



NORTH DAKOTA
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Director's Column

H. R. LUND



Again, a bountiful harvest season in North Dakota and the nation draws to a close. Words in the press and news media convey images of billions of bushels, millions of metric tons, and overproduction. Somehow it seems strange that surplus food could be bad news in a nation such as ours in a world that contains hunger.

The paradox continues. How does a land-grant university responsible for maintaining research and education in agriculture promote and sell the need for continued and increased public financial support for existing and new programs in production agriculture? The temptation exists to cut back, to reduce, to create a situation where a smaller quantity available would induce a higher per unit return.

Effectively, this higher return could be realized by reducing the cost of production through research or finding new and better ways to market this food to a needy world. The public agencies responsible for the administration of the agricultural research in North Dakota have responded positively in the past to the urgings of the research administrators and scientists to enhance research in agriculture. We look with pride upon modern buildings and branch stations dedicated to agricultural production research and new marketing strategies encompassed in the developing Northern Crops Institute on the NDSU campus.

Again, in the coming months, we will seek support for new initiatives in agriculture research and education, and authorization for major program redirections and enhancements from the North Dakota legislators. Old problems take on new meanings when we view the impact of leafy spurge upon our range resources; plant science problems in existing and budding new crops must be tackled with new efforts in a continuing struggle, e.g., genetic engineering!

These major efforts lead the list of high priority research needs which have the support of the Consultation Board for Research and Extension and the State Board of Higher Education. This priority list of research work in agriculture is a major new thrust and is a response to the citizens of this state who are asking for more visibility of the agricultural research and education effort.

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Culturing from normal bovine eyes preceding the usual pinkeye season was performed in 1980 and 1981. This was done to determine the relationship between certain eye inhabiting organisms and resistance or susceptibility to IBK. Only two of the herds sampled developed IBK after being sampled. *Moraxella bovis* had been commonly isolated from five of the six herds sampled. The herd from which no *M. bovis* could be isolated was one which later developed IBK. No *M. bovis* could be isolated from affected animals in this herd, though eye lesions were typical for IBK.

Mycoplasma isolations were not attempted from the eyes of the herds sampled in 1980 and 1981 but will be included during 1982. Some virus testing was done in 1980. The herd which yielded no *M. bovis* isolations from either normal or affected animals showed positive fluorescent antibody tests for both bovine virus diarrhea and infectious bovine rhinotracheitis. This herd had been vaccinated against these diseases three months previously.

Carrier animals are blamed by some for harboring causative organisms and causing summer pinkeye epidemics. With the prospects of eliminating carrier animals, all eyes of separately pastured segments of six herds were treated with antibiotics prior to going on pasture. Only one of these groups developed IBK, with the first cases developing in late July. One herd, which the owner reported had always had serious epidemics, reported no IBK for two subsequent summers following the eye spray procedure. More information is needed regarding both the spray procedure and the eye inhabiting organisms.

CONCLUSIONS

Considerable effort has been exerted over many years in attempts to create an effective pinkeye vaccine by manipulating various strains of *Moraxella bovis*. Prospects are dim that this approach will succeed. New approaches are necessary.

Research in North Dakota has indicated that typical clinical symptoms of bovine pinkeye can occur in the absence of the *M. bovis* organism, and that herds with considerable *M. bovis* inhabiting the cattle's eyes remain free of the disease during a given season.

Cattle recovering from pinkeye have superior immunity to that produced by presently available vaccines. The factors whereby the disease produces immunity must be identified and utilized.

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An investment today in agricultural research will pay the dividends in the future when food, produced by a technology developed by agricultural research, becomes a continuing renewable resource. A strong agricultural research base is, and will continue to be in the long run, the source of "food strength" for this state and nation.

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