



Sulf-N® News

Sulfur Deficiency – A Growing Concern

Applying sulfur to cropland is becoming more important than ever on millions of acres across the U.S. – even for regions that traditionally have not worried about sulfur deficiency. There are several drivers behind this newfound urgency.

Less Atmospheric Deposition

For decades, airborne sulfur drifted to earth from industrial and power plant smokestack emissions, providing a “free” source of sulfur to cropland in much of the eastern Corn Belt and Northeast, as well as millions of acres of fields in the Cotton Belt.

However, pollution control limits under the Clean Air Act have reduced emissions so dramatically that the total atmospheric deposition of sulfur (wet plus dry) in the eastern U.S. dropped by 64 percent in the past two decades, according to the U.S. Environmental Protection Agency’s Clean Air Status and Trends Network (CASTNET) program.* That’s a decrease from a 1990-1992 mean of 11.5 pounds per acre per year to a 2010-2012 mean of 4.1 pounds per acre per year.

Constant Drain

Like nitrogen, sulfur is a mobile nutrient. It can be leached deep into the soil by water, which puts it out of reach of crop roots. Also like nitrogen, sulfur must be applied on many soils to maintain the levels that sustain productive crops.

In the past, many fertilizers – including manure and ordinary superphosphate, among others – delivered significant amounts of sulfur. However, the shift to more concentrated commercial fertilizers has eliminated that “bonus” sulfur while high-producing crops Locked Supplies

Sulfur reserves in the soil are tied up in soil organic matter and must be converted by soil microbes into sulfate sulfur, which is the form available to plant roots. Sulfur applied to soils in the elemental form also needs to be converted by soil microorganisms into sulfate sulfur before roots may take it up.

The processes of converting tied-up and elemental sulfur into the sulfate form are lengthy – they can take weeks or months. Also, the soil microbes responsible for these processes are only active when soil temperatures are about 60 degrees Fahrenheit or higher, which means the conversion to an available form of sulfur only begins well into spring.

Today’s early planting trends and the prevalence of reduced tillage or no-till have pushed the early stages of crop growth into the cool, wet conditions during which soil sulfur reserves remain locked in unavailable forms. Under these conditions, adding sulfate sulfur in order to meet the early needs of crops can make a significant difference.

Sulf-N® Facts

Sulf-N® ammonium sulfate from AdvanSix delivers immediately-available sulfate sulfur, along with plant-available and loss-resistant ammonium nitrogen.

For more information on the use of Sulf-N® ammonium sulfate can make up for declining sulfur supplies from the environment, [click here](#). Also feel free to contact [Mercedes Gearhart](#), Senior Agronomist for AdvanSix.

Contact AdvanSix

To learn more about the benefits of Ammonium Sulfate, visit [Advan6.com](#) or [SulfN.com](#) or call:
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