



AG ELEMENTS LLC

## NControl<sup>2</sup> (27-0-0-2) and SuccessS (8-0-0-9S)



### Maximize Yields and Sulfur Availability

#### Match Sulfur Supply to Your Corn Crop's Needs

Corn growers need balanced crop nutrition to maximize a corn crop's yield potential and get the most out of their fertilizer investment. In practice, this requires making all of the required nutrients available to the corn crop at the right time. Sulfur (S) is an important part of your balanced crop nutrition plan. When developing a plan to maximize a sulfur investment, it is important to ask three key questions:

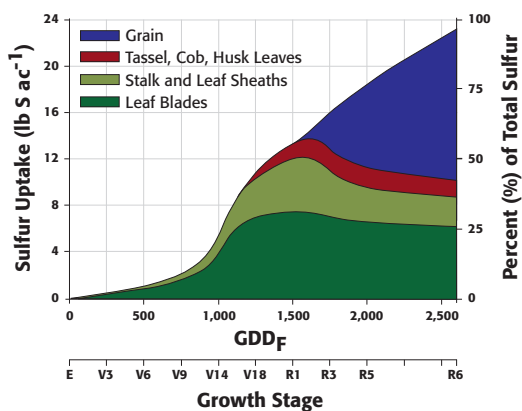
1. How much and when does corn need sulfur?
2. What form of S does the corn crop take up?
3. How can you supply the S in the right form at the right time?

#### Rate and Timing Needs for Sulfur

Sulfur, a secondary nutrient, is essential for corn growth. Total S uptake of 0.1–0.12 pound per bushel pales in comparison to total nitrogen (N) required; however, a non-limiting supply of S must be available at the right time to maximize yield potential.

#### When is the right time?

Sulfur uptake occurs over the entire growing season and is relatively constant from planting to maturity. Unlike N, in which 70 to 75 percent is taken up by the flowering stage, only 40 to 50 percent of total S is taken up by this time.



Another factor affecting timing is sulfur's immobility within the plant. The plant is unable to move S from older to newer growth to compensate for low levels that may occur late in the season. Without a steady S supply, late-season deficiencies can significantly impact yield.

Research has shown that the timing of S uptake by corn is very consistent even when different varieties and locations are considered.



## Determining the Right Form of Sulfur

There are two common forms of S available in fertilizers today: Sulfate (SO<sub>4</sub>), and elemental.

Sulfate sulfur is the form that corn takes up. Elemental sulfur (ES) must be broken down into SO<sub>4</sub> by soil microbes before it is available for uptake. NControl<sup>2</sup> (27-0-0-2) and SuccesS 9% Sulfur both contain readily available Sulfate form Sulfur.

Factors that affect how quickly elemental sulfur converts into SO<sub>4</sub> are the particle size of the elemental sulfur and environmental conditions. Warm, moist soils with good aeration result in more elemental sulfur being released, since microbes dominate this process. The oxidation of elemental sulfur into SO<sub>4</sub> means that S is slowly available over time from elemental sulfur sources.

## Applying the Right Form of Sulfur at the Right Time

Sulfur must be in SO<sub>4</sub> form for plants to uptake it. Ag Elements has developed two products that will give you the sulfur you need when you need it. NControl<sup>2</sup> (27-0-0-2S) is a liquid form of nitrogen and sulfur that can be applied pre plant or through irrigation water to provide both nitrogen and sulfur at multiple growth stages.

SuccesS 9% Sulfur is a high concentration liquid form of sulfur that is best applied as a side dress application or metered into irrigation water. SuccesS can be mixed with 32-0-0 and applied through a pivot if in season nitrogen is being applied.

NControl<sup>2</sup> and SuccesS are proprietary fertilizers from Ag Elements, LLC that ensure the season-long supply of sulfur that is required by your corn crop will be supplying the SO<sub>4</sub> available form of sulfur to your crop.

### > FACT

- Although mobile in the soil, sulfur is immobile within the plant, meaning that sulfur cannot be moved from old to new growth late in the season.
- Corn requires sulfur all season long, with more than half of its S requirements needed after flowering.



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