

# Burn The Beans And Brown The Hay!

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NEWARK, De. — Cooks relax! Burning food on the stove is not quite as bad as it smells sometimes! That is, when it comes to feeding cows and calves! We used to warn against hay going too moist into the mow and burning. Well, it still may set the barn on fire; but the fact that hay caramelizes, is not as bad as we used to think. What was called unavailable protein because of overheating is now recognized as by-pass advantage in the rumen.

To have a portion of total feed protein unavailable in the rumen and thus by-passing it, is actually, an advantage to our cows, calves, sheep and goats. More protein will reach the lower intestines for true digestion and utilization, instead of being wasted as ammonia gas in the rumen from readily fermentable protein.

Researchers in Nebraska found that heating hay with soybean oil meal caused certain plant sugars to react with the amino acids of proteins on heating, which equals caramelization. The proteins in soybean oil meal become protected against degradation in the rumen; that is, they become unavailable or by-pass. When the sugar xylose was used with soybean oil meal, its by-pass percentage was increased 2.5 times. Xylose is normally part of hemicellulose in plants, thus a part of fiber. Good sources are corn cobs and

most sulfite liquor from the wood pulping paper industry.

Digestion trials on beef and lambs and subsequent tests on milking cows with such heat- and xylose-treated soybean oil meal showed that not only more by-pass protein was digested, but also that less soybean oil meal should do the same job when "burnt."

Two rations were tried on the milking cows, one contained 16 percent protein and had regular soybean oil meal. The other ration had half of the soybean oil meal content of the first, thus testing only 13.2 percent protein, but the

soybean oil meal was "burnt."

What would the cows say about this? Would it be the same that we would say when we come home for dinner and the kitchen has that burnt fragrance in the air and the dear cook is in tears?

No, no! The cows seem to know about the built-in value of caramelizing food! It appears that cows know instinctively that instead of feeding and wasting proteins on their rumen bugs, they now get more out of this food themselves later on in their guts. Therefore they are not upset about "burnt" feed. In fact, they appear rather

happy about it and reward us with more milk.

In the Nebraska experiments, fresh cows were fed for 12 weeks one of the two rations, besides corn silage and hay, equally. Cows readily ate either ration. The cows fed regular soybean oil meal in the 16 percent supplement averaged 84.4 pounds of milk on a 3.5 percent fat-corrected basis. But the cows fed the heat-treated soybean oil meal in the 13.2 percent supplement averaged 84.2 pounds of milk. Thus, results showed that similar milk production can be obtained when regular soybean oil

meal is replaced with one-half as much protein from heat-treated soybean meal, thus providing equal amounts of by-pass protein.

From an economic point of view, feeding half as much soybean oil meal when heat-treated, reduced grain supplement costs by \$13 to \$26 per ton under current prices—and added much more than cost of heat treatment to the value of the supplement.

Thus, it seems that "burnt" beans and "brown" hay aren't so bad after all, especially when scientists are catching up with what cows knew all along.

## DeKalb-Pfizer Releases New Products

DeKALB, IL — Regional sales managers and agronomists of DeKalb-Pfizer Genetics met at the company's international headquarters in DeKalb, Ill., for the announcement of new seed products for the 1989 growing season. This year, the company is releasing four new corn hybrids for the central Corn Belt, four corn hybrids for specific regional markets, three new soybean varieties, and one grain sorghum hybrid.

The new product launch involved company representatives from across the country. In all, 15 agronomists and 12 regional sales managers attended this year's sales launch. Representing DeKalb-Pfizer's Agway Sales Region were regional sales manager Mike Spyker of York, and agronomist Tom Hall of State

College.

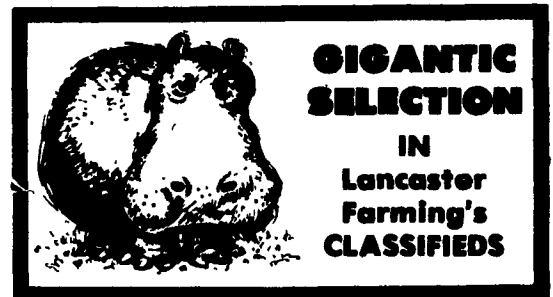
DeKalb-Pfizer sales managers and agronomists assist the company's dealers and customers throughout the year, but they also play an important role in the product advancement process. Sales managers help interpret the specific needs of their customers, and agronomists supervise the on-farm field tests and help evaluate all experimental products.

All new products undergo several years of research testing and an additional one or two years of widespread field tests in the company's Field Analysis Comparison Trial (FACT) program. However, according to Dick Bohling, DeKalb-Pfizer's agronomic services manager, this year's new

releases had an additional test: the 1988 drought. "Our products typically experience some drought stress during the many years of testing, but it's unusual to have a drought as severe as last summer's," said Bohling. "This year's new products came through the drought like champs."

DeKalb-Pfizer is an interna-

tional researcher, developer and marketer of hybrid corn, sorghum and sunflower seed, and of varietal soybean and alfalfa seed. The company is headquartered in DeKalb, Ill., with area sales offices in Indianapolis, Atlanta, and Ames, Iowa. Its regional sales offices are located throughout the country.



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