

EVALUATION OF THE SELECT SYNCH PROTOCOL WITH NATURAL SERVICE IN BEEF COWS

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The objective of this study was to evaluate the Select Synch estrous synchronization protocol with natural service in beef cowherds. This study was conducted in four cowherds ranging in size from 151 to 285 cows located in central Colorado and central and eastern Montana. Within each herd, approximately one-half of the cows received the Select Synch protocol ($n = 460$) or no treatment ($n = 457$; control) based on age and previous calving date. Cows receiving the Select Synch protocol received an injection of gonadotropin releasing hormone (100 μg ; i.m.) on day -7 and prostaglandin $F_{2\alpha}$ (25 mg; i.m.) on day 0. Cows were exposed to fertile bulls at a bull:cow ratio of 1:17 to 1:25 beginning on day -2 for a 50 or 60 day breeding season in 130 to 195 hectare breeding pastures. Pregnancy diagnosis was performed by transrectal ultrasonography approximately 65 and 130 days after the onset of breeding. Subsequent calving dates were recorded for all cows, and calves were tagged for collection of individual weaning weights at each Montana location. Pregnancy rates were higher ($P < 0.01$) for cows receiving the Select Synch protocol at the beginning of the breeding season (87%) than for control cows (81%). Pregnancy rates also differed ($P < 0.01$) among herds and herd $\times$ treatment interactions. No relationship between breeding pasture or bull:cow ratio on pregnancy rate was apparent. Pregnancy rates were higher ($P < 0.05$) among synchronized cows in herds with 50-day breeding seasons (85 vs 63% and 92 vs 83% for synchronized and control cows, respectively), but pregnancy rates were not different ($P > 0.10$) among cows in herds with 60-day breeding seasons (94 vs 94% and 80 vs 84% for synchronized and control cows, respectively). Across all herds, synchronized cows calved an average of 2 days earlier ($P < 0.05$) the following year than control cows. Subsequent weaning weights of calves from the Montana locations tended ($P = 0.07$) to be 5.6 kg heavier for calves born to synchronized cows (212.0 kg) compared to controls (206.4 kg) when weaning occurred at approximately 7 months of age. Subsequent weaning weights of calves weaned early (~ 5 months of age) did not differ ($P > 0.10$) between treatments. Based on differences in pregnancy rates and weaning weights observed in this study, 1,729 kg of additional weaning weight was observed per one hundred cows exposed to synchronization with the Select Synch protocol. At a cost of \$5.00 per cow for synchronization drugs and a price of \$1.87/kg at weaning (\$.85/lb), net profit per cow synchronized was \$27.32. We conclude that application of the Select Synch protocol to beef cows at the start of the breeding season may increase the profitability of beef cattle operations utilizing a relatively short breeding season.

Keywords: Synchronization of estrus, Breeding season, Bulls, Profitability