



WHITE HORSE GRAIN CO., INC. INVITES YOU TO THEIR FARMER MEETINGS.

- ★ Fluid Blend Fertilizer will be discussed in all of the meetings. Also we will be discussing and helping you to market your grain.
- ★ White Horse Grain's Floater Sprayer Equipment will be on display in the parking lot at the Red Rose Inn.
- ★ All meetings will be held at the Red Rose Inn in Jennersville, PA off of Rt. 796 and Rt 1 Bypass.

CORN CLINIC

FRIDAY, FEBRUARY 8, 1980
10 a.m. to 12 noon

Jack Beideman from Ciba-Geigy will be speaking on:
"The New Weed Control For 1980"

Charles Marshall from Ag-Chem Inc. will be speaking on:
"How To Get Better Standability for Corn"

ALFALFA CLINIC

FRIDAY, FEBRUARY 15, 1980
10 a.m. to 12 noon

Steve Fisher from FMC will be speaking on:
"How To Get A Better Stand On New Seedings With Furadan"

Richard Wise from Beachley-Hardy Seed Co. (WL Alfalfa) will be speaking on:
"The Right Seeds For Your Soils"

JOHNSON GRASS CONTROL CLINIC

TUESDAY, FEBRUARY 19, 1980
10 a.m. to 12 noon

Wayne Marz from Stauffer Chemical Co. will be speaking on:
"Johnson Grass Control In Corn"

Guy Braxton from Monsanto will be speaking on:
"Johnson Grass And Corn Control In Soybeans"

SOYBEAN CLINIC

FRIDAY, FEBRUARY 22, 1980
10 a.m. to 12 noon

Charles Marshall from Ag-Chem Inc. will be speaking on:
"Weed Control and Better Job On Growing Soybeans"

Jack Beideman from Ciba-Geigy will be speaking on:
"Dual For Better Weed Control"

Ray Laysen from Asgrow will be speaking on:
"The Soybeans For 1980"

LUNCH WILL BE PROVIDED IN ALL OF THE ABOVE MEETINGS

For reservations send coupon into White Horse Grain at R.D.2, Cochranville, PA 19330 for 1 or more of the meetings or call:

WHITE HORSE GRAIN CO., INC.
(215) 869-8201
RICHARD BRECKBILL
(215) 932-3307
PAUL MURPHY
(215) 444-5170

NAME _____
NUMBER ATTENDING _____
I am attending meetings on: (Check)
Feb. 8 _____ Feb. 19 _____
Feb. 15 _____ Feb. 22 _____

When is a dairy buffer effective against acid?

PISCATAWAY, NJ — Buffers, buffers, buffers.

Few dairy and beef producers can pick up a farm paper these days without reading about various buffers being used as feed ingredients.

But not all so-called buffers are effective in buffering rumen acids, and most aren't really buffers at all.

When used in dairy and beef feeds, a "buffer" chemically maintains a balanced pH in the animals' digestive system. The pH is a measure of the level of acid and alkali in a solution, and is expressed in numbers from 0 to 14.

A rumen pH between 6.2 and 6.8 is generally considered best for optimum digestion and rumen function in cattle. This will vary with feeding regime and time after feeding.

Only one feed ingredient, sodium bicarbonate, is commercially fed to cattle to maintain this optimal pH through true buffering action, says W.H. Hale, a University of Arizona animal nutritionist.

"The rest of these ingredients work by means other than buffering," Hale says.

Limestone, dolomite, sodium bentonite, whey and sodium and calcium hydroxides are compounds often fed to cattle to improve production.

However, none is a "true" buffer like sodium bicarbonate, Hale points out.

Sodium bicarbonate added to feedstuffs results in a change in the rumen pH. Bicarb biologically increases the alkaline reserves in the rumen, and that can be a benefit to the feeder," he adds.

Beef and dairy producers feeding high-energy, low-fiber rations to boost herd performance may have good reason to feed sodium bicarbonate. These "hot" rations can cause acidic ruminants that in turn contribute to poorer cattle performance.

Under normal grazing conditions, enough sodium bicarbonate is produced naturally in the saliva to neutralize acids formed during digestion. But, cattle fed finely chopped feedstuffs or high energy grains often don't produce enough saliva

and natural bicarb to counteract rumen acids.

By maintaining proper rumen pH, sodium bicarbonate helps feedlot cattle gain weight more efficiently. Bicarb-fed cattle may maintain better appetites and digest their feed more completely than cattle with acidic ruminants.

Dairymen feed bicarb to maintain butterfat content in the milk their herds produce. Butterfat production is often depressed when rumen acids accumulate and reduce rumen pH.

Propionate, a fatty acid that the mammary gland is unable to utilize for milkfat production, increases when the pH falls below 6.0. Bicarb restores milkfat production by maintaining a pH above 6.0, preventing excessive propionate from forming in the rumen.

Other compounds popularly called buffers work differently than sodium bicarbonate. Limestone and dolomite are carbonate sources and are fed to raise the pH in the digestive systems of cattle. They are not buffers, and are effective in the intestine, rather than in the rumen.

The calcium in limestone and dolomite adds alkaline reserves to the lower digestive system, raising the pH in the intestine. But, neither compound keeps acid levels constant through buffering action.

Three other compounds commonly referred to as buffers — magnesium oxide, sodium bentonite and whey — increase the rate at which feedstuffs pass through the

rumen into the lower digestive tract, Hale says. With less time to ferment, rumen contents produce less acid.

Magnesium oxide also increases the mineral magnesium in ruminants' blood. At the University of Michigan, researchers found that blood magnesium increases the mammary glands' absorption of long-chain fatty acids needed to produce milkfat. "This in part may be connected to higher milkfat production," Dr. Hale says.

Sodium bentonite is a clay used as a binder in the poultry feed industry. Its effectiveness in the ruminant diets may be due to its absorptive powers, although its use is not well documented.

Sodium and calcium hydroxides have been experimentally fed to cattle to correct extreme acid conditions, but both compounds are extremely caustic and could be dangerous if overfed. And, they are not buffers.

"The hydroxides are not effective, are dangerous to handle and are corrosive to equipment," Hale says.

In sum, sodium bicarbonate is the only true buffer available commercially as a feed ingredient.

Other so-called "Buffers" affect cattle performance by adding to alkaline reserves in the digestive system, by increasing the rumen turnover rate or by increasing the uptake of fatty acids in the mammary glands, Hale says.

More whites, young people in farm labor force

WASHINGTON, D.C. — While the farm production has shown an almost steady decline in recent years, the hired farmworker picture has changed little — at least on the surface.

The hired farm work force has hovered around 2.7 million persons since the late 1960's.

However, amidst this apparent stability, the makeup of this work force has changed markedly.

Over the past few years, the hired farm work force has been predominately white (71 percent), with minorities accounting for 29 percent. Of these, 39 percent were Hispanic and 61 percent were blacks or members of other ethnic minorities.

Since the late 1960's, the number of black and other minority farm workers has declined about 46 percent.

The average age of farmworkers also declined since the late sixties. This change was primarily due to a decline in the number of workers 45 years and older and an increase in the 18-24 age group.

In 1977, on the average, minority workers were older

than their white counterparts.

The median age of Hispanics was 30, of blacks and others 33, and of whites only 23.

These figures indicate that white workers were more likely to move out of hired farmwork as they became older.

This suggests that hired farmwork may serve more as an entry level job into the labor force or a supplemental job for whites, compared with minority workers.

Minorities were employed on the farm for longer periods during the year and received higher annual farm earnings than white farmworkers.

Hispanic farmworkers averaged 118 days of farmwork a year, compared with 110 days for blacks and others, and 86 days for whites.

Annual farm earnings for Hispanics averaged \$2,830, and black and other minority farmworkers averaged \$2,356. Earnings for both groups were significantly higher than the \$1,672 average for whites.

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