

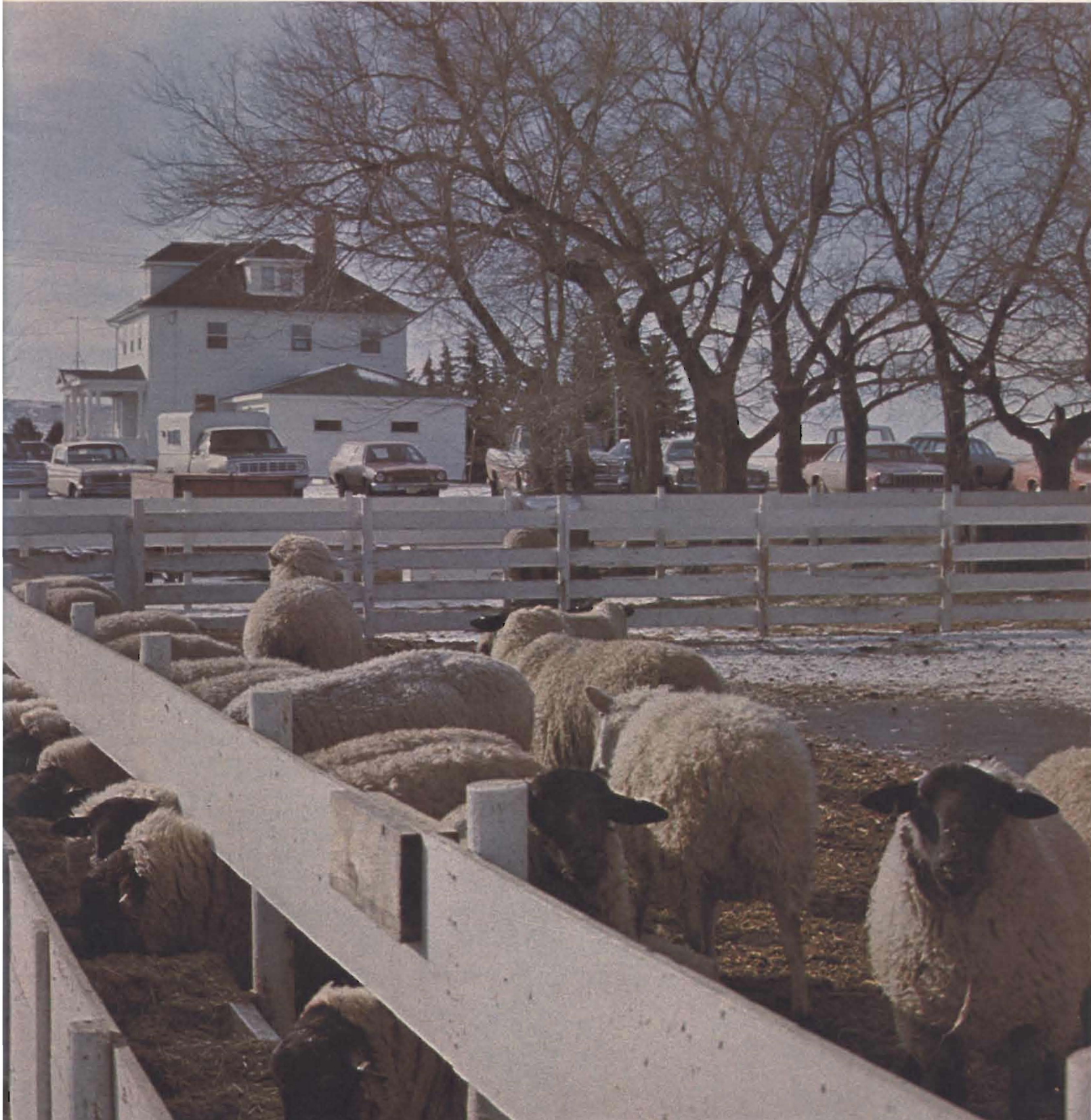


NORTH DAKOTA Farm Research

Bimonthly
Bulletin

Vol. 37, No. 3

January-February, 1980





Timothy C. Faller
Superintendent
Hettinger Branch
Experiment Station

In the *Haley Herald*, Haley, North Dakota, dated March 25, 1909, is found the following statement: "A bill was passed by the Legislature for an Experiment Station at Hettinger. It will be a valuable thing to the whole region west of the Missouri. Conditions in the vicinity of Hettinger are typical of this entire new country, and different in many respects from the country on the east side of the river, which already has agricultural stations. Such an institution at Hettinger will make tests for all kinds of crops and farm industries carrying on the work under strict scientific rules and keeping an exact record of the results of each experiment. It will determine by these tests the best ways to do farm work and will publish the results determined on in bulletin form for free distribution to the farmers of the state."

Since this early beginning the Hettinger Station has been doing research in many areas, including the early work with cereal grains, potatoes, corn production and dairying. The station was closed during the depression and the dairy herd was dispersed. When the station was reopened it took on a new emphasis, the sheep production research. The Hettinger station is the only one in the North Central Region that centers its programs on sheep production research.

When sheep production is thought of, people may visualize a scene of a rustic sheep camp somewhere on the desert with a picturesque mountain background. They may also remember passages from the bible describing shepherds tending their flocks and some of the methods they employed in times dating before Christ. These scenes and some production methods are still applicable to present day sheep production. Unfortunately, sheepmen have not maximized their uses of newer technology available for the production sheep.

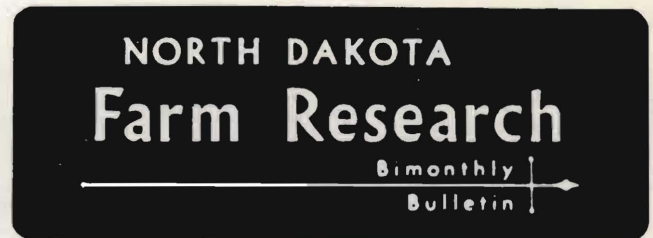
Sheep numbers have declined in the United States from a high of 50 million in 1942 to the present low of 11.8 million. Present prices of lamb in the \$60 - 70 per hundredweight range and a wool support price of \$1.19 per pound have stimulated a renewed interest in sheep production, especially in the farm flock states where there is a potential for various types of confinement production systems. North Dakota crop land will double carrying capacity when feed is harvested and fed compared to grazing. However, sub-marginal land will still require grazing animals to harvest the feed produced on these acres. Many indicators point to the potential for expansion of the confinement sheep industry in North Dakota such as:

Continued on Page 7

In This Issue

Confinement Sheep Barn at Hettinger Station <i>Richard L. Witz</i>	3
Money Management of Sheep Reared in Drylot-Confinement <i>Roger G. Haugen</i>	4
The Establishment of Ovine Progressive Pneumonia (Lungers) Free Sheep From Infected Herds <i>M.R. Light, I.A. Schipper, T.W. Molitor, J.E. Tilton and W.D. Slanger</i>	6
Spring Wheat Stand and Yield Losses From Applying Urea-N Fertilizer With the Seed <i>A.L. Black, A.D. Halvorson, L.L. Reitz and C.A. Reule</i>	8
ND245, NDSA and NDSB A New Inbred Line and Two Germplasm Sources for Producing Early Corn Hybrids <i>H.Z. Cross</i>	13
Twenty Years of Alfalfa Variety Testing in North Dakota <i>D.W. Meyer and D.L. Dodds</i>	18
Protein Survey of the 1979 Six-Rowed Barley Crop <i>R.E. Pyle, E.L. Cummings and C.A. Barr</i>	24
Annual Report, 1979	28

On the Cover: The Hettinger Experiment Station is the only one in the North Central Region that centers its activities on sheep production research. Photo by James Berg.



Vol. 37, No. 3

January-February, 1980

A BIMONTHLY progress report published
by the

**Agricultural Experiment Station,
North Dakota State University of
Agriculture and Applied Science**

Fargo, North Dakota 58105

H. R. Lund

*Dean of Agriculture, and Director
of Agricultural Experiment Station*

EDITORS

Gary Moran

Dorothea McCullough

- Gates, N. L., L. D. Winward, J. R. Gorham and D. T. Shen. 1978. Serological survey of prevalence of ovine progressive pneumonia in Idaho range sheep. *J. Amer. Vet. Med. Assoc.* 173:1580.
- Light, M. R., I. A. Schipper, T. W. Molitor, J. E. Tilton and W. D. Slinger. 1979. Progressive pneumonia in sheep. Incidence of natural infection and establishment of clean flocks. *J. Anim. Sci.* 49:1157.
- Light, M. R. and I. A. Schipper. 1979. Unpublished data.
- Marsh, H. 1923. Progressive pneumonia in sheep. *J. Amer. Vet. Med. Assoc.* 15:458.
- Molitor, T. W. 1978. Immunologic aspects of ovine progressive pneumonia. M. S. Thesis, North Dakota State Univ., Fargo.
- Paulsson, P. A. 1976. Maedi and visna in sheep. P. 17. *In* Kimberlin (Ed.) *Slow Virus Diseases of Animals and Man.* North Holland Publishing Co.
- Ressang, A. A., G. F. DeBoer and G. C. DeWijn. 1968. The lung in zweoegerziekte. *Pathol. Vet.* 5:353.
- Sigurdsson, B., H. Grimsson and P. A. Paulsson. 1952. Maedi, chronic progressive infection of sheep lungs. *J. Infect. Dis.* 90:223.

Guest Column Continued from Page 2

- a) Interested predation of sheep flocks, primarily by the coyote.
- b) Ever increasing value of farmable land.
- c) Increasing fertilizer costs which enhance the value of natural fertilizers, green manure crops, and legumes in rotations.
- d) Some operations are not large enough to support both the fathers' and sons' families till Dad retires and the son assumes leadership of the family farm enterprise. A livestock operation for the son in the early years gives autonomy to the son and his family.
- e) Increased prices for petroleum will certainly increase demand for production of the natural fibers which will also tend to be more comfortable when lower thermostat settings were required.

At the initiation of the Hettinger Branch Station Advisory Committee with support of area legislators and statewide producers support, the 1979 Legislative session provided \$75,000 for construction of a total confinement sheep barn at the Hettinger Branch Experiment Station. This research tool will be a tremendous aid in determining the potential for expansion of the sheep industry through confinement and intensification in North Dakota and the surrounding states.

Plans for use of the barn will include:

- 1) Measuring labor and feed requirements for confined sheep.
- 2) Evaluating breeds and crosses comparing confinement to conventional systems of management.
- 3) Attempt to measure economic feasibility of total confinement of sheep.

If initial indicators point to an advantage for confinement as opposed to conventional systems, later research will investigate:

- 1) Proper building environment for optimum health and production of sheep.
- 2) Nutritional needs of confined sheep.
- 3) Regulation of day length for optimum reproductive efficiency of sheep.
- 4) Attempt to increase lambing frequency.

There are many pluses for expansion of the sheep industry. However, it will require a carefully guided effort through research and extension to channel the information that is needed to the producers with the funding that is available to sheep research and extension activities. North Dakota is one of the few states to maintain an active program in sheep research and extension, and North Dakota will be looked to for information if expansion of this industry is to become a reality.

Agricultural Experiment Station
NORTH DAKOTA STATE UNIVERSITY
of Agriculture and Applied Science
University Station
Fargo, North Dakota 58105
Publication

H. R. Lund

DIRECTOR

to

RANDY COON
MORRILL
AG ECON

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF
AGRICULTURE
AGR 101



BULK THIRD-CLASS