21 days before planting			50	36
Some but not all crops have application of nitrogen fertilizer within 21 days before planting			34	50
No crops in rotation have application of nitrogen fertilizer within 21 days before planting			11	11
Acres receiving commercial fertilizer applications only:				
All crops in rotation have application of nitrogen fertilizer less than 21 days before planting			69	59
Some but not all crops have application of nitrogen fertilizer within 21 days before planting			15	25
No crops in rotation have application of nitrogen fertilizer within 21 days before planting			9	13
Acres receiving manure with or without commercial fertilizer applications:				
All crops in rotation have application of manure less than 21 days before planting			18	12
Some but not all crops have application of manure within 21 days before planting			66	78
No crops in rotation have application of manure within 21 days before planting			16	10
Method of application:				
Acres receiving commercial fertilizer and/or manure applications:				
All crops in rotation have N applied with incorporation or banding/foliar/spot treatment			34	27
Some but not all crops in rotation have N applied with incorporation or banding/foliar/spot treatment			45	55
No crops in rotation have N applied with incorporation or banding/foliar/spot treatment			21	18
Acres receiving commercial fertilizer applications only:				
All crops in rotation have N applied with incorporation or banding/foliar/spot treatment			41	37
Some but not all crops in rotation have N applied with incorporation or banding/foliar/spot treatment			34	44
No crops in rotation have N applied with incorporation or banding/foliar/spot treatment			25	19
Acres receiving manure with or without commercial fertilizer applications:				
All crops in rotation have manure applied with incorporation or banding/foliar/spot treatment			22	16
Some but not all crops in rotation have manure applied with incorporation or banding/foliar/spot treatment			63	67
No crops in rotation have manure applied with incorporation or banding/foliar/spot treatment			16	17
Rate and timing and method of application (excludes acres not receiving nitrogen)				
All crops meet the nitrogen rate criteria described in text and application within 3 weeks before planting with incorporation or banding/foliar/spot treatment			13	7
Some but not all crops meet the nitrogen rate criteria described in text or application within 3 weeks before planting with incorporation or banding/foliar/spot treatment			87	93

Table 2.8. Phosphorus management practices and percent cropped acres within each category for the Chesapeake Bay region, 2003-06 and 2011.

Phosphorus*	2003-06 acres	2011 acres	2003-06 percent	2011 percent
No P applied to any crop in rotation	43,000	<1	1	<1
For acres where P is applied:			99	100
Commercial Fertilizer Only	2,414,000	2,264,000	60	52
Manure with or without Commercial Fertilizer	1,608,000	2,089,000	40	48
Rate of application:				
Acres receiving commercial fertilizer and/or manure applications:				
Rotation meets the phosphorus rate criteria described in text			54	57
Some but not all crops in the rotation meet the phosphorus rate criteria described in text			46	43
Acres receiving commercial fertilizer applications only:				
Rotation meets the phosphorus rate criteria described in text			68	76
Some but not all crops in the rotation meet the phosphorus rate criteria described in text			32	24
Acres receiving manure with or without commercial fertilizer applications:				
All crops in rotation meet the phosphorus rate criteria described in text			32	35
Some but not all crops in the rotation meet the phosphorus rate criteria described in text			68	65
Time of application:				
Acres receiving commercial fertilizer and/or manure applications:				
All applications of phosphorus fertilizer less than 21 days before planting			53	42
Some but not all applications of phosphorus fertilizer within 21 days before planting			34	38
No applications of phosphorus fertilizer within 21 days before planting			13	19
Acres receiving commercial fertilizer applications only:				
All applications of phosphorus fertilizer less than 21 days before planting			75	69
Some but not all applications of phosphorus fertilizer within 21 days before planting			13	18
No applications of phosphorus fertilizer within 21 days before planting			12	11
Acres receiving manure with or without commercial fertilizer applications:				
All applications of phosphorus fertilizer less than 21 days before planting			16	13
Some but not all applications of phosphorus fertilizer within 21 days before planting			67	59
No applications of phosphorus fertilizer within 21 days before planting			16	28
Method of application:				
Acres receiving commercial fertilizer and/or manure applications:				
All applications of phosphorus include incorporation or banding/foliar/spot treatment			42	37
Some but not all applications of phosphorus include incorporation or banding/foliar/spot treatment			28	30
No applications of phosphorus include incorporation or banding/foliar/spot treatment			30	32
Acres receiving commercial fertilizer applications only:				
All applications of phosphorus include incorporation or banding/foliar/spot treatment			51	53
Some but not all applications of phosphorus include incorporation or banding/foliar/spot treatment			19	26
No applications of phosphorus include incorporation or banding/foliar/spot treatment			31	22
Acres receiving manure with or without commercial fertilizer applications:				
All applications of phosphorus include incorporation or banding/foliar/spot treatment			28	21
Some but not all applications of phosphorus include incorporation or banding/foliar/spot treatment			42	35
No applications of phosphorus include incorporation or banding/foliar/spot treatment			30	44
Rate and timing and method of application (excludes acres not receiving phosphorus):				
All applications meet the phosphorus rate criteria described in text and application within 3 weeks before planting with incorporation or banding/foliar/spot treatment			22	21
Some but not all applications meet the phosphorus rate criteria described in text or application within 3 weeks before planting with incorporation or banding/foliar/spot treatment			78	79

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Chesapeake Bay Watershed

- Rivers
- HUC Boundary
- Chesapeake Bay
- Chesapeake Bay HUCs**
- 100305, Susquehanna River
- 80208, Upper Chesapeake Bay and Western Shore
- 80087, Potomac River
- 10028, 10, Rappahannock, York, James Rivers
- Lower Chesapeake Bay
- Upper Chesapeake Bay
- 100208, Lower Chesapeake Bay and Western Shore

0 20 40 80 120 160
Kilometers

