

Sidedressing Corn with Nitrogen and Sulfur

- Sulfur deficiency often occurs early in the growing season in cool wet conditions. Sulfur deficiency causes interveinal (between veins) yellowing on the youngest or newest leaves.
- If the deficiency is mild and is corrected within 21 to 30 days after emergence by either the root growing into higher sulfur concentrations or through nutrient remedies, then there will be little or no effect on yield. If the deficiency is moderate to severe and lasts beyond 21 days after emergence there could be significant effects on yield.
- For each day that sulfur is deficient past the first 21 days after emergence there is a loss of 1 to 2 bushels per acre. If sulfur is deficient at silking yields could be reduced by up to 75%. Early deficiency symptoms should be remedied quickly by applying sulfur.
- Sulfur is readily taken up by the plant, if applied in the appropriate form (sulfate or SO_4) and plants will respond quickly to applied sulfur.
- Corn may be sidedressed at any stage in the growing season. Optimum time to sidedress nitrogen has been before V8, however, with a highboy sprayer late applications of Nitrogen can be made when the corn is 4-5 ft tall.
- Leaching and denitrification losses can be minimized by applying nitrogen sidedress. This is especially critical on soils with a high potential for leaching or denitrification. On these soils, responses to sidedressing are relatively consistent. Leaching is most serious on well-drained, sandy, and gravelly soils. Denitrification (loss of nitrogen caused by anaerobic conditions) is most serious on soils that are poorly drained, but denitrification can occur on any soil that is saturated with water.
- Nitrogen efficiency is improved by sidedressing. This practice applies the nitrogen nearest to the time when the corn crop's need for nitrogen is approaching its peak, around V6, which is when rapid vegetative growth occurs.

Nitrogen Sources

Ammonium nitrate (28 or 32-0-0) also known as UAN. Contains two forms of nitrogen: Nitrate, which is easily leached but is readily available to plants and ammonium which stays in the soil longer and is eventually converted to nitrate by bacteria. Some plant species benefit from ammonium and nitrate uptake which can result in higher yields and healthier plants.

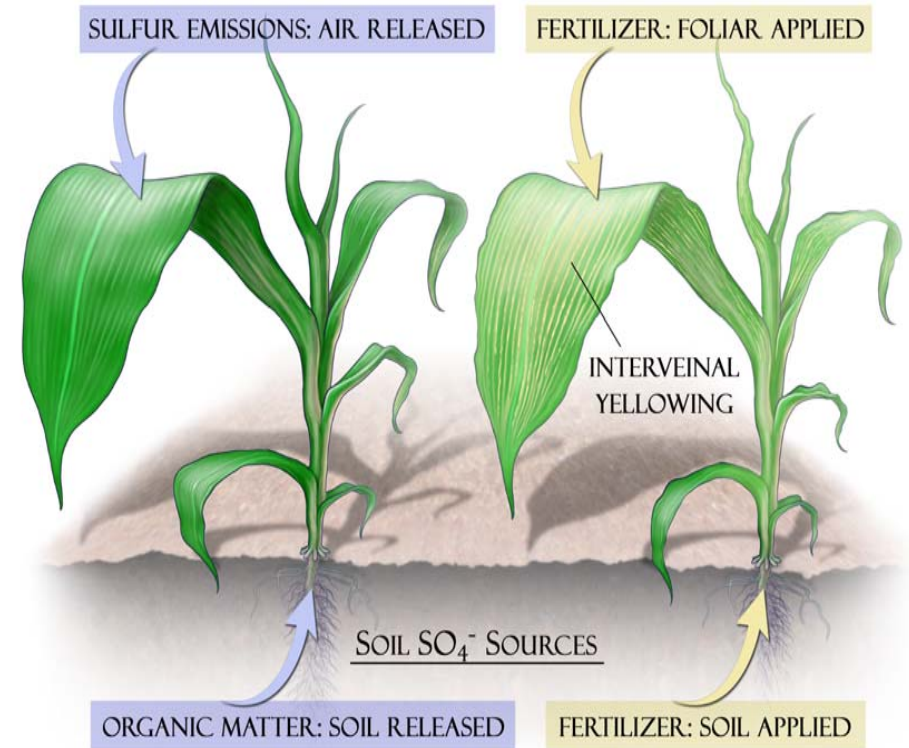
Anhydrous Ammonia (82-0-0) a highly concentrated nitrogen source. Lower efficiency because of a higher concentration. Works for sidedress application if used appropriately, must be incorporated, normally with a knife so root pruning may occur.

Urea (45 or 46-0-0) a dry source of nitrogen. May be used sidedress or topdress. May be knifed in with a special applicator sidedress or broadcast as topdress. Best if quickly incorporated. If sidedressed keep Urea 6 inches from the side and below the plant seed and seedling root system. Most foliar nitrogen sources come from a urea base. Several other sources of sulfur fertilizer are available

HEALTHY PLANT

SULFUR DEFICIENT PLANT

FOLIAR SO_4^- SOURCES



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Sulfur Sources

Elemental sulfur (0-0-0-100S) Not usable by plants in the applied form. Must be converted to Sulfate by bacteria in the soil which may take up to 4 weeks for finely ground sulfur

Ammonium sulfate (21-0-0-24S) Normally a by product of industrial manufacturing. The black form of ammonium sulfate is better than the white because it contains carbon and is easier to handle. Nitrogen and Sulfur source.

Sul-po-mag (0-0-22-23S) also called K-Mag. A good source if the soil needs magnesium, a bad source if it doesn't need magnesium.

Magnesium sulfate (0-0-0-14S) Extremely soluble, excellent choice for foliar applications.

Calcium sulfate (0-0-0-17S) also called Gypsum. Good source of sulfur and calcium. Fairly low solubility. Works well on high pH soils.