



PRODUCT INFO  
& DATASHEET

## AMMONIUM SULPHATE (AS) 21% N + 24% S

*Sales Rationale – Answers to 11 questions !*

### *A most cost-effective choice.*

#### **1. Is AS used for its nitrogen content or its sulphur content?**

Both. As a sulfur source, AS supplies S in the readily available sulphate form. As a nitrogen source, AS is extremely efficient because all of **its nitrogen is in the ammonium form, which resists losses from leaching, volatilization and denitrification**. Because AS supplies both of these vital nutrients in a form that is immediately usable to plants, it is a **cost-effective choice**.

#### **2. How does AS fertilizer compare to other sulfur sources?**

AS supplies **sulphur in the readily available sulfate form**, the only form that crop roots can immediately absorb. Fertilizers that supply sulphur in the elemental form, cannot be absorbed by crop roots until converted to sulfate by soil microbes. This is a process that can take up to one month or more, depending on soil temperatures - the cooler the soil, the slower the transformation.

#### **3. How does AS fertilizer compare to other nitrogen sources?**

AS supplies nitrogen in the dependable ammonium form. Ammonium nitrogen promotes higher yields than straight nitrate while resisting losses to leaching, volatilization and denitrification. That makes it often more effective than urea and UAN solution in conservation-till and no-till systems.

#### **4. Can AS fertilizer be used in broadcast applications?**

Yes, ammonium sulphate is an excellent fertilizer source for broadcast applications. In no-till and conservation-till systems, studies have demonstrated that broadcast ammonium sulphate is as efficient as injected UAN solution.

#### **5. Can AS fertilizer be used in starter applications?**

Yes, ammonium sulphate can be used in pop-up and 2-by-2 starter applications.

#### **6. Can AS be used in no-till or conservation-till management?**

Residue left on the soil surface in no-till and conservation-till systems can promote N loss from volatilization when urea and urea-containing fertilizers like UAN solution are broadcast and not incorporated into the soil. Ammonium sulphate is not susceptible to volatilization loss because its N is in the ammonium form. University studies have demonstrated that ammonium sulphate can be broadcast on the surface of no-till and conservation-till soils with very little risk of N loss due to volatilization.

#### **7. Why do crops need sulphur?**

**All crops need sulphur to grow and form proteins.** Sulphur is considered to be "The Fourth Nutrient" behind nitrogen, phosphorus and potassium. Where sulphur is lacking, crop yield and quality will suffer. Plants can become spindly and stunted, and new growth turns a yellowish green color.

#### **8. What about soil organic matter - doesn't that supply sulphur?**

Traditionally, sulphur deficiencies have been most common in sandy soil types with low organic matter content. More recently, researchers have discovered that crops can become sulfur deficient even when organic matter levels are high.

These "new" deficiencies are attributed to earlier planting dates and no-till/conservation-till farming - two trends that promote cooler soil temperatures that slow down the release of sulphur from the organic matter.

#### **9. How do I know if my crops need supplemental sulphur?**

Start with a soil test to find out how much sulphur you have in your soils, then follow-up with a tissue test to find out how much of that sulphur is actually getting into the crop.

#### **10. What is the tissue test for sulphur?**

The tissue test for sulphur measures the amount of sulphur that is actually absorbed into the plant. It's a very useful tool for confirming suspected sulphur deficiencies. Like the sulphur soil test, the sulphur tissue test must be specifically requested.

Many labs now have the capability to turn around sulphur tissue tests in a matter of days, allowing sufficient time for in-season applications of sulphur to correct deficiencies and prevent further yield loss.

#### **11. What does sulphur deficiency look like and can I distinguish nitrogen deficiency from sulphur deficiency?**

It's often tough to differentiate sulphur deficiency and nitrogen deficiency because both cause yellowing of plant tissue.

Sulphur deficiency tends to show up in newer leaves, while nitrogen deficiency tends to show up in older leaves.