

Research in Review

<http://agnews.tamu.edu> ♦ April 16, 2007

High Cost of Nitrogen Calls For New Farming Strategies

OVERTON—Farmers can expect nitrogen fertilizer costs to be more than 50 cents per pound of nitrogen this year, said Texas Agricultural Experiment Station and Texas Cooperative Extension experts.

What's driving the fertilizer costs higher? Several things, said **Dr. David D. Baltensperger**, head of the Texas A&M University Department of Soil and Crop Sciences.

"There are a lot of factors that always go into fertilizer prices," Baltensperger said. "Since the majority of our nitrogen fertilizer at least comes from petroleum products, the price of petroleum drives nitrogen fertilizer prices rather directly."

Baltensperger said that with fossil fuel prices remaining high relative to what was seen two or three years ago, it's reasonable to expect higher nitrogen prices this year. Another factor is the price of corn, and the record number of acres being planted to supply grain for new ethanol plants.

"Corn acreage ... is one of our big nitrogen users," he said. "And consequently we'd expect to be paying the highest prices we've ever paid for nitrogen on a national basis this coming spring."

Not all types of nitrogen fertilizer will be in the 50-cent-plus range, Baltensperger said, but the ones most commonly used by East Texas livestock operations will.

"Anhydrous (ammonia) will probably still be the cheapest source where it is practical to use, but in many cases we have to use ammonium sulfate or ammonia nitrate," he said. Probably all of the last three are going to be in the 50-cent-plus category coming this year per pound of nitrogen."

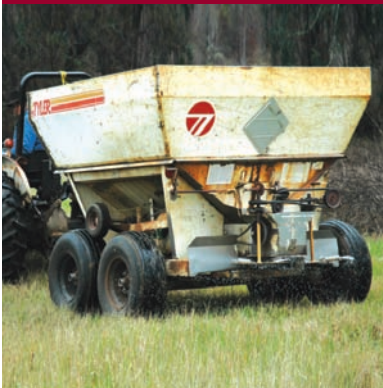
With nitrogen costing this much, how can producers maintain production without going in the red? In East Texas, the most critical economic crops are improved summer forages, which require high rates of nitrogen for good production. Experts from Extension and the Experiment Station—one beef specialist, four forage researchers and a soils scientist—gave suggestions on how to lower input costs and maintain profitable production levels.

"We talk about in the future, coming up, how we are experiencing high fertilizer prices now and what challenges it's going to have for the cow/calf producer," said **Dr. Jason Cleere**, Extension beef specialist. "... I think that one thing we have to evaluate ... is the stocking rate on these pastures. We may not be able to be where we have been in the past. We may have to adjust those stocking rates ... and think more on a basis of per unit of land rather than producing as many calves as we can produce."

Dr. Ray Smith, Experiment Station legume breeder and developer of Apache arrowleaf clover, said winter legumes, because they fix nitrogen from the air, can be part of the answer. The legumes require careful management, however.

"One thing we can do to deal with the really high cost of nitrogen in the future is we can add clover and other forage legumes into our pasture systems," Smith said. "We do this generally by planting in the fall and summer, but we need to make plans now in the spring and summer to both soil test and to add lime into these systems so that we are ready for fall planning."

(story continued on reverse side)



FERTILIZER ALTERNATIVES

Speaking to the April 2007 Grazing School for Novices class, Dr. Lloyd Nelson talks about how ryegrass and small grains can help alleviate high winter hay costs (top photo). In the lower photo, fertilizer spreaders may be a rare sight in East Texas pastures this year. Experts expect the price of nitrogen fertilizer to tops 50 cents a pound, a record high.

©Agricultural Communications
MKT 3536
041607



Texas Agricultural Experiment Station

The Texas A&M University System

<http://agresearch.tamu.edu>

Properly managed, clovers can add from 80 to 100 pounds of nitrogen to the soils, he said.

Dr. Lloyd Nelson, Experiment Station small grains breeder, has been bullish about using over-seeding of annual ryegrass and other small grains to offset the cost of buying hay and supplemental feeds in the past. With current nitrogen prices, he's more reserved, he said.

"Whenever we do this (over-seed), we are going to have to put on quite a bit of nitrogen to make them very productive. I think cattlemen are going to have to look at that very closely and manage these small grains and ryegrass so they can get the most forage out of them without putting on too much nitrogen. It's going to be too expensive."

Dr. Vincent Haby, soil scientist with the Experiment Station, says the easiest, cheapest, cost-saving management strategy is one that is often overlooked.

"In fertilizing any forage grass, regardless of the prices of fertilizer, a soil test is always advisable to have," he said. "Fertilize based on that soil test. Also there are some crops that do not require nitrogen."

One of these crops is alfalfa. It was once thought that alfalfa could not be grown on most East Texas soils because of their high acidity. Haby's research has shown otherwise; that with careful attention to soil amendments, a large proportion of East Texas soils are suitable for alfalfa production, he said. (See <http://agnews.tamu.edu/dailynews/stories/SOIL/Dec2204a.htm> for more information on growing alfalfa on East Texas soils.)

"Alfalfa is one of the options available," Haby said. "If you have to put on phosphorus, do not split-apply if the soil test is low. Get all the phosphorus out there in the spring. It will be available throughout the growing season."

Dr. Gerald Evers, forage management expert with the Experiment Station, said poultry litter is one option for cutting costs.

"Particularly in East Texas, we can look at poultry litter as a source of plant nutrients for pastures," Evers said. "It has many advantages: It's a complete fertilizer, it has all nutrients in it, it has organic matter and also helps improve soil quality. The disadvantages are that you can't get it when you need it all the time and don't always know what nutrients it contains. But it can be an option."

Dr. Monte Rouquette, Experiment station forage scientist, said offering specific management recommendations is next to impossible because each ranching and farming operation is different.

Also, individual producers have different expectations when it comes to their operation's bottom line, said Rouquette, who studies how specific livestock and forage species interact to effect production.

"I think the issue that we face with increased fertilizer prices is that it is not just a single issue," he said. "It's caused us to be more aware and more efficient in our planning of fertilizer, our planting of pastures, and our planning with animals ... Stocking rate becomes a problem or it becomes an opportunity for us to make good utilization of all the forage that we grow with the proper class of animal."

Writer: Robert Burns, 903-834-6191, rd-burns@tamu.edu

Contacts: Dr. Jason Cleere, (979) 845-6931, jjcleere@ag.tamu.edu

Dr. Ray Smith, 903-834-6191, g-smith@tamu.edu

Dr. Lloyd Nelson, 903-834-6191, lr-nelson@tamu.edu

Dr. Gerald Evers, 903-834-6191, g-evers@tamu.edu

Dr. Vincent Haby, 903-834-6191, v-haby@tamu.edu

Dr. Monte Rouquette, 903-834-6191, m-rouquette@tamu.edu

Dr. David D. Baltensperger, 979-845-3041, dbaltensperger@tamu.edu