

Early Weaning Reduces Rangeland Herbage Disappearance

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Abstract

Early weaning of beef calves reduces nutrient and forage demand in a cow–calf enterprise, potentially contributing to reduction in forage utilization on the pasture from which calves are removed by a non-lactating cow vs. a cow–calf pair. Research was conducted to evaluate weaning beef calves 90 days early (EW) vs. normal weaning (NW) on pasture herbage disappearance in mixed-grass prairie pastures in the northern Great Plains. Spring-calving cows ($n = 48$) were utilized in each study year (2003, 2004, and 2006) from the date of early weaning (August) until the date of normal weaning (November). Cow–calf pairs were randomly assigned each year to each NW pasture ($n = 8$ pasture⁻¹); cows whose calves had been weaned early were randomly assigned to each EW pasture ($n = 8$ pasture⁻¹). No calves grazed EW pastures. Cattle were weighed and body condition scored at the beginning and end of each trial period. Available herbage was determined before and after grazing in each pasture. The effect of weaning treatment on cow average daily gain and body condition score change was highly significant ($P < 0.001$). Early-weaned cows gained weight and condition; normal-weaned cows lost weight and condition. Herbage disappearance was lower ($P = 0.017$) in EW than NW pastures, resulting in 18.9 lb cow⁻¹ day⁻¹, or 36%, herbage savings. This is equivalent to an additional 1.1 month of grazing saved per animal unit over a 90-day period. The value of the additional animal-unit months includes extending the grazing season, increasing cow numbers, or as “banked” forage for drought management.