

Buffer helps digestibility

LINCOLN, Neb. — Sodium bicarbonate added to a corn silage ration increased digestibility of both dry matter and fiber in recent research at the University of Nebraska.

Beef steers were full-fed a ration of 90 percent corn silage and 10 percent supplement, according to Terry Klopfenstein, University of Nebraska animal science professor. The ration contained, on a dry matter basis, either 2 percent sodium bicarbonate and .75 percent magnesium oxide, 2 percent limestone and .75 percent magnesium oxide, or no buffer.

The sodium bicarbonate-magnesium oxide mixture significantly raised rumen pH, which in turn resulted in increased digestibility of the ration (see accompanying table).

"The bicarb-magnesium oxide mixture kept rumen pH in the

| | Buffer Effects in Corn Silage Diet | | |
|------------------------------|------------------------------------|---------------------------------|-----------------------------|
| | No Buffer | Sodium bicarb + Magnesium oxide | Limestone + Magnesium oxide |
| Feed intake (lbs/day) | 16.4 | 17.8 | 15.7 |
| Dry matter digestibility (%) | 63.3 | 67.6 | 67.0 |
| Fiber digestibility (%) | 48.7 | 52.7 | 51.0 |
| Rumen pH | 5.77 | 5.95 | 5.87 |

range required for unhampered growth rate and metabolic activity of fiber digesting bacteria," Klopfenstein explained. "This digestion study seems to fit the theory that by maintaining rumen pH, cattlemen can improve digestibility of fiber in corn silage, plus counteract the acidity of the grain portion of the silage."

Feed intake was also enhanced by sodium bicarbonate and magnesium oxide. Cattle fed this mixture consumed 17.8 lbs. of dry matter per day, compared to 16.4

lbs. per day for controls.

"There is not a clear-cut answer to the question of feeding sodium bicarbonate and other buffers. However, there is certainly an opportunity to enhance utilization of rations by raising rumen pH through their use," Klopfenstein said.

Others participating in the research were Keith DeHaan, a former Nebraska graduate student now with Farmland Industries, and Bud Britton, Associate professor of animal science.

Select a soybean variety

LANCASTER — Spending a lot of time looking for "just the right" soybean variety for your farm may be a mistake. But, spending that same time looking for two or three good soybean varieties can be time well spent.

"Obviously it is important to find and plant soybeans that are going to perform well," says agronomist Bill Fleet. "But it may be a mistake to single out one variety and use it exclusively."

Fleet, an area agronomist for the Eastern Division of Pioneer Hi-Bred, points out that corn producers have widely accepted the practice of planting a "package" of hybrids to spread their risk and limit the effect of a particular stress period during the growing season.

"This practice is also valid in producing top soybean yields," he notes. "For best results, plant a package of two or three soybean varieties which differ in maturity by several days."

The Pioneer agronomist notes that planting a single variety on all of a farm's soybean acres ultimately compresses the harvest into a couple of days.

"In most cases when a single soybean variety is planted, the

entire crop reaches harvest maturity within a period of a couple of days," says Fleet. "If the crop isn't harvested in those few days, part of it will dry down below the acceptable grain standard moisture of 13 percent. When this happens, income is reduced in two ways."

Losses

Fleet explains, "First, there is sheer volume loss. For example, 52.5 bushels of soybeans at 13 percent moisture translate into only 50 bushels of beans at 8 percent moisture. Two and a half bushels literally evaporate into the air."

"Harvesting losses also increase as the moisture level drops," he says. "Average harvest losses are two and a half bushels per acre. However, this can double or even triple when soybeans are combined too dry."

Fleet notes that there is a great temptation to plant all full season beans.

"Full season soybeans usually yield more," he says. "But, to spread the risk and avoid heavy combining losses, we recommend planting some early and medium maturing varieties."

"By doing so, the risk of having

the entire bean crop at the same maturity stage during a stress period is minimized," Fleet notes. "And a range of maturity dates spreads out the harvest."

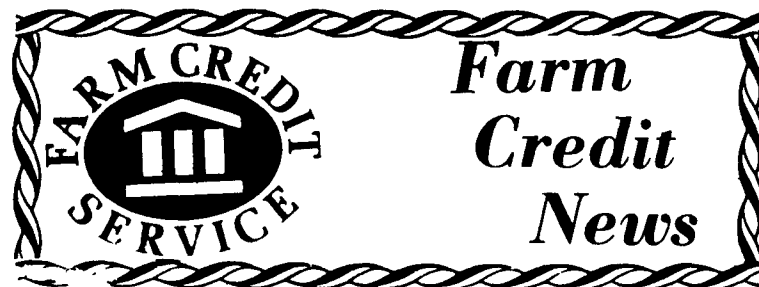
Choosing Varieties

Soil type and row spacing practices are two keys to determining which varieties to plant in a particular field.

Fleet explains that early maturing soybean varieties show excellent yields in better soils that have high fertility and good water holding capacity, but are well drained.

"Early maturing beans that are planted in narrow rows or are drilled will yield much closer to full season varieties," he says. "To get the maximum yield potential from an early maturing soybean variety, plant it in the field with the best soil and use closer row spacing."

"A full season variety can be planted on almost any soil type," continues Fleet. "And, full season beans offer more flexibility in row spacing."



Farm
Credit
News

Farm Credit issues report

WASHINGTON, D.C. — The nation's farmer-owned Federal Land Banks and Production Credit Associations reported increased loan stress for the year ended Dec. 31, 1983, according to the Farm Credit Administration, the independent federal agency responsible for their supervision, examination and regulation.

The problems of the borrowers are reflected in the institutions. Loan losses of Production Credit Associations increased from \$159 million in 1982 to \$238 million in 1983, while losses among Federal Land Banks rose from \$1.8 million to \$9.8 million.

FCA Governor Donald E. Wilkinson pointed out that loan losses were covered by reserves and earnings. He noted that both PCAs and FLBs had declines in earnings for 1983 due to efforts of the Farm Credit banks to reduce net interest margin and loan fees to help troubled borrowers.

He said the PCA allowance for losses account decreased 7.8 percent during the year, from \$611 million on Dec. 31, 1982, to \$563 million on Dec. 31, 1983, and net earnings dropped 70.4 percent, from \$261 million to \$77 million.

Despite the decreases, the total net worth of Production Credit Associations was down less than 1 percent, Wilkinson said, from \$4.12 billion to \$4.08 billion.

Wilkinson said the allowance for losses account of the Federal Land Banks increased 1.7 percent during the year, from \$524 million to \$533 million, though earnings declined 53 percent, from \$598 million in 1982 to \$282 million in 1983.

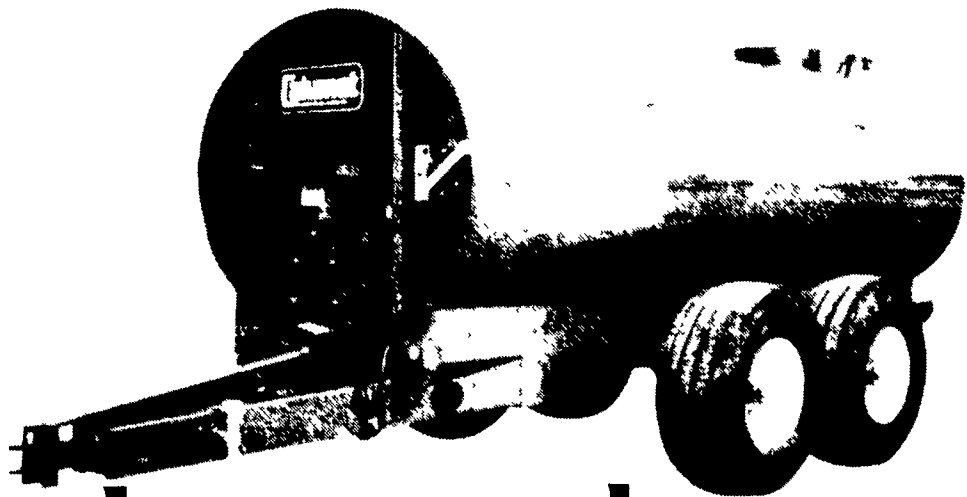
He reported the net worth of the Federal Land Banks increased 6.1 percent, from \$5.5 billion on Dec. 31, 1982, to \$5.9 billion on Dec. 31, 1983.

Based on historical patterns and on the variability of incomes of individual farmers, Governor Wilkinson said he expects credit problems to continue through March and then improve seasonally through September.

He said that what happens after September will depend on worldwide economic and agricultural conditions that will evolve during the upcoming growing season.

"We certainly hope these conditions will improve so that a good number of delinquent borrowers can become current and begin to improve their financial situation," he said.

The volume of credit extended by both Federal Land Banks and PCAs declined during 1983, reflecting the conditions in agriculture. The volume of loans outstanding from PCAs also declined, while amount outstanding from the Federal Land Banks increased slightly.



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