Pastures benefit not only with higher yields, but also better quality forage.

PHOTO: VANN CLEVELAND

Sulfur's Big Boost

Applying sulfur to pasture may boost net returns by $20 to $30 per acre.

Faced with short hay supplies, many beef producers will depend on cool-season pasture to take their herds through winter.

That's what Ronnie Griggs banks on every year at his spread near Plain Dealing, La. But he has found that nitrogen alone does not deliver good forage production.

In his area, both warm- and cool-season pastures respond to sulfur and magnesium fertilizer. He has used ammonium sulfate and Sul-Po-Mag to maintain the needed balance.

Research at the Southwest Research and Extension Center in nearby Hope, Ark., showed that sulfur was critical for winter annuals seeded into bermudagrass and bahiagrass pastures. These grasses remove a lot of sulfur from the soil during summer production, says station director Mike Phillips. "That primes our soils to need more sulfur."

He advises producers in his area with Coastal Plains soils to apply 20 to 25 pounds of sulfur with 50 to 60 pounds of nitrogen six weeks after seeding a winter annual grass. A second application of sulfur and nitrogen should be made in late February or early March.

"For hay production, we typically see a 10 to 30% yield increase with added sulfur in responsive soils," says Phillips. "That easily pencils out to a $20- to $30-per-acre increase in net return. In a cow/calf operation or with stockers, that would increase the carrying capacity of the land to about that same level."

Part of the advantage of applying sulfur is that forage yields are higher. And often the quality of the forage improves.

"Animal responses have occurred even when soil testing indicated no sulfur deficiency," says Vivien Allen of Texas Tech University. She first saw the trend while conducting research with calves grazing sulfur-fertilized fescue at Virginia Tech. The study of calf weaning weights translated into a $5- to $10-per-acre increase in value as a result of added sulfur.

Allen notes that when animals are fed sulfur-fertilized forage, their bodies use crude protein more efficiently. Less nitrogen is excreted, and more is retained in the body.

Similar results have shown up in the Southeast. Jack Rechcigl of the University of Florida says sulfur boosted the protein content of annual ryegrass by 1 to 2 percentage points, digestibility by 3 to 4 points, and stocking rates by 30%.

"We see dramatic increases in protein and digestibility 30 days after sulfur applications," says Rechcigl. "The benefits tend to disappear after the first harvest, although we still see increases in subsequent crop yield."

According to Ray Lamond, Extension agronomist with Kansas State University, the actual return from sulfur application varies with hay prices. But with a 600- to 700-pound forage increase and a selling price of $50 per ton, applying 20 pounds of sulfur per acre brings a return of $11.70 per acre.

Donald Messick, an agronomist with The Sulphur Institute in Washington, D.C., notes that farmers should consider the type of sulfur used. "For a first-time application, sulphate sulfur is the more readily available form," says Messick. "Elemental sulfur can be a good choice if it is going to be applied annually."

By EARL MANNING

Profitable Results

Here is a sampling of what researchers are finding:

- Yield increases by 10 to 30% on Coastal Plains soils.
- Pasture value increases by $5 to $10 per acre because of better weaning weights.
- Protein content in ryegrass improves by 1 to 2 percentage points, digestibility by 3 to 4 points, and stocking rates by 30%.

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