

December 15, 2010

Sulfur is becoming more of an essential nutrient in crop production every year. This change can be attributed to improved air quality, the higher amount of sulfur being removed from the soil due to high yields, and the lack of sulfur in fertilizers. Sulfur provides many benefits to crops, and numerous test trials have been conducted to prove these results.

Sulfur is a key nutrient that improves nitrogen use efficiency, and contributes to chlorophyll formation. Both nitrogen efficiency and chlorophyll formation are essential for modern corn production with high yields. Sulfur uptake varies among agriculture crops. Sulfur is taken up through the root in the form of sulfate sulfur, which is a mobile nutrient in the soil. Crops with a high demand for nitrogen, like corn, have a similar demand for sulfur. In a single growing season a corn crop needs upwards of 30 pounds of sulfur. It is important to understand the significance of sulfur and how fertilizer applications can provide crops with their sulfur needs, which leads to improved crop yields and profitability.

Crop Nutrient Uptake					
	# N	# P ₂ O ₅	# K ₂ O	# S	# Mg
Corn (180 bu/a)	240	100	240	28	41
Soybean (60 bu/a)	325	65	140	25	26
Alfalfa (8 t/a)	410	95	400	40	40

Note: Soybeans and Alfalfa get majority of their Nitrogen from the air.

Soil texture plays an important role in the adequate use of sulfur within the plant. In recent trials, soils with a silt loam or sandy loam texture produced a consistent higher yield. Those soils with higher clay content and a high level of organic matter tend to hold the sulfate sulfur making it less mobile. We know that sulfur is an important nutrient for plant production, but it is important to consider soil texture, organic matter, and tillage type when developing a fertilizer program.

Sulfur can be made available to the plant in a number of ways. It can be broadcasted with P & K in the form of elemental sulfur or AMS. The elemental sulfur needs to convert into sulfate sulfur before it will be available to the plant, and AMS is more readily available. Another option is a liquid product called Ammonium Thiosulfate, and can be applied prior to emergence. Contact your local Central Valley Agronomist to establish the best option for your operation.

