EFFECT OF FEEDING TIME ON CALVING TIME

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Progressive cattlemen generally face calving season with optimism and anticipation. Few, however, look forward to the sleepless late night hours when heifers or cows need assistance in parturition. The first evidence of altering calving time to influence cows to calve during the day was discovered several years ago when a veterinarian in Washington advised his client to feed beef cows late in the day. The additional body heat generated from injestion and rumination would help keep the cows warm during the cold nighttime hours. Gus Konefal, a purebred producer from Manitoba, divided his herd into an early fed (control) and late fed group with a split feeding for each group. His late fed cows (fed at 11:00-noon and 9:00-10:00 p.m.) dropped 80 percent of their calves from 7:00 a.m. to 7:00 p.m. while the control cows (fed at 8:00-9:00 a.m. and 3:00-4:00 p.m.) dropped 38 percent of their calves during the same time. Theoretically, you could expect 50 percent to calve during each 12-hour period.

If cows calve during daylight hours, the following benefits are possible: improved calf survival due to birth during warmer daylight hours and readily available assistance; reduced nighttime labor from fewer cows calving.

EXPERIMENTAL PROCEDURE

Straightbred Hereford cows were allotted to either normal fed (control) or a late fed treatment group prior to calving in 1980 and 1981. Cows were sorted into mature (4 and older) and young (2 to 3 years old) age groups. These groups were split evenly between control and late fed treatments each year. Animals were penned in adjacent lots with approximately 300 square feet per cow. Wind break fences and bedded mounts were provided. Control cows were bunk fed corn silage mixed with straw/chaff at 8:00-9:00 a.m. and square baled alfalfa/grass hay at 1:00-2:00 p.m. Late fed cows were fed corn silage and straw/chaff just before dark at 4:00-5:00 p.m. and baled hay at 9:00-10:00 p.m. The ration was balanced according to NRC requirements. Limited bunk space necessitated split feeding. Baled hay was prepositioned during the day in front of the late fed cows' bunk. Late feeding was initiated approximately three weeks prior to calving. During the spring of 1982, all cows were placed on a late feeding schedule to reduce any possible effect from cows on alternate treatments in adjacent pens. In previous years, all cows would come up to the bunk and salivate and jostle for position in anticipation of being fed whenever the feed truck approached. Placing all cows on a late feeding schedule eliminated any possible effect from this anticipation.

RESULTS AND DISCUSSION

Results from the 1980 trials were not conclusive (See Table 1). Only 58 percent of young cows and 58 percent of the mature cows on the late feeding schedule calved during an 8:00 a.m. to 8:00 p.m. time period. The control mature cows dropped 70 percent of their calves during the day while control young cows dropped 47 percent of their calves during the 8:00 a.m. to 8:00 p.m. time frame. In 1980, all cows were on another trial which included up to 50 percent crop residue (on a dry matter basis) in their ration. This is a very bulky ration and during the warm spring was not readily consumed by young or mature cows. Cows would consume the total ration within a 24-hour period but not clean up the ration until just prior to the next feeding.

Table 1. Effect of Influencing Calving Time by Altering Feeding time.

	1980		1981	
	Control[1]	Late Fed[2]	Control[1]	Late Fed[2]
Young Cows				
No. Head	19	24	28	30
% Calved 8:00 a.m. to 8:00 p.m.	47	58	48	89
Mature Cows				
No. Head	27	24	29	30
% Calved 8:00 a.m. to 8:00 p.m.	70	58	44	67

[1]Cows fed corn silage and straw/chaff at 8:00-9:00 a.m. and hay at 1:00-2:00 p.m.

[2]Cows fed corn silage and straw/chaff at 4:00-5:00 p.m. and hay at 9:0-10:00 p.m.

In 1981, the ration was adjusted according to appetite with crop residue limited during warmer weather.

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Results suggest an improvement in influencing calving times (Table 1). Mature cows on the late feeding schedue had 67 percent of their calves from 8:00 a.m. to 8:00 p.m. while control mature cows calved at a 44 percent rate. Late fed young cows dropped 89 percent of their calves during the day while control young cows had 48 percent of their calves during the day. When all cows were placed on the late feeding schedule in 1982, young cows calved 63 percent of the time between 8:00 a.m. and 8:00 p.m. while mature cows dropped 77 percent of their calves during the day. While percentages are helpful, a more graphic representation of calving times is given in figures 1, 2 and 3 representing the calving times for 1980, '81 and '82, respectively.

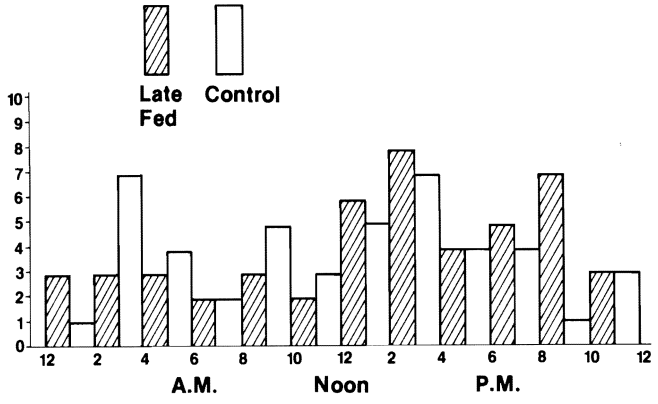

Figure 1 Effect of Feeding Time on Time of Calving — 1980.

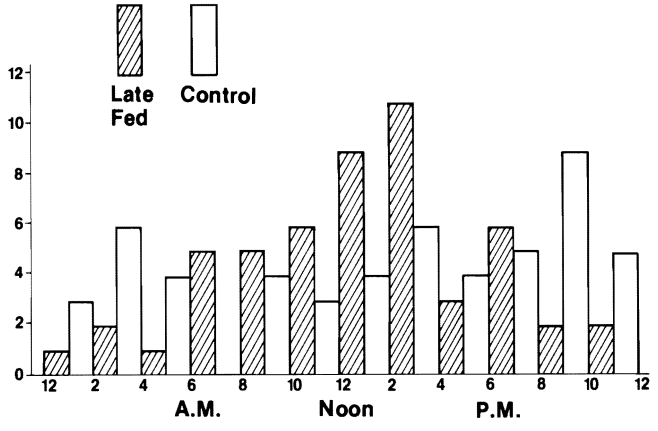

Figure 2. Effect of Feeding on Time of Calving — 1981.

The greatest effect appeared to be in 1981 and 1982. Cows cleaned up their feed within two to three hours of feeding. This appears to be critical in influencing calving time. Marginal or negative results were experienced in 1981 when cows had feed before them nearly 24 hours a day. When years were combined, no differences were detected due to age of cow. Calving difficulty was not affected.

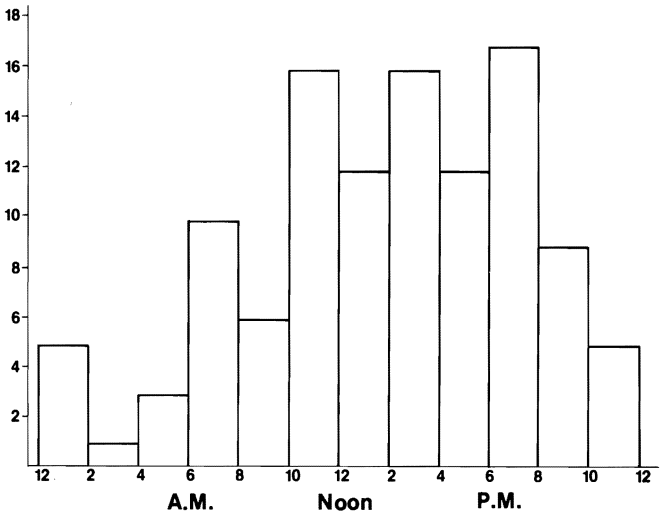

Figure 3. Distribution of Calving Time of Late Fed Cows — 1982.

Research at other stations supports the theory of altering calving time by late feeding. A Montana study concluded the nighttime calvings (10:00 p.m.-6:00 a.m.) were reduced from 33.3 percent for 334 early fed cows to 22.8 percent for 347 late fed cows. Late fed cows were fed 5:00-6:00 p.m. In a survey of 15 Iowa cow/calf producers, 85.1 percent of 1331 late fed cows calved from 6:00 a.m. to 6:00 p.m. while 49.8 percent of 695 early fed cows calved during the same 12-hour period. Results at the Dickinson Branch Station support late feeding as a method of increasing daytime calving. At the Dickinson Station 71.1 percent of late fed cows calved between 8:00 a.m. and 8:00 p.m. while 25.3 percent were born between 12:00 noon and 2:00 p.m.

Fewer cows calving at night makes it tempting to reduce or eliminate nighttime checks. This practice is not recommended as the gains made from daytime calving could easily be lost by lack of attention at night.

Several questions still exist on how to best influence cows to calve during the day. The reason late feeding causes daytime calving has not been estabished, but no detrimental effects have been observed in any research. Additional warmth from injestion and the heat of rumination would be reason enough to alter feeding time. From a practical viewpoint, producers do not want to feed during the dark. Feed could be prepositioned in a closed pen during the day and the gate opened for the late feeding.

The idea of daytime calving already has many advocates in the cow/calf industry. It is a mangement practice that saves time and effort during the night, doesn't require a capital outlay and most important can lead to increased profits from more live calves.