

## Baking soda helps cows with ration changeover

**UNIVERSITY PARK** — Adjusting dairy cows to sudden changeover from hay to high energy rations after calving can succeed by feeding about one-third of a pound of baking soda or sodium bicarbonate in the rations, according to Lee H. Kilmer and Lawrence D. Muller, dairy scientists at Penn State.

They point out that dairy

cows are fed large amounts of hay with only small quantities of grain before calves are born. After calving, cows that are group fed are often switched abruptly to high energy rations containing silage and grain needed for top volume milk yields.

Unless the cow's rumen or stomach can adjust to

sudden feeding of grain concentrates, excess acidity develops, they said. Other metabolic problems can also occur, they noted, caused by increased eating of highly fermentable carbohydrates such as sugars and starches in grain.

In experiments at Penn State, cows were fed a ration of 85 parts chopped hay to 15 parts grain concentrate during the dry period and for three days after calving. On the fourth day after calving, the cows were switched abruptly to a complete ration of 60 parts corn silage and 40 parts grain silage. All rations were fed free choice twice daily for nine weeks.

Cows fed sodium bicarbonate during the first four weeks after calving consumed 13 percent more feed and produced 16 percent more milk than cows not fed the "buffer," a term for a chemical that neutralizes acids. Cows fed the "buffered" ration had less off-feed problems.

Over the total nine weeks of the study, cows fed sodium bicarbonate consumed nine percent more feed per day and produced 10 percent more milk than cows not fed the buffer.

Dr. Muller said cows fed sodium bicarbonate reached

peak milk production earlier than the cows not given the baking soda. Fourteen of 30 cows fed the buffer reached peak milk yield at over 80 pounds per day. In contrast, only four of 15 cows not fed sodium bicarbonate attained 80 or more pounds of milk daily.

The results indicate that feeding the baking soda should be profitable for dairymen under conditions similar to this study, Dr. Muller and associates believe. The difference in milk production amounted to about six pounds per cow daily.

At a price of \$12 per hundredweight, the added

yield of milk produced 72 cents of additional income daily for each cow.

The sodium bicarbonate cost about 5 cents per cow daily. It was mixed with the feed at about one-third of a pound per cow daily (0.7 percent of the total ration). Cost of the additional feed eaten by cows given the baking soda was not estimated.

The experiments at Penn State were carried out largely by Lee H. Kilmer, graduate assistant in dairy science, with the support of Dr. Mueller and Dr. Paul J. Wangness, associate professor of animal nutrition.

"Lee Kilmer's research was one of the first studies of its type with dairy cows," Dr. Mueller said. "Earlier studies on rapid changeover in rations had been conducted with beef cattle and sheep in several university and industry experiments."

Muller and associates would like to continue studying buffers in dairy cow rations. They especially want to examine long-term effects of such feeding. Experiments should test the effects, if any, of withdrawal of sodium bicarbonate after short or long-term use. And feeding of buffers with different types of rations should be studied.

## Venezuela imports Simmental bulls

**BOZEMAN, MT.** — Miller Crest Farms of Bronson, Florida, owned by Peggy and Spencer Miller, recently sold three Simmental bulls to interests in Venezuela.

Two Venezuelan Universities, in a cooperative nature, intend to use the yearling purebred bulls to upgrade the native herds in the area, according to a spokesman for the American Simmental Association.

"They have been breeding artificially for some time, and will put these bulls on some of their Simmental halves," Miller explained.

"The South American people like to get their cattle from Florida because they

are already acclimated to the heat down there," said Miller. "They have a tremendous problem in that weaning weights are only 200 pounds in their native cattle, and the University people are using Simmental in an effort to increase production."

According to Alvaro Martinez of Maracay, Venezuela, the Miller Crest bulls are the first Simmental cattle to be imported into the country.

Initial contact with the Venezuelans was made by the Millers through the Florida International Agricultural Trade Council.

**Conodoguinet 4-H Sheep Club to demonstrate fitting**

**NEWBURG** — The fifth meeting of the Conodoguinet 4-H Sheep Club was held at the home of Paul Wynn in Newburg with President Rick Cleland in charge.

Those present, with the 20 members, were the leaders Marlin Rook, Bob Holtry, and Mr. Duncan, the extension agent.

The club's next meeting will be Thursday, June 19, at the home of Bob Holtry at which time sheep fitting will be practiced.

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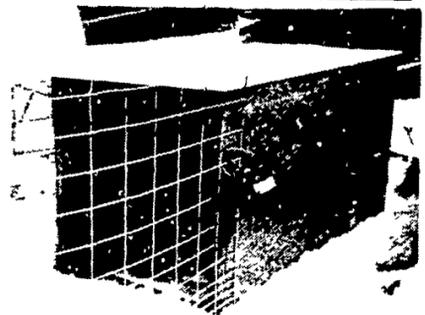
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