

# Winter feeding may not favor outdoor bales

UNIVERSITY PARK, Pa. - Despite up to 50 per cent savings in time and labor, outdoor storage and "free choice" feeding of large hay bales and stacks of corn stalks to beef cattle in winter produce less weight gains than baled hay stored indoors and fed on a restricted basis. The findings come from research within the Agricultural Experiment Station at The Pennsylvania State University.

Cattle in the experiments were significantly fatter when given rectangular or round hay bales stored indoors than when fed loose round bales or stacks of corn stalks stored outdoors.

The findings were announced recently by Dr. Lowell L. Wilson, professor of animal science at Penn State, during the First International Hill Land Symposium held at West Virginia University.

The outdoor winter feeding experiments compared large round untied bales weighing 1200 pounds each, large round string-tied bales weighing 950 pounds each, and hay stacks weighing about 1600 pounds. Following the 131 day feeding trial, physical condition of the cows was quite similar for each type of outside-stored hay.

Storage losses for the hay ranged from slightly over five per cent for the rectangular bales to more than 16 per cent for the giant stacks. In addition to Dr. Wilson in animal science, the research included William L. Kjelgaard and Paul M. Anderson in agricultural engineering, Dr. John E. Washko in agronomy, and Dr. Theodore A. Long in animal nutrition. The project was supported in part by Fair Funds administered by the Pennsylvania Department of Agriculture.

To equal the amount of dry matter contained in barn-stored rectangular bales, considerably more dry matter was found vital for hay packages fed outdoors. This amounted to 20 per cent more for the giant hay stacks, 21 per cent more for string-tied bales, and 32 per cent more for loose round bales.

Wilson said calves born near the end of the wintering trial were kept with the cows on pasture throughout the grazing season. The average 205 day calf weight was not affected significantly by the wintering treatment.

Where farmers want to make the best use of outdoor-stored haystacks and bales, Wilson and associates suggest the following:

- Place the haystacks or bales in rows, about eight to 10 feet

apart, with feeding controlled by an electric fence. Put enough bales in a row to provide two to three weeks of feed.

- Arrange the bales in rows, close together end-to-end. Again, an electric wire is used to control access to the hay.

- Arrange the bales or haystacks about 10 feet apart. Allow the beef cattle access to hay for a limited time each day, then move them away to a loafing area.

- Put up a fence-line feeder. Putting a roof over the feeder may result in more hay going into the cows than otherwise.

- Use a portable feeder rack with a floor and built on skids. This can be effective for small herds.

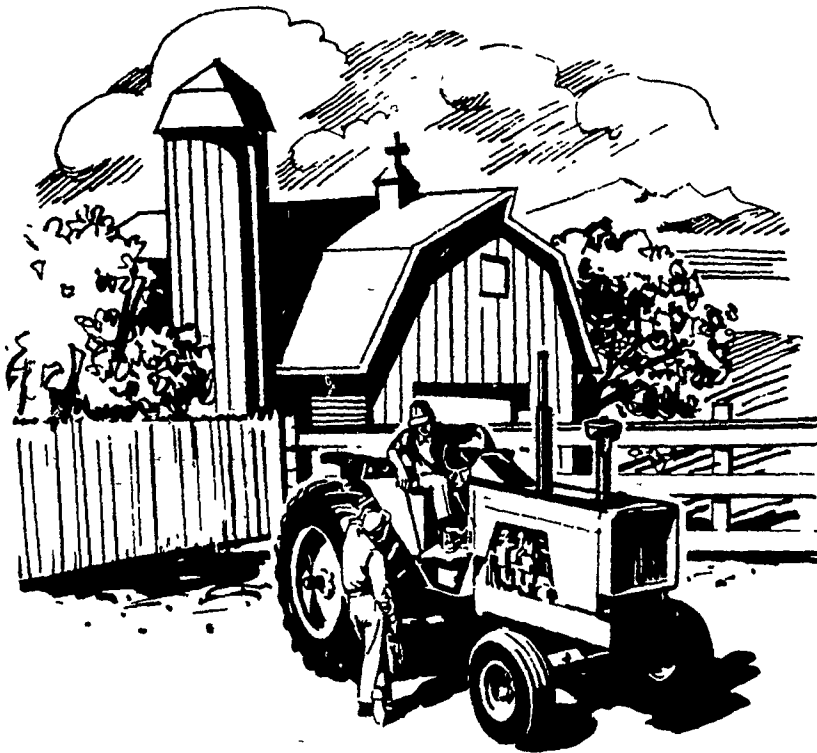
## 1975 lime usage hit record

FAIRFAX, Va. - The use of agricultural limestone in 1975 was over 31.3 million tons, a new record high for the Nation. This was only the fourth time usage has exceeded 30 million tons - the other three times were in 1947, 1966, and 1968. The tonnage in 1975 was about 3.5 million tons more than in 1974, and almost 800,000 tons more than in the previous record year, 1968.

Since 1936, due to the stimulus provided by the Agricultural Conservation Program, agricultural limestone usage increased gradually until eventually in 1947 a peak of over 30 million tons was reached. Since then, usage has fluctuated between 19 and 30 million tons until 1975's record tonnage.

However, and despite the excellent job done in some areas and the record tonnage in 1975, usage remains woeful in all too many states. Less than one-third of the 94.6 million tons recommended as an annual application by the Nation's Agricultural and Agronomic authorities were applied last year. Proper liming would benefit about three-fourths of all the cultivated lands in the humid regions of the United States, and yet these acid soils receive annually only a fraction of the amount needed to maintain optimum productivity. Productivity is being wasted, dollars lost, and the long-term health of our soils irretrievably compromised, proclaims the National Limestone Institute, Inc., headquartered in Fairfax, Va.

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