

## BRIEFS OF NEW STUDIES IN PROGRESS

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Several new projects at the Dickinson Experiment Station are in various stages of completion, and will not be included in the Research Roundup Report until next year. However, a brief description of each trial and its objectives has been prepared for your information.

**Estrus Synchronization:** Using heifers we are comparing Estrumate<sup>(R)</sup>, Synchronate-B<sup>(R)</sup> and Lutalyse<sup>(R)</sup>. Synchronate-B<sup>(R)</sup> and Estrumate<sup>(R)</sup> were released this spring by the FDA. It should be noted, however, that Synchronate-B<sup>(R)</sup> was cleared for use in heifers only. By comparison, our objective is to determine the relative ease of handling these compounds, as well as, economics and overall synchronization success. We are continuing synchronization studies in cows also. Although Synchronate-B<sup>(R)</sup> is not cleared for use in cows; we are evaluating it when compared to Lutalyse. Included in the Synchronate-B<sup>(R)</sup> group is a 48 hour short term calf removal, which has been shown to increase synchronization conception rate.

**Worming Studies:** Two worming studies are under way at this time. In one study we are merely comparing worming with no worming in a group of 84 first calves Angus X Hereford heifers with three way cross calves at side. Period fecal samples are being taken and analyzed by Dr. Myron Andrews of the Veterinary Science Dept., NDSU. Injectable Tramisol<sup>(R)</sup>, manufactured by American Cyanamide Company, was selected as the anthelmintic because of its effective spectrum, and being an injectable, it was simple to administer. Our objective is to evaluate the effects of worming, re-infestation and economic returns under range conditions of Southwestern North Dakota.

In the second worming study the Dickinson Experiment Station and the Veterinary Science Dept., NDSU are working together with research scientists from Pfizer Company to evaluate a new drug that has not been released by FDA. In this study a slow release Paratect<sup>(R)</sup> bolus, manufactured by Pfizer Company, has been implanted into the second stomach (reticulum) of half of the calves being studied. The objective is to evaluate retention of the experimental bolus and to determine effectiveness of the Paratect bolus for controlling parasitic infections in grazing, suckling calves by providing the calves' direct protection from larval contamination on pasture.

**Optimum Vaccination Time for Feeder Calves:** This study is being conducted in cooperation with Dr. I.A. Schipper, Veterinary Science Dept., NDSU. Many investigations have been conducted and show that in order to achieve maximum antibody titer, it is necessary to administer two injections of attenuated vaccine separated by three weeks. It is also well established that the stressed animals have elevated corticosteroid levels, which interfere with the immunological activity of an animals' immune system. By design, feeder calves have been subdivided into three groups and vaccinated at either 6\_3 weeks before weaning, 3 weeks before and at weaning, and one day and 3 weeks after weaning. Inactivated IBR and BVD vaccines have been used and each calf is being bled before each vaccination and blood serum antibody titers are being determined by serum neutralization at the Veterinary Diagnostic Laboratory, NDSU. Since weaning is obviously a stress period, the objective is to determine the immunological response of feeder calves following vaccination at pre-weaning, weaning and post-weaning.

**Beef Cow Efficiency:** This is a long-term detailed study which is designed to evaluate representative biological types of cattle with respect to body size and lactation potential. Four cow types will be used and are as follows: Straightbred Commercial Hereford, Angus X Hereford, Milking Shorthorn X Angus X Hereford and Simmental X Hereford. Our objective is to measure year round feed input and correlate it to economic return from calf production. To do this the calendar year is to be subdivided into the grazing phase with calves at side and a drylot gestation and post calving phase. Specifically, while on range, carrying capacity and lactation potential will be identified, and in drylot, winter feed levels will be identified with respect to nutritional requirements that will promote optimum reproductive efficiency. Replacement heifer development among the various breeds will be consistent with maximum reproductive efficiency.

To date, no grazing or winter feeding data have been collected. We have been building up the herds representing the different breed types. Herds of Hereford and Angus X Hereford cows have been built up to the necessary size and the first calf crop of heifer calves of Simmental X Hereford and Milking Shorthorn X Angus X Hereford breeding were born this spring. Pastures for the grazing phase were fenced this summer and corrals still need to be further developed for the handling that will be required. Winter feeding data collection will begin in 1985. Grazing data will be taken for the first time in the spring of 1986.

**Calf Scours Control Using Fluorescent Lighting:** In cooperation with the Department of Veterinary Science, NDSU, the effect of fluorescent lighting on the control of calf scours is being determined. In this preliminary study there was a trend favoring the use of lights when calves are confined. However, the unconfined control showed less scours by a wide margin. The study will be repeated.