

THE INFLUENCE OF COW AGE ON BOTANICAL COMPOSITION OF DIETS IN MIXED CONIFER MOUNTAIN RIPARIAN AREAS AND ADJACENT UPLANDS

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ABSTRACT

The objective of this study was to evaluate the effect of cow age on botanical composition of diets in mountain riparian areas. Treatments consisted of 30 first calf heifers, and 30 mature cows randomly assigned to four pastures (2 pastures/treatment, average 21.5 ha) in a two-year, cross over design, study.

Botanical composition of diets was determined in fecal samples obtained from 10 animals in each treatment from d 36 to 39 of a 42-day grazing period using microhistological techniques. The crude protein (CP) content and *in vitro* dry matter digestibility (IVDMD) were determined, and correction factors were calculated for 22 major plant species.

The total number of plant species in the diet of mature cows was greater ($P < 0.01$) than for heifers. Heifers consumed more ($P < 0.01$) grasses and fewer ($P < 0.01$) trees than mature cows. In digested samples, grasses were overestimated, whereas, all forbs, except Northern bedstraw (*Galium boreale*), were underestimated, and all shrub species were overestimated except Common snowberry (*Symphoricarpos albus*). Heifers consumed more ($P < 0.01$) Tufted hairgrass (*Deschampsia caespitosa*), Pinegrass (*Calamagrostis rubescens*), and Blue wildrye (*Elymus glaucus*), but less ($P < 0.01$) Western wheatgrass (*Agropyron smithii*), Kentucky bluegrass (*Poa pratensis*), and Ponderosa pine (*Pinus ponderosa*) than mature cows. Tufted hairgrass was the only species to comprise more than 5% of the diet.

In summary, mature cows selected a greater diversity of forage species and selected a diet that contained less grass species and more trees compared to younger cows.

Key Words: botanical composition, microhistological analysis, cow age