THE OHIO STATE UNIVERSITY
COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

Hardin County Extension News Release

For Further Information Contact:
Mark Badertscher
Agriculture and Natural Resources Extension Educator
Phone – 419-767-6037
E-Mail – badertscher.4@osu.edu
For Immediate Release – March 16, 2023

Topdressing Wheat with Liquid Swine Manure

Hardin County – With the month of March moving along, the topdressing of wheat fields with nitrogen fertilizer will soon start. Given the current fertilizer prices more livestock producers may be considering applying liquid swine manure as a top-dress for wheat.

The key to applying the correct amount of manure to fertilize wheat is to know the manure's nitrogen content. Most manure tests reveal total nitrogen, ammonia nitrogen and organic nitrogen amounts. The ammonia nitrogen portion is readily available for plant growth. The organic nitrogen portion takes considerably longer to mineralize and generally will not be available when wheat uptakes the majority of its nitrogen before mid-June.

Most deep-pit swine finishing manure will contain between 30 and 40 pounds of ammonia nitrogen per 1,000 gallons. Finishing buildings with bowl waters and other water conservation systems can result in nitrogen amounts towards the upper end of this range. Finishing buildings with fixed nipple waters and surface water occasionally entering the pit can result in nitrogen amounts towards the lower end of this range. The contents of the ration fed to the pigs can also affect manure nitrogen numbers.

In past years, some farmers have used sow manure to top-dress wheat. Just know the nitrogen amount in sow manure will be much lower than swine finishing manure.

In university research, we have used both manure tankers and drag hoses when topdressing wheat. The concern with manure tankers is soil compaction, especially on heavy soils. The drag hose seemed to work well wherever used.

The typical application rate for liquid swine finishing manure on wheat is 4,000 gallons per acre. Wheat removes 0.49 pounds of P2O5 per bushel harvested. When also harvesting the wheat straw, a ton of wheat straw contains between three and four pounds of P2O5. So, a 100-bushel wheat crop with one ton of straw also removed would withdraw about 52 pounds of P2O5 per acre. This is likely about the same amount of P2O5 as 4,000 gallons of swine finishing manure would contain but review your manure test to make this determination.

When applying livestock manure to wheat it's recommended to follow setbacks from ditches and streams. You can check with your local Soil and Water Conservation Service for manure setback distances. Applicators in the Western Lake Erie Basin also need to look at the weather forecast to be certain there is not greater than a 50 percent chance of a half-inch of rain in the 24 hours following manure application when surface applying. Print this forecast so you have proof in the event of a surprise rain downpour.

Article written by Glen Arnold, OSU Extension- Manure Management Field Specialist and edited by Mark Badertscher, OSU Extension-Hardin County.