

Topdress Nitrogen

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The recent wet spell has led to many area farmers feeling rushed and anxious about getting nitrogen applied to their corn crops. Although we are in the middle of May, there is still time to apply nitrogen to meet your crop's nutrient demands.

The first concern for farmers should be planting their corn crop. Research from the University of Missouri has shown that the yield potential of a crop declines as we move through May, with a May 20th planting date averaging a 13% yield decrease when compared to April plantings. By June 1st the yield penalty is greater than 20%. Although it would be preferred to have some nitrogen applied by planting, delaying planting to achieve this is not advised. Corn begins to rapidly take up nitrogen around the V6 growth stage, so as long as adequate nitrogen is supplied by this point, corn yields should not be effected.

There are several options to choose from to supply nitrogen to your crop. Sidedressing anhydrous ammonia between the corn rows is the best option to avoid nitrogen losses due to volatility. Special care should be taken to make sure the knife track is closing and that the fertilizer is not being applied in row, as this will cause seedling injury.

Several products are available to be surface applied in no-till cropping situations. Ammonium nitrate is one of the best options because of its high nutrient content and easy handling. Ammonium nitrate is not prone to volatility losses and the ammonium portion is relatively stable in the soil. Difficulty in obtaining the fertilizer and leaf burn following application are the biggest drawbacks for ammonium nitrate.

Granulated urea is one of the most commonly used nitrogen fertilizer sources because it is easy to use and transport. However, it is highly susceptible to volatility losses if not incorporated after application. If there is no rainfall within five days after application, 10 to 20% of the urea nitrogen may be lost. Therefore, a urease inhibitor such as Agrotain is recommended. Urease inhibitors will prevent the urease enzyme from breaking down the urea granule, releasing ammonia into the atmosphere. This will allow the fertilizer to sit on the soil surface for a longer time while waiting for a rainfall to incorporate it into the soil.

Liquid UAN may also be used to meet your crop's nitrogen needs. It has a smaller nitrogen concentration than the other products and is also prone to volatility losses. UAN may also burn corn plants, although if they are small it is unlikely that the burning will result in yield loss.

With all surface applied fertilizer applications, rainfall of 0.25 to 0.5" will be required to incorporate the nutrients into the soil. Nutrient loss can also be impacted by wind, temperature, tillage practices and soil pH, so keep these factors in mind when picking your nitrogen source.