

HABITAT PREFERENCE OF CATTLE GRAZING PINYON-JUNIPER GRASSLAND IN CENTRAL NEW MEXICO

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The application of behavioral research on cattle grazing was to gain a greater understanding and clarity of how cattle utilize piñon-juniper woodlands in comparison to grasslands. During 1994 and 1995 cattle utilized grassland and sparse juniper during the early morning hours. As the day progressed cattle moved into the juniper habitats. Possible reasons for these migrations into juniper could be to avoid absorbing solar radiation from the sun or moving to a cooler microclimate. By utilizing juniper habitats cattle reduce heat load while maintaining grazing and ruminant, which promoted production. The density of juniper preferred during late morning and afternoon hours differed between seasons and years. During 1994 cattle chose to utilize dense juniper during the early season, because of the intense temperatures of that year. During late summer cattle habitat preference shifted and cattle utilized open juniper. Open juniper during late season offered shade preferred by cattle to reduce heat load and solar radiation while providing adequate forage. In 1994, during both early and late summer, cattle utilized open juniper during

the late morning and afternoon hours. During 1995 temperatures were typical for the area, however precipitation was low. Therefore, cattle did not utilize the grassland and sparse juniper due to the lack of available forage. In both years cattle chose to utilize the grassland at night for bedding purposes. One reason for this would be to radiate heat collected in their bodies during the day into the atmosphere instead of having it trapped closer to them if they stayed in the juniper. Another reason was if a breeze was present it would help to dissipate the heat collected by their bodies during the day while juniper reduces the breeze. It would seem the sensitivity of juniper preferred by cattle is strongly tied to environmental factors and may vary from time of day, between seasons, and years.

Further behavioral research of cattle grazing grasslands interspersed with piñon-juniper vegetation may aid in better management of cattle and pastures containing this woodland. By strategically using pastures containing piñon-juniper herd stress due to heat, humidity, and cold weather may be decreased.

With this knowledge it would seem sparse and open densities of piñon-juniper play a positive role in the grazing behavior of cattle.