## Manage sulfur as you would nitrogen

manage sulfur the same way they manage nitrogen, says Tom Hemphill, agronomist at Allied Corporation.

That means making split applications and, if necessary, replacing sulfur that may have been leached from topsoil by spring rains.

"Most farmers already know that sidedressing or topdressing nitrogen ,will reduce fertilizer

LANCASTER -- Farmers should losses and provide a better return on investment," Hemphill says. "But few realize that the same holds true for sulfur."

> Like nitrogen, sulfur easily moves into the subsoil, beyond the reach of plant roots. Besides reducing crop yield, quality and protein content, a sulfur shortage can prevent plants from making efficient use of applied nitrogen, Hemphill says.

in-labeling law designed to protect

farmers and consumers who buy

with the help of state seed officials.

Seed regulatory officials in

Virginia and Georgia cooperated

with the Agricultural Marketing

Service in making the in-

AMS administers the program

## Seed case settled

seed.

vestigation.

BUTLER - American Hardware Supply Company, of Butler, has paid \$525 to the U.S. Department of Agriculture to settle a case involving shipments of seed alleged to be in violation of the Federal Seed Act.

The case was settled in an agreement between the company and officials of the USDA's Agricultural Marketing Service. The company neither admitted nor denied the charges.

Donald W. Ator, an AMS official in Washington, D.C., said the case involved shipments of tall fescue seed into Virginia and Georgia. The alleged violations were false labeling of germination and test date; failure to test for ger-mination within the prescribed time prior to interstate shipment; failure to label shipper's name and address and to keep required records.

The Federal Seed Act is a truth-

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For this reason, he adds, farmers should consider applying both nutrients together, on the same schedule.

"Nitrogen and sulfur are very much alike," Hemphill says. "They behave the same way in the soil, and they work together to form protein and chlorophyl. A deficiency of one of these vital nutrients could greatly reduce the crop's yield potential."

For optimum efficiency, crops should contain one unit of S for every 10-12 units of N. This information may be obtained from a plant-tissue test, the agronomist says.

"Applying supplemental N without sulfur could throw off this balance and induce a sulfur deficiency," Hemphill claims.

A three-year study at Montana State University dramatized the importance of applying sulfur with supplemental N.

**Replicated plots of orchardgrass** topdressed with 150 pounds N

produced 23 percent less hay than plots that did not receive extra nitrogen. This decrease in yield occurred because the additional N widened the crop's N:S ratio from 34:1 to 53:1.

In adjacent plots, where the same amount of N was applied with 30 pound S, the crop's N:S ratio plummeted from 34.1 to an optimum 11:1. As a result, crop yield was more than double the untreated check's and nearly three times greater than plots that received extra N only.

To maintain a proper balance of N and S within the crop, Hemphill suggests using one pound of sulfur for every five to 10 pounds of nitrogen.

Type of sulfur fertilizer is also important, as different types work faster than others. For sidedress and topdress applications, farmers should use a fertilizer that contains sulfur in the sulfate form, the only kind plants can absorb immediately.

"A fertilizer like ammonum sulfate (21-0-0-24S) might be the most practical because it contains sulfate sulfur, plus nitrogen," Hemphill says. To fulfill additional N requirements, he suggests bulk blending granular ammonium sulfate with either area or ammonium nitrate. Fluid-grade ammonium sulfate, a finer mesh material, may be added to suspensions or clear liquids.

Elemental sulfur is generally not recommended for mid-season applications because it requires several weeks to break down into the sulfate form. "By that time, you may have already lost some yield to sulfur deficiency,' Hemphill says.



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