



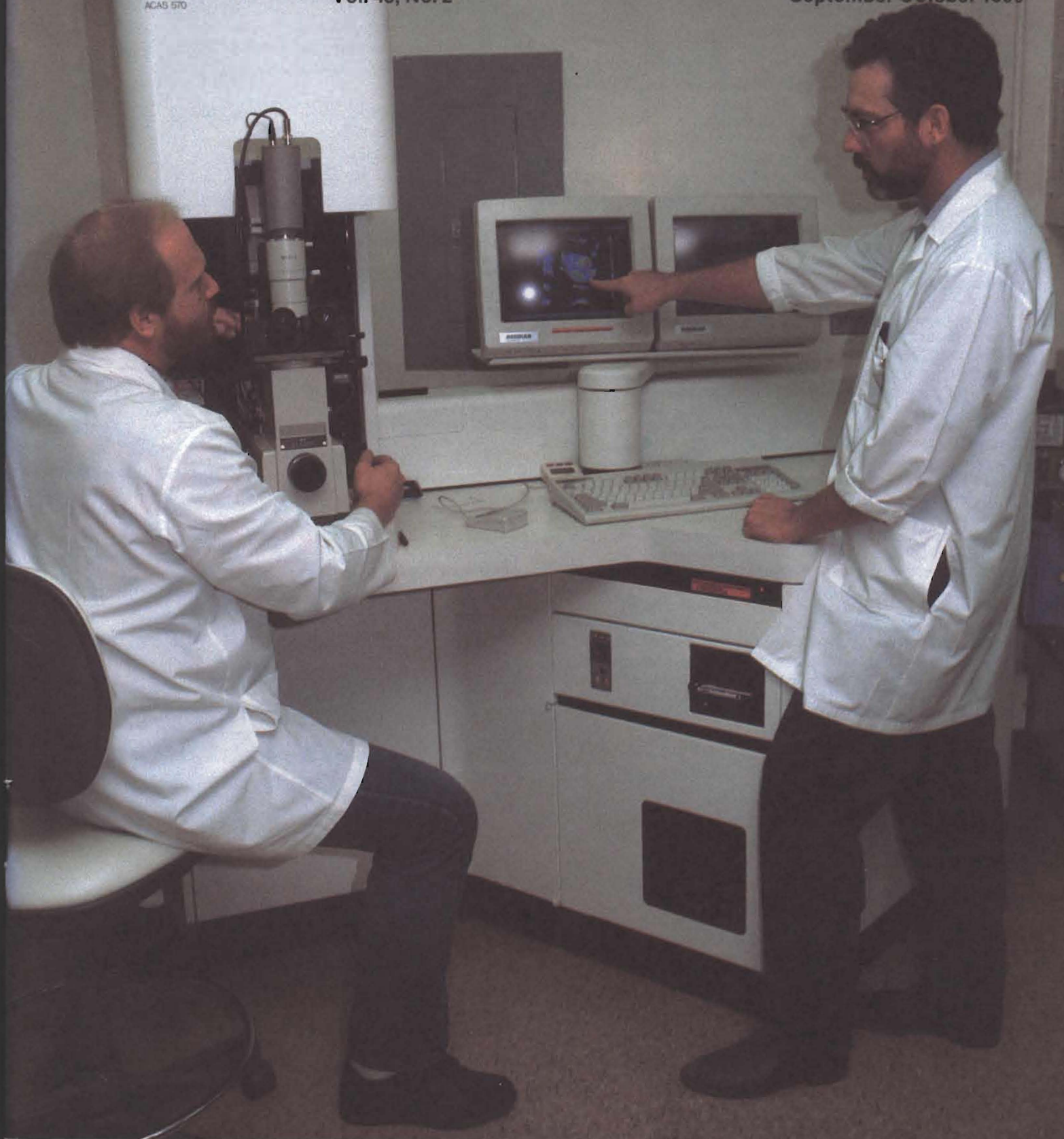
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Director's Column

H. Roald Lund
Dean and Director



The word **biotechnology** is not a new one for readers of *Farm Research*. However, most people think first of microbes, vats and sterile white laboratories. The first article in this issue will focus on the impact of biotechnology in animal agriculture. Animals, especially ruminants such as beef cattle, cows, sheep and goats, are major converters of roughage and of other products of photosynthesis that are unusable directly by humans, into food and fiber important to humans.

In some respects, biotechnology has been widely used in animal agriculture for decades as we studied the factors involved in the conversion of forages into milk, meat and other products. Early studies of feed conversion focused on the "bugs" in the rumen, the hormone balances important to high rates of reproduction and milk production and animal growth. Animal health has always been foremost in the mind of the successful livestock producer.

Biotechnology will add new tools to the trade. We can look forward to the development of DNA probes, which will provide rapid and efficient tests for pregnancy, immunity to disease, or diagnosis of genetic problems or diseases. Some of the most spectacular and useful advances in animal agriculture will come from the direct intervention by the techniques found in biotechnology to improve animal health and vigor. With the invention of new and safe vaccines, rumen probiotics and hormone therapies, animal agriculture will continue to be among the leaders in value added products to enhance the economic development of this state and region.

The North Dakota Agricultural Experiment Station has just completed its first century of service to this state and its people. We look forward to an even greater level of service in Next Century Agriculture.

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On the Cover: Animal scientists Dale Redmer and Larry Reynolds study ovarian cells from superovulating animals, using an interactive laser cytometer located in the recently established Cell Biology Center of the NDSU Biotechnology Institute. In this issue, Redmer and Reynolds discuss the potential of animal biotechnology. Photo by Harold Caldwell



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H.R. Lund
*Dean of Agriculture, and Director
of Agricultural Experiment Station*
EDITOR
Gary Moran

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

H.R. Lund

DIRECTOR

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RANDY COON
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