Brush Management Systems

F.T. McCollum[1], D.M. Engle[2], and J.F. Stritzke[2]

1985 marked the first complete year of research at the Cross Timbers Experimental Range (CTER) southwest of Stillwater. This 1760 ac range area is the site of an ongoing cooperative research project involving animal and range scientists from the Animal Science and Agronomy Departments. Current research involves the study of brush management systems for the Cross Timbers resource area. Vegetation of the CTER was inventoried and described by Ewing et al. (1984). The area was then divided into twenty-two 80ac pastures; two of the pastures were designated as holding pastures while the other twenty pastures were divided into four groups of five pastures each. Within each group, a pasture was assigned to one of five brush treatments: 1) control- no treatment, 2) 2lb/ac tebuthiuron, 3) 2lb/ac tebuthiuron + annual spring burning, 4) 2lb/ac triclopyr, 5) 2lb/ac triclopyr + annual spring burning. Pastures are burned in late March-early April of each year. Herbicides were applied in spring and summer of 1983 while spring burning was initiated in 1985. In addition, grazing with stocker cattle began in 1985. The annual grazing season will begin in late April and extend to around the 1st of October. In 1985, 325 head of stockers were grazed on the area.

Range scientists began collecting data on vegetation and soil responses in 1983 while, as indicated earlier, 1985 was the first year for livestock response data. Data include: soil water relations, percent kill and resprouting of various woody plant species, herbage yield and species composition of range plants on prairie and savannah range sites, nutrient composition of important plant species, and botanical compostion of cattle diets. In addition, carrying capacity and cattle performance on the treated and untreated areas is being monitored. Data collection will continue for several years and will expand to include other measurements not listed above. Ultimately the study will provide valuable insight about basic aspects of range/livestock responses to brush management but will also yield information about the effective life of various treatments, livestock production during that period and the economic feasiblity of such treatments.

[1]Animal Science Department [2]Agronomy Department