

Heavy Rains Increase Nitrogen Loss In Corn Fields

SPRINGFIELD, MO.

This season's rainfall increases the chances of nitrogen loss in area corn fields according to Jay Chism, agronomy specialist with University of Missouri Extension in Barton County.

"I've had a lot of questions about nitrogen loss from corn fields," said Chism. "These questions are difficult to answer because the nitrogen loss process is complicated."

Farmers that are dealing with nitrogen loss are also pressed for time. Wet conditions have delayed planting and other field operations.

However, many fields with fall-applied anhydrous ammonia are holding up very well.

"Heavy clay soils may have kept anhydrous from leaching this spring," said Chism. "This is just a case where poorly drained soils are actually working in our favor."

Chism says a concern with fall-applied anhydrous is that fields may be losing some nitrogen by denitrification. This occurs in waterlogged, warm soils when nitrate is converted to N₂ gas in the soil and lost to the atmosphere.

Typically, if farmers do not apply nitrogen in the fall, side-dressing nitrogen when the corn is

10-16 inches tall is very efficient. Unfortunately, wet weather and time can limit this practice.

"Another good option is broadcasting or top-dressing with ammonium nitrate when corn is less than 24 inches tall," said Chism. "If possible, apply ammonium nitrate when the leaves of the corn are dry. If the fertilizer sticks to the foliage some leaf burn will occur."

Fertilizer pellets do not adhere to dry leaves, decreasing leaf burn.

Peter Scharf, a soil agronomist at the University of Missouri, has developed a "Nitrogen Loss Scoresheet" to help producers assess nitrogen loss and make decisions about nitrogen application rates.

The scoring system consists of three factors: fertilizer management, soil type and wetness.

"Knowing exactly how much nitrogen to add this season is difficult for corn producers. But, the score sheet will help farmers get somewhere in the ballpark," said Chism.

Interested persons can get a copy of the score sheet by calling (417) 682-3579 or go visiting the Barton County MU Extension Center website at <http://extension.missouri.edu/Barton>.

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