Farm Views

Following NU Nitrogen Recommendations Can Help Producers Cope with Fertilizer Costs

"The University of Nebraska's nitrogen fertilizer application rate recommendations can help farmers control costs in the face of high prices and looming shortages of anhydrous ammonia," according to Charles Shapiro, a soils specialist at NU's Haskell Agricultural Lab near Concord, Nebraska.

The recent rise in natural gas prices is driving up fertilizer costs. The price of anhydrous ammonia, the most common nitrogen fertilizer for corn, doubled in the last year. Higher fertilizer costs combined with low corn prices puts farmers in a challenging situation this year. "We can't lower the price of anhydrous ammonia, but we can help you manage your input costs," Shapiro said. "We have an extensive database of nitrogen field research and demonstrations where various nitrogen rates have been applied to corn and the yields have been measured. These studies can help farmers make smart decisions on nitrogen application."

Through 20 years of on-farm testing, NU Institute of Agriculture and Natural Resources scientists have developed a specific method for determining optimum nitrogen rates for corn. There's always some yield variation, but the data is fairly consistent throughout Nebraska.

"What we have found is that when we use the NU recommendations, which account for a variety of nitrogen sources such as soil and irrigation water nitrates, previous legume credit and manure use, we get corn yields that are within three bushels of the maximum," Shapiro said. "We have also found that when you apply 50 pounds less than the NU recommended nitrogen rate, you lose about six bushels of corn per acre."

The NU recommendations put producers very close to maximum yields, but at nitrogen rates that are 30 to 50 pounds per acre less than what many farmers apply. At today's prices, the savings on 50 pounds of nitrogen easily could add up to more than $10 per acre.

Using a realistic yield goal also is part of the recommendations. The university recommends using your most recent five-year average plus five percent. University surveys show that many farmers use a yield goal higher than that, but fail to reach their yield goal 50 percent of the time.

Following the university's recommended nitrogen application rates and setting realistic yield goals, may be particularly helpful this year. "Many producers have been told that nitrogen fertilizer supplies may be short by 50 percent to 75 percent," Shapiro said. "Following our recommendations may show those farmers that 75 percent to 80 percent of their past nitrogen use per acre is actually closer to the amount proven to be the most profitable, especially at today's nitrogen prices."

When fertilizer prices fluctuate, nitrogen use can be increased or reduced accordingly. Shapiro's research shows that when corn is $2 per bushel and nitrogen is less than $0.13 per pound or $210 per ton of anhydrous ammonia, it is profitable to add 50 pounds of nitrogen to NU's recommended rate. However, when anhydrous ammonia prices rise above $0.22 per pound of nitrogen or $364 per ton, it is profitable to reduce the recommended rate by 50 pounds. This analysis doesn't include the application costs.

"Reports indicate anhydrous ammonia supplies are limited and the cost of nitrogen, if available, will be near the point where reducing nitrogen by 50 pounds per acre from the recommended rate will be profitable," Shapiro said. If prices continue to rise to $0.30 per pound of nitrogen, he suggested using 75 percent of the university's recommendation for nitrogen, then monitoring the crop and adding more nitrogen by side-dressing if nitrogen deficiency symptoms appear.

"While high fertilizer costs and low corn prices are discouraging to farmers, using NU's recommended nitrogen application rates can help reduce the negative impact," Shapiro said.

For more information, consult NU Cooperative Extension NebGuide G74-174-A, Fertilizer Suggestions for Corn. (TD)

The current list of Organic Certifiers for the state of Nebraska has been updated and in reference to last months What is Organic article, Alan Mitchel is no longer on the list. To find information on the list of Organic Certifiers in Nebraska please contact Lance Cummins-Brown, extension educator, Lancaster and Saunders Counties. 402-471-7180 Thank you (LCB)

What do we Really Know About BSE "Mad Cow Disease"

"Mad Cow" hysteria has again struck the United States. CBS news just finished a three-part series on Bovine spongiform encephalopathy (BSE) and Purina purchased 1,200 head of cattle in Texas because of the feed they were given. Is this hysteria warranted?

The Center for Disease Control (CDC) recently released a question and answer worksheet on BSE and variant Creutzfeldt-Jakob disease (vCJD), the human form of BSE. The following is an excerpt from that sheet.

What is bovine spongiform encephalopathy (BSE)?

Bovine spongiform encephalopathy (BSE) is a progressive neurological disorder of cattle that results from infection by an unconventional transmissible agent. As of November 2000, more than 177,500 cases of BSE were confirmed in the United Kingdom alone in more than 35,000 herds.

The BSE epidemic in the United Kingdom peaked in January 1993 at almost 1,000 new cases per week. The outbreak may have resulted from the feeding of scrapie-containing sheep meat-and-bone meal to cattle. There is strong evidence and general agreement that the outbreak was amplified by feeding rendered bovine meat-and-bone meal to young calves. There is no evidence that BSE is spread from animal to animal through normal contact.

Is BSE occurring in the United States?

According to the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture, BSE has not been detected in the United States, despite active surveillance efforts since May 1990. As of October 31, 2000, 11,700 bovine brain specimens had been examined by an ongoing BSE surveillance system in the United States, and no evidence of BSE was seen. Further, to prevent BSE from entering the United States, severe restrictions were placed on the importation of live ruminants and certain ruminant products from countries where BSE was known to exist. These restrictions were later extended to include importation of ruminants and certain ruminant products from all European countries.

Is BSE a food borne hazard in the United States?

As indicated above, BSE has not been shown to exist in the United States. Thus, it is extremely unlikely that BSE would be a food borne hazard in this country. Because the use of ruminant tissue in ruminant feed was probably a necessary factor responsible for the BSE outbreak in the United Kingdom and because of the current evidence for possible transmission of BSE to humans, the U.S. Food and Drug Administration instituted a ruminant feed ban in June 1997 that became fully effective as of October 1997.

Is there evidence directly linking this newly recognized variant of Creutzfeldt-Jakob disease (CJD) to BSE exposure?

There is strong epidemiologic and laboratory evidence for a causal association between new variant CJD and BSE. The absence of confirmed cases of new variant CJD in other geographic areas free of BSE supports a causal association.

In addition, the interval between the most likely period for the initial extended exposure of the population to potentially BSE-contaminated food (1984-1986) and onset of initial new variant CJD cases (1994-1996) is consistent with known incubation periods for CJD

Has the Center for Disease Control initiated increased surveillance efforts to determine whether the newly recognized variant of CJD occurs in the United States?

Yes. In addition to the ongoing review of national CJD mortality data, CDC conducted active CJD surveillance in its four established Emerging Infections Program areas (Minnesota, Oregon, Connecticut, and the San Francisco Bay area, California) and in a metropolitan Atlanta site during April and May 1996.

Also in 1996, the American Association of Neuropathologists (AANP), in collaboration with CDC, alerted its members about the new variant CJD neuropathology and requested reports of any such cases, regardless of the clinical diagnosis or age of the patient. These surveillance efforts have not detected evidence of the occurrence of new variant CJD in the United States.

For more information on BSE, please feel free to contact Lance L. Cummins-Brown, extension educator at the Lancaster County Extension Office at 441-7180 or by e-mail at lbrown4@unl.edu (LCB)

The question and answer information presented in this article can be found at the Center for Disease Control website at http://www.cdc.gov/ncidod/diseases/cjd/bse_cjd_qa.htm

Poor Germination and Shortages Plague Soybean Seed Supply This Season

Lots of heat and little water last summer means this year's soybean seeds are small in size, lower in quality, and short in supply. Farmers switching acreage from corn to soybeans, which require significantly less nitrogen, to avoid skyrocketing fertilizer prices, could exacerbate the situation.

Steve Knox, field services supervisor for the Nebraska Crop Improvement Association, based at the University of Nebraska said, "Last year's hot, dry weather was devastating to dryland soybeans, which is the majority of soybeans planted in Nebraska."

The quality of soybean seed is measured by the germination percentage, or the number of seeds per 100 that are viable. "Most years, samples sent for testing by NCIA members have germination rates above 90 percent, with 80 percent being the standard. This year the average germination has been 70 percent to 75 percent, the lowest in 20 years," Knox noted.

"We have seen a huge range of germination percentages this year, from above 90 percent to as low as 30 percent," he said. "There are some good seed lots out there, but there is also some seed that will have to be discarded."

Hot, dry weather also produced seeds that are smaller than average. During normal seed cleaning, which is designed to remove the smallest and poorest quality seeds from the mix, a greater number of seeds will be lost this year.

"When you have smaller seeds, a greater number will fall out during cleaning," said Gary Cross, foundation seed manager for NU's Institute of Agriculture and Natural Resources. "This year we are seeing 25 percent to 30 percent clean out compared to around 10 percent most years."

Poor germination percentages and increased clean out means that Nebraska farmers should expect to find shortages when purchasing soybean seed for this season. Many seed sources already are sold out or over-booked, and the seed that is available may not be top quality.

"We have about half of the soybean seed that we planned to have available for sale this year," said Ken Anderson, a marketing manager with NC+ Hybrids. "We have lowered our germination standard from 90 percent to 85 percent to increase supplies and we are still short. Some other companies have even lowered the standards to 75 percent or lower."

Prices are high and supplies are short this year for anhydrous ammonia, the most common nitrogen fertilizer for corn. That has some farmers looking to switch some of their acres from nitrogen-needy corn to soybeans, which demand less fertilizer.

"I have heard from some farmers who are going to switch

*See **SOYBEAN** on page 11*