

Nitrogen Rate Decisions For Corn

WAYNE FLANARY

HOLT COUNTY, MO.

This past year our corn crop had many nitrogen issues resulting in a lot of variability in crop yields. Also, with increased nitrogen prices and the change in crop grain prices, growers are searching for answers. There is no simple answer and sometimes no change is the correct answer.

Nitrogen application should be adjusted for the crop rotation. Corn following corn requires more nitrogen than following soybean or another legume such as alfalfa. Corn almost always needs nitrogen fertilizer. The yield increase with nitrogen is often very good. If nitrogen is in short supply or purchases have to be limited, it is best to apply some nitrogen to all corn fields.

Application rates may be adjusted downward when fertilizer nitrogen costs are high relative to corn prices. However, be very careful and do not adjust downward more than 20 to 30 pounds. This is adding considerable risk.

Beware of fields that have wet soils. There is

much to be gained from looking at the timing of nitrogen application. The closer the application to the time the crop needs it, the less of the chance it can be lost. This is to manage the nitrate portion of the fertilizer when the potential loss is greatest ahead of crop use.

Initial high nitrogen application rates cannot adjust for losses from wet soils. However, scouting fields when corn is V-6 leaf stage on will provide a clue whether supplemental nitrogen should be applied. Also, you can add nitrogen into a small area in the field or double the nitrogen application in one pass to check the green color in the spring. Color is a good indicator of corn plant nitrogen availability.

Soil temperature and moisture directly influence the amount of nitrogen that is released from the organic matter contained in the soil. Dry springs reduce the amount of nitrogen available and warm wet soils increase the amount available for plant use. This causes swings in the optimum nitrogen application rate. Δ

Wayne Flanary is Agronomy Specialist with the University of Missouri Extension at Holt County.



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