

Nutrient supplement placement best management practice for changing beef cow distribution

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Reducing the impact of grazing livestock on water quality, aquatic and riparian habitat, and biodiversity is a continuing goal for livestock producers, natural resource managers, and conservation groups. Environmental impacts of grazing livestock are frequently the result of poor livestock distribution. Management practices that alter livestock distribution on the landscape by attracting them away from environmentally sensitive areas can effectively reduce these impacts. However, policy makers, regulators, and land managers are often uncertain about the effectiveness of livestock distribution practices and therefore gravitate to the certainty of excluding livestock by fencing or lease termination. This can devastate the economic viability of rangeland livestock enterprises, reducing their competitive ability and adversely impacting the economy of rural communities. Furthermore, livestock exclusion limits our ability to use grazing to manage wildlife habitat, fire fuel loads, and weed infestations. It is crucial that managers, regulators, and community watershed groups understand how livestock can be predictably and effectively redistributed so that they do not have undesirable effects in grazed watersheds.

The strategic placement of protein supplements can exert a strong influence on the distribution of range livestock. However, this practice is infrequently recognized as a "best management practice." Research results support the conclusion that the strategic placement of nutrient supplements should be included in best management practices associated with water quality protection and other conservation programs.

Three studies in California visually and statistically document the effectiveness of nutrient supplement placement for changing livestock distribution. Global positioning technology was used to determine beef cow positions in these studies. The first study, in the Sierra Nevada foothills, demonstrated that use of riparian patches could be reduced with strategic placement of dehydrated molasses supplements during the dry season. A later study on

an adjacent ranch found that during the dry season supplement placement effectively redistributed livestock by attracting them into a zone that extended out to about 1,969 ft (600 m) from the supplement. In a third study on a coastal ranch in San Luis Obispo County, nutrient supplements were used to successfully attract beef cows into a previously avoided forest adjacent to a grazed grassland.

The results of these studies demonstrate that strategic placement of supplements can be an effective tool for altering livestock distribution during the dry season. When green forage is adequate, the supplement sites are less attractive. When a supplement is placed in rangeland pastures or allotments, cattle not only congregate at the supplement site but they graze and rest in adjacent areas within 1,969 ft (600 m) of the supplement site. Supplements can reduce grazing in riparian patches and can attract cattle away from areas around stockwater troughs. In these studies, cattle were attracted more than 0.8 mi (1.3 km) from stock water.

The results of the studies reported here and elsewhere in the western United States demonstrate the effectiveness of supplement placement for changing livestock distribution. Integration of supplement placement practices into best management practices and specifically into the prescribed grazing practices in the USDA Natural Resources Conservation Service's *Field Office Technical Guide* is supported by this research. Livestock producers can easily test the utility of supplement placement by closely observing livestock grazing locations or measuring changes in forage standing crop before and after supplement placement.

For more information see the full paper on pages 11–17 of this issue (George et al. 2008).

REFERENCE

- George, M.R., N.K. McDougald, W.A. Jensen, R.E. Larsen, D.C. Cao, and N.R. Harris. 2008. Effectiveness of nutrient supplement placement for changing beef cow distribution. *Journal of Soil and Water Conservation* 63(1):11–17.



Above: Use of riparian patches could be reduced with strategic placement of nutrient supplements. Right: Beef cow with a global positioning collar using strategically placed supplement.

