



4 key takeaways from the Minnesota Ag Retail Survey

AFREC supports the Minnesota Crop Production Retailers' survey of Minnesota farmers

About the survey

The Minnesota Ag Retail Survey provides high-resolution data from **52 randomly selected ag retail sites and 609 individual farm fields**. The survey used verified retailer records to provide an accurate look at how nutrients are managed in Minnesota.

#1 Growers are effectively utilizing soil testing to manage phosphorus (P) applications

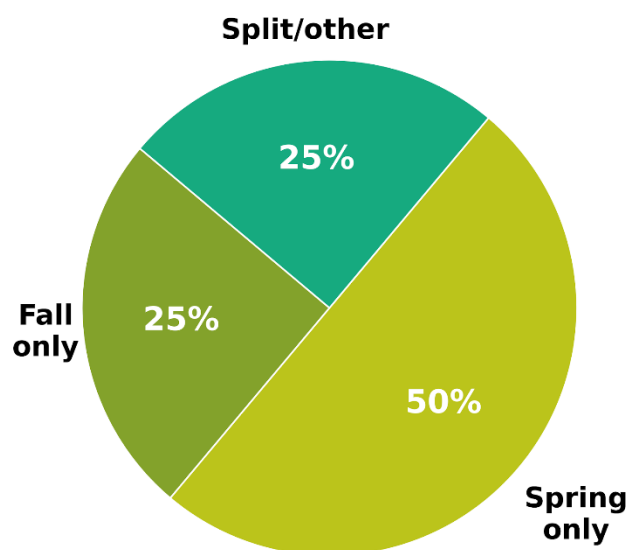
Survey results showed an **average Bray-P1 soil test value of 29.9 parts per million (ppm)**. The University of Minnesota's corn fertilizer guidelines indicate that values 21 ppm and above are in the "Very High" category, which is above the critical level where corn yield response to phosphorus fertilizer is expected.

The survey results show the following:

- P applied at crop removal rate = 39.1%
- P applied at rate needed to bring up/keep at optimum level = 49.1%
- **About 25% of the surveyed fields indicated that growers use variable-rate technology (VRT) as a precision approach for P applications.**

U of M Extension specialist Dan Kaiser's AFREC-funded research shows that farmers can reduce their P fertilizer rate to save money when fertilizer prices are high.

Nitrogen Application Timing



#2 Nitrogen timing is shifting away from fall-only application

According to the survey, 25.3% of Minnesota farmers apply nitrogen only in the fall. This is lower than past survey results and likely reflects an ongoing shift towards more spring and in-season applications. This trend matches up well with AFREC-funded research showing that fall nitrogen applications often require more nitrogen fertilizer and yield less than spring pre-plant and in-season application options. Encouragingly, **78.1% of Minnesota farmers surveyed use a nitrification inhibitor with fall applications of anhydrous ammonia.**

#3 Cover crop adoption is low but may be increasing

7% of Minnesota farmers surveyed planted a cover crop in the fall of 2023. While this may seem low, it's a significant increase when compared to other recent surveys. This may be due to more generous cost-share opportunities in recent years. Cover crops are touted as a way for farmers to help improve water quality and possibly even improve soil health. AFREC is currently researching how cover crops can be used to maximize the benefits for farmers.

Cover crop by type	Percentage
Cereal Rye	37.6%
Species Mix	36.2%
Oats	17.3%
Other	8.9%



#4 Growers are utilizing nitrogen to support higher yields

The statewide average nitrogen fertilizer rate for the corn-soy rotation was 173 pounds per acre. The Minnesota Crop Production Retailers say this is consistent with their recommendations for the agronomic optimum for high-performance varieties and a high-yield corn strategy.

Corn-following-corn, the average nitrogen rate was 187.8 pounds per acre. The U of M guidelines at the 0.10 price ratio recommend 170-200 pounds.

Opportunities may exist to further evaluate economic factors when considering rate, source, and timing of nitrogen applications.

CORN-FOLLOWING-CORN

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AVERAGE SURVEY RESULT	187.8 POUNDS PER ACRE
U OF M RECOMMENDATION (0.10 PRICE RATIO)	170-200 POUNDS PER ACRE

187.8 lbs falls within the recommended range.

The full report is available on the MCPR website using the QR code to the left or at mcp-cca.org/mn-ag-retail-survey