Management Considerations Prior to the Calving Season
By David W. Bohnert Eastern Oregon Agriculture Research Center, Burns, OR

Now is the time that spring calving operations need to start preparing for the upcoming calving season. Nutrition of the cow during late gestation (90 days pre-calving) is critical to calf health and vigor. Also, every year some cow/calf producers are caught unprepared by that first heifer or cow that has difficulty calving or that calf that gets chilled down and hypothermic before it can get up and nurse. We find ourselves scrambling for supplies and equipment that we should have organized and stocked at least 1 month prior. In this issue I will provide you with some information and management suggestions that should help decrease calf sickness and/or death loss.

Feeding & Management Practices to Increase Calf Survival

Provide Adequate Protein Intake to Fight Weak Calf Syndrome. Each year a number of newborn calves are lost to “weak calf syndrome”. It is believed to result from inadequate protein intake by the cow during the 90 days immediately prior to calving. Some common signs of a “weak calf” include depression, can’t stand and/or suckle, and difficulty breathing. Also, arthritis and swelling around the leg joints has been described in some cases of weak calf syndrome. Research in Idaho in the early 1970’s suggested that providing at least 2 pounds of crude protein (CP) per day to beef cows during late gestation will greatly decrease the incidence of weak calf syndrome (Figure 1). As an example, a cow consuming 25 pounds of 6% CP grass seed straw is getting 1.5 lbs of CP. To meet a CP intake of 2 pounds/day the producer would need to provide 2.5 pounds of 20% CP alfalfa along with the 25 lbs of straw. Also, the Idaho data suggested that for every 0.1 pound of CP below 2 pounds per day, the incidence of weak calf syndrome can be expected to increase by 1%.

Figure 1. Incidence of weak calf syndrome in cattle herds consuming differing amounts of crude protein (adapted from Nutrition and Weak Calf Syndrome in Beef Cattle by R. C. Bull, R. R. Loucks, F. L. Edmiston, J. N. Hawkins, and E. H. Stauber, University of Idaho Cooperative Extension Service, Current Information Series No. 246, September 1974).
Feed the Cow for Improved Calf Immunity.

Providing insufficient nutrients (protein, energy, vitamins, and/or minerals) to the cow during the last 90 days of pregnancy has been shown to decrease the immunoglobulin concentration in the blood of newborn calves (immunoglobulins help develop immunity and disease resistance). Immunoglobulins are obtained from colostrum, with the majority of immunoglobulins absorbed within 12 hours of birth. Research has shown that the concentration of immunoglobulins in the blood of baby calves decreases as cow body condition score decreases from 6 to 3 (1 to 9 scale; 1 = thin and emaciated and 9 = fat and obese). Also, it takes longer for calves from lower body condition score cows to stand following birth, with the time ranging from 60 minutes for body condition score 3 cows to 35 minutes for body condition score 6 cows. Similarly, other research has noted that feeding cows a nutrient deficient diet during the last three months of pregnancy results in greater calf death loss at calving and from scours compared with cows that received adequate nutrition.

Early Evening Feeding Helps Increase Daytime Calving. Research has shown we can increase the proportion of calves born during daylight hours by early evening feeding instead of feeding in the morning. In a series of studies from Canada, Iowa State University, and the Livestock and Range Research Station at Miles City, Montana, the proportion of calves born during daylight hours to cows fed early (before noon) in the day was approximately 50% compared with 80% for cows fed after 5 p.m. This allows producers to better observe the cow herd and assist with calving during daylight hours. However, late-feeding does not eliminate nighttime calving or the need to observe the cows during the late night and early morning.

Recommended Pre-calving Vaccinations. Three weeks prior to calving consider vaccinating pregnant cows/heifers for:

- Clostridial diseases (7- or 8-way depending on area)
- Rota/Corona/E. Coli vaccine if a problem exists

Preparation for Calving

Having the Proper Supplies Available can save Calves. The difference between a live calf and a dead calf is often dependent on having the necessary equipment and supplies readily available. A list of the recommended equipment to have on hand prior to the start of the calving season follows (adapted from OSU Extension Publication EC 1370 – Calving Difficulties in Beef Cattle):

- Breeding dates and expected calving dates – remember calves can come a week or more early, especially with heifers
- Wool calf blankets, heat lamp, hotbox, and/or heating pad – to warm a chilled down calf
- Obstetrical (OB) chains or straps
- OB handles
- OB wire and handles
- Calf jack
- Clean knife, scalpel, or bander to castrate bull calves
- ½ inch tube with funnel or pump (or commercially available esophageal-tube feeder)
- Plastic sleeves and latex gloves
- Commercial brand lubricants
- Umbilical tape and sewing needles
- Colostrum – most calves will need 1 gallon within the first 24 hours of life. Fresh colostrum is best but either a commercially available product or properly frozen and thawed colostrum can be used
- Clean rags and towels
- Flashlight, headlight, and handheld spotlight

In addition to the standard calving equipment, consideration should also be given to the following supplies. Consult with your veterinarian in their proper use and purchase:

- Needles & syringes – variety of sizes to meet potential needs
Dopram (a breathing stimulant) – 2 cc provided either intravenously, intramuscularly, subcutaneously, or sublingually (under the tongue) for a newborn calf

Oxytocin – 5 to 10 cc after calving (it contracts the uterus and helps with expulsion of the placenta and fluids following an assisted delivery)

Rompun – ¼ cc provided intramuscularly to help calm down a cow to assist with grafting a calf

Bismu-kote or Pepto-bismol – for treatment (approximately 2 oz orally) of calf scours

Electrolyte powder/solution – for treatment of dehydration

Probiotic paste – helps calf deal with stress of calving and maintain normal appetite

Terramycin powder - for treatment of respiratory disease and bacterial scours

Long acting penicillin

Nolvasan (chlorhexidine) – a disinfectant

General Considerations for Heifer Calving Management. Replacement heifers represent at least two years of commitment and hard work, and the future of the cow herd, for most producers; consequently, we need to make sure we do all we can to try and make sure they calve successfully and raise a healthy calf. Heifers that are gaining weight and in good condition at calving will have less calving difficulty than thin heifers. Research has shown that the birth weight of calves from good-condition heifers will be slightly heavier than calves from thin heifers; however, there is no increase in calving difficulty. In fact, thin heifers may actually have more calving difficulty because they won’t have the strength and muscle of well nourished heifers and may “tire out” during delivery. Therefore, don’t underfeed your heifers because you can not “starve” calving difficulty out of them. The Calving School Handbook from OSU (Animal Sciences Publication 110) provides some recommendations for managing heifers.

These include:

**Pre-Calving**

- Heifers should be gaining weight
- Calving lots/pens should be clean
- Clean calving stalls and barn before, and during, the calving season
- Vaccinate heifers for scours and enterotoxemia C & D toxoid

**Newborn Calves**

- Have 2 to 3 quarts of colostrum available to give the calf within the first 6 hours of birth if it hasn’t stood and nursed
- Iodine the navel (7% or tamed)
- Selenium injection (Bo Se) if in a selenium deficient area
- Vitamin A, D, & E injection – as needed
- Oral vaccine for roa/Corona viral scours
- Oral E. coli antiserum

**After Calving**

- Move pairs to a large, well-drained post-calving lot within a day or two following calving
- Increase amount and quality of feed to account for the stress of calving and increased requirements of lactation
- Watch calves daily for signs of sickness (scours, enterotoxemia, etc.)

**Summary**

The calving season is a time of much work and stress; however, it is also the time of year when we see the results of our effort to improve the genetics of our calves. It is an exciting and rewarding experience to see strong, healthy calves running around with their tails in the air playing with their cohorts. By following the management practices recommended in this article, we can give our calves the best opportunity to be born healthy and strong and gain well to weaning.