Chemical Treatment for Hay

Hay treated with chemicals can equal the quality of heat-dried hay, research at The Pennsylvania State University indicates. Experiments using propionic acid and anhydrous ammonia have been successful, as reported recently during the annual Forage and Seed Conference at Hershey.

"We know from our research that we can speed up the hay-making process by safely storing and satisfactorily feeding hay baled at 25 to 30 percent moisture," stated Lynn D. Hoffman of The Pennsylvania State University.

Cattle and sheep accept the hay treated with organic chemicals and make desirable gains, Mr. Hoffman affirmed. Chemical analysis indicates the product is equal in quality to the same hay dried with heat, he added. Chemically treated hay does not have the bright green color normally associated with heat dried hay.

Two of the most common materials used to date are propionic acid and anhydrous ammonia. Results in 1973 indicated that chemically treated hay and silage were equal to or slightly better than heat dried crops. This was true both for intake by animals and efficiency of weight gains. Chemical evaluation showed a slight increase in protein in the treated forage over the heat dried product.

He described studies involving agricultural engineers, animal scientists, and agronomists of the Agricultural Experiment Station at University Park. Mr. Hoffman is superintendent of the Station's Agronomy Research Farm. Use of propionic acid or anhydrous ammonia can speed up hay processing by as much as 5 hours, he pointed out. This 5 hours may be the only drying time available daily when haymaking conditions are less than ideal, he added.

Second crop alfalfa was sprayed in September of 1972 with a solution of 0.5 percent and 1 percent chemical on a wet hay basis. This hay was first mowed, crushed, and allowed to dry to about 40 percent moisture. The chemical was applied when the hay reached 32 percent moisture.

The spraying was done on windrows immediately prior to baling with a round baler. Storage quality of the treated bales was equal to untreated bales which were field cured to 15 percent moisture content before being baled with the same machine. Animal acceptance appeared equal.

In 1974 a combination of 80 percent propionic acid and 20 percent acetic acid was used on first crop alfalfa. The hay was baled at 25 percent moisture. Water was added to make the amount of spray solution uniform over all treatments where the original acid levels were 0.5 percent, 1 percent, and 2 percent, respectively.

The propionic-acetic acid was applied on the hay-baler and-or as the hay came off the crimping rolls of a haybine. There were no differences in preservation of the forage due to method of application. When fed, this hay was in the best condition of any chemically treated hay to date.

Involved in the research are engineers W. L. Kjelgaard and P. M. Anderson, agronomists J. B. Washko, J. P. Mueller, and M. Hoffman; and animal scientist L. L. Wilson.

Historically, farmers have expressed an intense interest in any machine or concept of forage handling which enables them to make better quality forage in spite of weather conditions in the Northeast, Hoffman observed.

Several unanswered questions still exist, he said. Will costs of $5 to $8 per ton be acceptable for a speedier method of making hay? Will farmers accept the odor and corrosiveness of these materials?

Farm Couple Celebrate Anniversary

Mr. and Mrs. Clyde McSparran, RD2, Peach Bottom, were honored by relatives at a family gathering at the Robert Fulton Inn on Saturday, November 23 to celebrate their 60th wedding anniversary.

The McSparrans are retired farmers and reside on the farm where Mr. McSparran was born. They have both passed their 85th birthday and are members of the Fulton Grange for over 50 years.

They received a citation from the House of Representatives for the Commonwealth of Pa. extending their congratulations.