

# LOW COST COW/CALF PROGRAM

## *The Bulletin For Alumni Of The School*

**Volume 11**

**Number 4**

### **Nebraska**

We were there, in Kearney, last week for the Grass Genetics Plus Conference. It was a great conference and well attended. Kearney is a neat little town (or big town, depending on your perspective). It typifies all Nebraska towns in that the people are very courteous, kind, friendly and very receptive of those who are not from Nebraska. They are proud of their heritage, their land, the Big Red One and the entire university. They appreciate the work done by its professors, researchers and extension personnel. They believe that they are on the cutting edge of agricultural science; indeed, it is one of the best Ag schools in the country. I have been fortunate to travel the width and breadth of Nebraska numerous times. It is a beautiful and diverse landscape and it is not all corn ground, although there is plenty of that. The sandhills occupy the west-central part of the state. There are a few corn circles there but by far it is rangeland well suited for ranching. The sandhills are interspersed with sub-irrigated meadows. The ponds and small lakes make it a Ducks Unlimited paradise. The university's Gudmundsen Sandhills Laboratory is near Whitman, NE. (**Google Earth** on Whitman for a good look at the lay of the land).

### **Pregnant in the Sandhills**

Researchers at Nebraska recently reported on a study of pregnant cows, wintering in the sandhills<sup>1</sup> at Gudmundsen. On December 1 of the first year (of a three-year study), 136 crossbred cows (weighing 1050 lbs) were allotted to native upland pastures. (The number of cows, used in the second and third years, was reduced to 113 because of drought). Half of the cows were fed supplement 3 d/wk and the remaining cows were not supplemented. The supplement consisted of sunflower and cottonseed meals and a tad of urea, amounting to 42% CP and 73.3% TDN. Average daily consumption was 1lb. The

cows remained in the sandhills pastures from December until calving season, March 1. During the 60 d calving period, all cows were dry lotted and fed hay. After calving (April 20), half of the cows from each of the two-prepartum groups were turned out on meadows and the others remained in dry lot and were fed hay. At the beginning of the 60 d breeding season (June 1), all of the cows were combined and sent back to the sandhills for the remainder of the study. The cow phase of the study was concluded at weaning - the first week of October. Not discussed here (but was part of the study) is calf performance in a feedlot and an economic evaluation.

### **Consequences**

The cows that were fed supplement prepartum maintained their weight and improved BCS. Not so for the cows that were not fed prepartum supplement. They lost an average of 64 lb, resulting in a BCS decline of 0.65 to an average BCS of 4.7. Feeding cows in low BCS at calving, for the purpose of increasing BCS at breeding, can have a negative impact on conception. Because of partitioning of dietary energy in lactating cows from maternal tissues to mammary tissue, the increase in energy intake may result in reduced conception. This has been demonstrated in other studies. These thinner cows performed well, as did all of the cows, on the sub-irrigated meadow pastures and improved BCS by breeding time to 5.1. Conception was not reduced with these thinner cows. The authors suggested that a BCS of 4.7 at calving might have been near the threshold at which increasing BCS no longer improves reproduction. *In the School, we preach that conception is primary to a profitable cow/calf operation. To assure conception, we first look for an optimal BCS at the time of calving - relative to photoperiod. Secondly, we insist that the cows be in a positive plane of nutrition upon going into calving and continue to gain through the calving season. Lastly, these parameters must be achieved from the land, without energy supplementation.* Birth weight was the same for calves, regardless of prepartum supplementation. The calves from cows that grazed the meadows, however,

had 15 lb heavier weaning weights than calves whose mothers received hay. Calves from prepartum-supplemented cows were heavier than their non-supplemented counterparts at weaning.

### **Calf Survival**

Blood samples were collected from all calves (between 24 and 48 hr of birth) and analyzed for immunoglobulin G (**IgG**) concentration. IgG titers provide an estimate of the passage of large protein molecules (contained in the dam's milk: colostrum) across the intestinal wall, which provides passive immunity to the young. The IgG titers were similar for both prepartum groups. Yet 7 calves died from the cows that were not supplemented (prepartum) - from the beginning of the experiment (December 1) through calving. No calves died when the cows were provided prepartum supplement. Only pregnant cows entered the experiment; therefore, conception rate was not the problem. Calves that died for reasons not related to the treatments were not included in the count. The authors do not suggest a reason for this loss. All cows were fed hay in a dry lot during calving. The hay contained 56% TDN. Regardless of hay quality, the calves will rely solely on milk for nourishment for the first month of life and probably a while longer. One cannot help but wonder if malnutrition played a role in this loss.

This was an excellent study. It was carried out over a three-year period, using a switchback design. The cows provided with prepartum supplement during the first year were not fed supplement during the second. During the third year, the cows were switched back to their first year's treatments.

### **Schools In '06 - '07**

Valleyview, AB Nov 22 - 25

Fairview, AB Nov 29 - Dec 2

Lamar, CO March 12 - 15

**Dick Diven**

**Agri-Concepts, Inc.**

**11098 N Desert Flower Dr**

**Tucson, AZ 85737-7051**

**520.544.0864**

**rhdiven@lowcostcowcalf.com**

**www.lowcostcowcalf.com**

<sup>1</sup> Stalker, LA, DC Adams, TJ Klopfenstein, DM Feuz and RN Funston. 2006. Effects of pre- and post-calving nutrition on reproduction in spring calving cows and calf feedlot performance. *J Anim Sci*, 84:2582.