

Northeast Ohio Phosphorus Task Force Winter 2016-2017 Executive Summary

Task Force Background

The Northeast Ohio Phosphorus Task Force was initiated by Dr. John Patterson, Ohio House of Representative for District 99, in collaboration with the OSU Extension Offices in Northeast Ohio and the Northeast Ohio Counties of the Ohio Farm Bureau Federation. The committee was formed to take a proactive approach to the Senate Bill 1 legislation passed in 2015 which created new rules for manure and fertilizer application specifically for Northwest Ohio due to toxic algae blooms in Lake Erie. A concern of this committee was the parameters of this legislation could eventually be expanded state-wide in the future which could hamper animal agriculture in Ashtabula, Geauga, and Lake counties. Committee membership included farmers, Extension personnel, Farm Bureau and Farmers Union members, and agricultural cooperative members.

Research & Education

At each of the task force meetings, the committee brought in speakers and published reports to educate themselves about the water quality issues in Lake Erie as well as the specific regulatory details of the Senate Bill 1 legislation. Even though the legislation was written specifically for northwest Ohio, the committee felt it imperative to conduct proactive research on the potential impact the new rules would have if it would be implemented state-wide in the future. As a long term goal, the task force will examine ways in which the farm community can adapt to help improve water quality in both the Lake Erie and Ohio River watersheds.

In 2016, the committee conducted its first research project. During the winter of 2016-2017, this project was continued. Farmers were asked to monitor the weather & soil conditions which were present each day from December through the end of March. Cooperators were asked to track two questions each day #1: Is your ground snow covered or frozen? #2: Is the top two inches of the soil saturated? According to the legislation from Senate Bill 1, no manure or fertilizer can be applied (without incorporation) if these conditions exist in Northwest Ohio. This research was completed to ascertain the percentage of days in our watersheds when it would be permissible for manure or fertilizer application if the legislation was expanded state wide. Fourteen producers in Ashtabula, Geauga, and Trumbull Counties participated in this research project.

Northeast Ohio Phosphorus Task Force January 2017 Tracking Sheet

December 2017		January 2017						February 2017	
Sun	Mon	Tue	Wed	Thu	Fri	Sat			
1 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	2 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	3 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	4 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	5 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	6 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	7 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no			
8 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	9 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	10 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	11 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	12 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	13 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	14 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no			
15 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	16 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	17 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	18 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	19 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	20 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	21 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no			
22 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	23 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	24 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	25 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	26 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	27 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	28 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no			
29 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	30 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	31 Snow or Frozen Ground? ...yes...no Top 2" of Soil Saturated? ...yes...no	Notes: If yes to Snow or Frozen Ground—circle which condition						

Northeast Ohio Phosphorus Task Force – 2016-2017 Pilot Study

Return Completed Sheet to: David Morrison @ OSU Extension Ashtabula County, 39 Wall Street, Jefferson, OH 44047
440-578-9008 (phone), 440-578-0521 (fax) or dmmorison@osu.edu



Cooperator's Name _____ Township _____ GPS Coordinates _____

Data Collection

The data from each cooperating farmer was returned to the Ashtabula County Extension office to be summarized. Each day (at the same time each day), the cooperator indicated whether the ground was **snow covered** or **frozen** or if the top two inches of the ground was **saturated**. These conditions are defined as:

Snow covered soil – is when soil, or residue lying on the soil, cannot be seen because of snow cover, or soil covered by one-half inch of ice or more.

Frozen soil – is ground that is impenetrable because of frozen soil moisture. The restriction is intended to prevent situations where fertilizer or manure is unable to freely infiltrate the soil and therefore would likely run off to surface water. Generally frozen soil will: #1: not be easily penetrated by a metal object (such as a knife, screwdriver, or shovel), #2: not deform to show a visible imprint under downward pressure, and #3: have a temperature below 32°F.

Soil Saturation- occurs when all the pore spaces in the soil are filled with water. A soil that has an available water capacity above field capacity will be considered saturated. According to the Natural Resource Conservation Service Standard 590 for Ohio, when the available water capacity of a soil is above field capacity, then free water will appear on the surface of the soil when the soils is bounced, kneaded, or squeezed. For a fertilizer or manure application to be considered a violation of law, the top two inches of the soil would need to be saturated and the application would have been made with incorporation, injection or growing crop.

Research Findings

For **December 2016**, 11 cooperators completed and returned tracking data. In aggregate, only 4.4% of the days, available for the reporting group, allowed for the field application of manure. Eight of the eleven producers (72.7%) reported there were no days in December in which they could have spread manure based on the restrictions provided by the Senate Bill 1 legislation. The highest number of days available for an individual producer was acceptable conditions for 7 out of 31 days. For **January 2017**, 14 cooperators completed and returned tracking data. There were **no days** acceptable for the field application of manure based on the restrictions provided by the Senate Bill 1 legislation.

Month	Number of Sites Reporting	Days Available to Spread from All Reporters	Applicators Who Could <u>Not</u> Spread Manure Any Day During Month	Percentage of Days in Northeast Ohio Which Manure Could Have Been Applied ¹	Range of Days For Number of Days Each Farmer Could Have Applied Manure
December '16	11	8	72.7%	4.4%	0 - 7 days
January '17	14	0	100%	0%	0 days
February '17	14	20	42.9%	5.1%	0 - 5 days
March '17	12	14	33.3%	4.3%	0 - 7 days
Summary		51		3.3%	0 - 8 days

¹Total Days Available in Aggregate for Month / (Days in month * number of reporters)

For **February 2017**, 14 cooperators completed and returned tracking data. In aggregate, only 5.1% of the days, available for the reporting group, allowed for the field application of manure. Six of the fourteen reporters (42.9%) reported there were no days in February in which they could have spread manure based on the restrictions provided by the Senate Bill 1 legislation. One producer reported having acceptable conditions for 5 out of 28 days. For **March 2017**, 12 cooperators completed and returned tracking data. In aggregate, only 4.3% of the days, available for the reporting group, allowed for the field application of manure. Four of the twelve reporters (33.3%) reported there were no days in March in which they could have spread manure based on the restrictions provided by the Senate Bill 1 legislation. One producer reported having acceptable conditions for 7 out of the 31 days.

In aggregate, the fourteen producers only had a combined 51 days out of 1,539 days (3.3%) to spread manure following the restrictions of Senate Bill 1. The average number of days which each reporter had available to spread manure during the winter of 2016-2017 was 3.4 days out of available 121 days (December through March) or 2.5% of the days. The total days available ranged from 0 to 8 days for the reporting farmers.

Implications

Given the data, a concern continues to arise for livestock producers who do not have on-farm storage for manure and have to rely on every-day application of their manure. **During the winter of 2016-2017, the average farmer only had 3.4 days available out of 121 to spread manure given the restrictions of Senate Bill 1 legislation.** It is recommended this research be conducted again in 2018 and that a three year summary be produced. Additional research is needed to determine how many producers would need to build manure storage structures if the Senate Bill 1 legislation were to be expanded state wide.

For Additional Information

More information about the Northeast Ohio Phosphorus Task Force can be obtained by contacting David Marrison (Task Force Secretary) at 440-576-9008 or marrison.2@osu.edu. Farmers interested in tracking these conditions for 2018 should contact David Marrison at 440-576-9008 or marrison.2@osu.edu so your name can be added to our cooperator list. Summary compiled by David Marrison, OSU Extension Educator-Ashtabula County.