

application produced a slight increase in protein in hay . . . about 0.2 percent. That increase was as much as 0.7 percent in some cases. Extra protein in the hay can add profit by replacing protein supplement in animals' rations.

Average yield with S = 6,037 lb hay/A
Crude protein increase from S = 0.2 percent

6,037 lb hay/A \times 0.2 percent more protein with S \times \$0.25/lb protein = \$3.02/A

Increased value of hay/A = \$14.30

Value of extra protein/A = \$3.02

Increased net from S = \$17.32/A or a return of about \$4.80 per dollar invested in S.

An increase of 0.7 percent protein for 6,037 lb of hay would have added over \$10 per acre in additional protein value.

Summary

Research has shown that S fertilization is an important part of improved management of cool season grasses. Kansas data have shown S responses in brome grass and

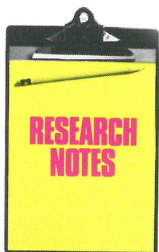


SULPHUR fertilization increases brome grass yield and protein content. Note the effects of S (right) on growth and leaf color.

tall fescue hay can range from zero to over a ton per acre. Over the past 5 years, S responses have been recorded each year. Nitrogen use efficiency has been improved by eliminating S deficiencies and forage quality has been improved. In the final analysis, forage profitability has been substantially improved by the use of S. Sulphur soil tests may be of some value in determining areas needing S, but forage producers and cattlemen should also consider using plant analysis in April to help in the diagnostic process. ■

North Carolina

Cotton Response to Starter Fertilizer Placement and Planting Dates



FIELD STUDIES were conducted in four North Carolina environments to determine the effect of planting date on cotton response to side-banded starter fertilizer on soil testing high in phosphorus (P). Three planting dates, early-, mid- and late May, and two methods of starter fertilizer placement, broadcast and side-banded, were evaluated. Ammonium polyphosphate starter was applied at a rate of 15 lb N and 51 lb P₂O₅ per acre.

Fertilizer placement had only minor effect on population. Mid- and late May

planting decreased average lint yields across the four environments by 31 and 50 percent, respectively. Lint yield was increased by 9 percent by side-banded fertilizer placement, even though 24 lb N and 45 lb P₂O₅ had been broadcast prior to seeding at 3 of 4 locations. No significant planting date by fertilizer placement interactions were observed for plant population, flower production or lint yield.

The researcher concluded that applying side-banded starter fertilizer can benefit cotton producers, irrespective of planting date. ■

Source: D.S. Guthrie, Department of Crop Science, North Carolina State University, Raleigh, NC 27695. Published in Agron. J. 83:836-839 (1991).