

Honeywell Sulf-N® Ammonium Sulfate

SOURCING SULFUR:
Questions & Answers for High-Yield Corn Production

Sulfur (S) is rising up the ranks of essential nutrients needed for high-yield crop production. Many sources are available. Which one is right for you?

Small grains and corn need S fertilizer very early in their lifecycles. For best results, applications should be made in the sulfate form. Sulfate-S is immediately available to crop roots. In fact, it is the only form of S that crop roots can absorb. Elemental-S is not available for root uptake until it is converted to sulfate-S.



Corn at left received early-season application of sulfur. Photo courtesy: B. Lang, Iowa State University Extension

How quickly does elemental-sulfur convert to sulfate-S?

Not very. Conversion doesn't begin until soils approach 60° F. Until that happens, sulfur-converting bacteria remain dormant, and elemental-S sources remain unavailable. Once daytime temperatures reach a consistent 65° F or higher, it still takes another 30 days or so for elemental-sulfur to convert to sulfate-S.

How soon do crops like corn need S fertilizer?

The critical period for S fertilizer uptake occurs very early in the growing cycle. This is when cool soils inhibit the release of residual S from organic matter and when roots haven't grown long enough to reach subsoil S. These effects are amplified by early corn planting, continuous corn rotations, and reduced-till and no-till systems. Where S is lacking or unavailable, deficiencies begin to reduce corn yield at 21 days after emergence, with a one to two bushel yield loss for every day that follows.

How much S do crops need?

Where S supplementation is needed, researchers generally recommend 10 to 30 lbs. per acre of applied S fertilizer.

How does Sulf-N® ammonium sulfate compare to sulfur-enriched nitrogen-phosphate fertilizers (SEF)?

More sulfate. Sulf-N ammonium sulfate contains 24 units of S – all in the sulfate form. Sulfur-enriched fertilizers also supply S, but only half is in the sulfate form. The other half is in the elemental form. As a result, at typical phosphate rates, crops are bound to run short of immediately available sulfate-S.

Lbs. of Applied Sulfate-S

Rate	Sulf-N ammonium sulfate	SEF (S-10)	SEF (S-15)
50 lbs.	12 lbs./acre	2.5 lbs./acre	3.75 lbs./acre
100 lbs.	24 lbs./acre	5 lbs./acre	7.5 lbs./acre
150 lbs.	36 lbs./acre	7.5 lbs./acre	11.25 lbs./acre

Lbs. of Applied Ammonium-N

Rate	Sulf-N ammonium sulfate	SEF (S-10)	SEF (S-15)
50 lbs.	10.5 lbs./acre	6 lbs./acre	6.5 lbs./acre
100 lbs.	21 lbs./acre	12 lbs./acre	13 lbs./acre
150 lbs.	31.5 lbs./acre	18 lbs./acre	19.5 lbs./acre

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More nitrogen. Sulf-N ammonium sulfate also contains 21 units of nitrogen (N) in the plant-preferred ammonium form — nearly two times more than the N content of sulfur-enhanced fertilizers. With more N, Sulf-N fertilizers deliver more of the proven agronomic benefits of ammonium-N, including enhanced uptake of phosphorus and zinc. Sulf-N fertilizers also resist N loss from ammonia volatilization, denitrification and leaching. It works with or without incorporation across a range of tillage systems, from conventional to no-till.

Efficient spread analysis. With 45 units of total plant food, Sulf-N fertilizers offer an effective and efficient spread analysis and is available in three grades to suit your business model: granular for high-quality bulk blending, mid grade for direct application, and fluid grade for dissolving into solution.

Ideal for value-added blends and VRT. Sulf-N fertilizers are compatible with full-service business models that add value through agronomic expertise and services such as prescription blending and variable rate fertilizer application.

Sulf-N ammonium sulfate is a time-tested source of N and S fertilizer produced by Honeywell in Hopewell, Virginia and supported by a dedicated team of sales and agronomy specialists.

Learn more at www.sulfn.com.

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