The effects of early weaning on cow performance and grazing behavior in the intermountain west

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Weaning spring-born calves early can yield economically heavier calves compared with calves left alongside their dams for the traditional length of time on sagebrush-bunchgrass range. Early weaning has additional potential benefits including: 1) the cow does not have the additional nutrient requirement of lactation and shouldn't lose as much body condition; 2) the total number of animals on the range is decreased, thereby extending the number of days cows can remain on range without supplemental feeding; and 3) dry-gestating cows may be better distributed over the pasture or range.

Annual winter feed costs in the Intermountain West often total $100 to $200 per cow, representing a significant economic hardship for cow/calf producers. Winter feed costs normally include the cost of harvested forage and supplement necessary to sustain, or increase, cow BCS prior to calving. This is necessary to optimize conception rate and to maintain a 365-d calving interval.

Our objective was to determine the influence of early weaning (130 ± 2 d; EW) and traditional weaning (209 ± 2 d; TW) on cow performance and grazing behavior within three 810-ha pastures. In addition, cow winter feed costs were compared. One hundred fifty-six cow/calf pairs (130 ± 2 d lactation; 78 steer calves and 78 heifer calves) were used in a Randomized Complete Block design in the first year of a two-year study. Cows were stratified by calf sex, BCS, and age, and randomly assigned to one of two treatments (TRT) and one of three pastures. Two cows from each TRT and pasture were fitted with global positioning system collars to evaluate grazing behavior. Following weaning, EW calves were allotted to one of three pens (17 x 21 m), in a manner consistent with their dams blocking allocation, and provided meadow hay daily at approximately 2.5% of BW (DM basis) from EW to TW (79 d). The TW calves grazed with their dams during this time. In addition, EW calves were provided 1.0 $kg \cdot hd^{-1} \cdot d^{-1}$ (DM basis) of a supplement (26% CP). All cows were removed from pastures following TW and placed in six separate 25 ha pastures. The same cow groups (blocks) remained intact; however, EW and TW cows were separated and randomly allotted to pastures. Cows were fed 110 d to attain a minimum of 5 BCS by approximately 1 mo prior to calving. The TW cows lost 0.5 BCS and 44 kg BW while the EW cows gained 0.4 BCS and 12 kg BW from EW to TW ($P <$

0.01). After 110 d of feeding, there was no difference between EW and TW cow BCS ($P = 0.59$). However, winter feed costs were $28 greater ($P = 0.07$) for TW compared with EW cows. Grazing time, distance traveled, number of visits to water, and cow distribution in rangeland pastures were unaffected ($P > 0.10$) by TRT. Results suggest that EW can improve cow BCS prior to entering the winter feeding period, thereby, decreasing winter feed costs. Cow grazing behavior appears not to be affected by weaning treatment.