



## **Effects of Prairie Dogs (*Cynomys Ludovicianus*) and Cattle on Vegetation Composition and Disappearance in the Mixed-Grass Prairie**

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The potential for prairie dogs to remove forage otherwise available to livestock is a growing concern. Studies are lacking that document the extent of competition between prairie dogs and livestock, and research on the effects of prairie dogs on plant communities has yielded inconsistent results. Additional research is needed. This study was initiated in May 2007 on the Buffalo Gap National Grasslands to determine the effects of prairie dogs on mixed-grass prairie plant communities and forage availability to cattle. Four pastures including active prairie dog towns and grazing by cattle were selected. Three sites, two on-town and one off-town, with matching soils and ecological sites were selected in each pasture. A permanent enclosure (15mx15m) was constructed on one of the on-town sites within each pasture. An unfenced paired site of the same dimensions as the enclosure was delineated on the second site on the same prairie dog town in each pasture. An unfenced site with dimensions similar to the on-town sites was delineated off-town. Plots were established using appropriate cages, enclosures, or their lack on the 3 sites in each pasture to exclude prairie dogs and cattle, exclude only cattle, and allow all grazers. Vegetation sampling occurred twice during June and July of 2007 and 2008, including: 1) species composition and plant height and 2) biomass of individual species (within each plot). Comparisons of species composition between on-town and off-town sites will be analyzed. Forage disappearance will be estimated and compared for cattle alone, prairie dogs alone, and cattle and prairie dogs together.

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