By Clinton Laflin,
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Corner Post CONVERSATIONS

K-STATE Research and Extension | Midway District

"AS I SEE IT"

One of the primary challenges associated with weaning calves is simply getting newly-weaned calves to consistently consume feed. The transition from a milk and grazed forage to grazed forage and supplement, hay and supplement, or a ration containing novel feeds delivered in a bunk isn't always easy. However, a little preparation and following a simple feeding management strategy can help calves make this necessary transition. Feeding both cows and calves a small amount of the supplement or weaning ration prior to weaning, in the weaning pen or pasture can be used help acclimate calves to both the feeds and the environment. Additionally, feed intake of weaned calves is often low (1.0 to 1.5 % of bodyweight, dry basis) immediately following weaning. Calves also have relatively high nutrient requirements. Thus, the weaning diet must be nutrient dense to meet the nutrient requirements of the calves at the expected intakes previously mentioned. Unfortunately, the dry feeds calves are often most familiar with (typically grass hays) are not necessarily nutrient dense. At the K-State Agriculture Research Center in Hays, a feeding management protocol for weaning calves has been developed that works well for transitioning weaned calves to a total mixed ration. The protocol is summarized in the table below. Essentially, high-quality grass hay and the weaning ration are offered each at 0.5% of the calves' current bodyweight, dry basis, on the day of weaning. The weaning ration is placed in the bottom of the bunk and the hay is placed on top. The amount the weaning ration is steadily increased, while the amount of hay offered remains constant. In addition, on day 4 the hay is placed on the bottom of the bunk. Over a period of 7-10 days the dry intake of the calves is steadily increased and should reach approximately 2.2-2.5% of the calves bodyweight by 10-14 days following weaning.

Table 1. K-State ARC-Hays Weaning Feed Management Protocol*

Day	Weaning Diet	Hay	Feedstuff Order
1	0.5% Bodyweight	0.5% Bodyweight	Diet bottom/hay on top
2	0.7% Bodyweight	0.5% Bodyweight	Diet bottom/hay on top
3	0.9% Bodyweight	0.5% Bodyweight	Diet bottom/hay on top
4	1.1% Bodyweight	0.5% Bodyweight	Hay bottom/diet on top
5	1.3% Bodyweight	0.5% Bodyweight	Hay bottom/diet on top
6	1.5% Bodyweight	0.5% Bodyweight	Hay bottom/diet on top
7	1.8% Bodyweight	0.5% Bodyweight	
---Increase diet by 0.25 to 0.50 lb per calf/day---			

*Remove any uneaten feedstuffs before feeding current days ration

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This newsletter is designed to provide you with timely information on relevant issues facing livestock producers today. If I can assist you moving forward please contact me.
Looking forward to working with you!

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PLANNING FOR THE THIRD TRIMESTER

The third trimester of pregnancy is a crucial period because of the rapid growth the fetus undergoes and because it is our opportunity to improve cow body condition prior to calving if needed. It is easy to forget those things when we can't see the growing fetus and a growing winter coat may be deceptive when it comes to body condition.

The table below is a simple reminder of when the 3rd trimester begins based on various dates for the start of the spring breeding season.

Start of breeding	Start of 3rd trimester	Start of calving
May 1	Nov. 6	Feb. 8
May 15	Nov. 20	Feb. 22
June 1	Dec. 7	March 10
June 15	Dec. 21	March 24

Fetal growth is exponential during this time with blood flow increasing 3 to 4-fold from mid to late gestation. In the last 60 days, 75% of growth occurs, or 60 pounds of an 80-pound birth weight. The total weight of the pregnancy with fetus, fluids and membranes at calving is around 100-150 pounds total. This process never ceases to amaze me.

Early in pregnancy, the placenta, organs and limbs develop. Muscle fiber growth starts early as well, and the number of fibers is largely determined by the 7th month of pregnancy. The size of muscle fibers and formation of fat cells that produce marbling occur later in gestation and nutrient restriction at this time can reduce the size of muscle fibers and formation of fat cells that produce marbling. The impacts on muscle fiber size have been demonstrated in heavier calf birth weights (no change in calving difficulty), weaning weights, and carcass weights. Additional marbling is not as consistently evident across studies however by harvest time many additional factors may come into play.

As little as 1 pound of a 28% protein supplement per day during late gestation for cows grazing native range has been shown to be beneficial to calf weights and heifer performance. This level of restriction in the un-supplemented cows was not enough to reduce pregnancy rates compared to supplemented cows.

Feed costs are high this year, but strategic supplementation can pay off in calf weaning weight. Pay particular attention to first calf heifers that are growing themselves in addition to the fetus.

By: Sandy Johnson
Kansas State Research and Extension

SIRE DISTRIBUTION OF CALVES

in a Beef Herd with Use of Fixed Time Artificial Insemination Followed by Immediate Bull Exposure for Natural Service in Cows and Heifers

As fall breeding approaches I wanted to include this interesting study done on campus at Kansas State University. It demonstrates the importance of having a strong bull battery to follow up AI. If you have more questions regarding this study please let me know.
Study Description: During two consecutive years, heifers and cows were synchronized and inseminated using the 7- day CO-Synch + CIDR FTAI protocol. All females were exposed to natural service bulls immediately following insemination. After calving, DNA was collected from a random subset of calves born in the first 21 days of the calving season for parentage analysis.

Our objective was to determine the relative percentages of calves sired by either natural service sire or fixed time artificial insemination (FTAI) sire within the same estrous period. Calves born from heifers totaled 59 in Year 1 and 82 in Year 2; calves born from cows totaled 89 in Year 1 and 102 in Year 2.
Results: In Year 1, among calves born from heifers, the percentage sired by natural service was 5.1% (n = 3/59). Among calves born from cows, the percentage sired by natural service was 14.6% (n = 13/89).
In Year 2, among calves born from heifers, the percentage sired by natural service was 9.8% (n = 8/82). Among calves born from cows, the percentage sired by natural service was 20.6% (n = 21/102).

The Bottom Line: If commercial producers use FTAI followed by immediate bull exposure in beef females, it can be expected that natural service bulls may sire 5 to 20% of calves born early in the calving season while reducing time and labor associated with bull turnout. More information is available on this experiment and others in the KSU Cattlemen's Day report at KSUbeef.org. For more information, contact David M. Grieger (785-532-1229 or dgrieger@ksu.edu) or Sandy Johnson (785-462-6281 or sandyj@ksu.edu.)