

## **Effects of Three Deer Densities and Feeding on Vegetation Biomass and Nutrition**

*Eric D. Grahmann, Nathan D. Kelley, Reagan T. Gage, Ryan L. Darr, Timothy E. Fulbright, Charles A. DeYoung, David G. Hewitt, and Don A. Draeger*

Recent debate by deer biologists and researchers has sparked interest regarding how supplemental feeding and different white-tailed deer densities affect vegetation communities. The purpose of this experiment is to test whether or not supplemental feeding (1) results in increased forb biomass, thereby indicating reduced foraging pressure on this plant class or, alternatively, reduces overall browse and forb nutritional quality, thereby indicating reduction in highly palatable “ice cream” plants and (2) determine the influence of deer density on vegetation response to supplemental feeding.

Our research study is being conducted on the Comanche and Faith ranches in Dimmit County, Texas. Each ranch has 6, 200-acre high-fenced enclosures containing target populations of 10, 25, or 40 white-tailed deer representing low, medium, and high densities for southern Texas. Pelleted feed, provided *ad libitum*, is included in one enclosure of each pair of the deer density enclosures. Vegetation biomass is estimated annually in March and August. Crude protein and detergent fiber analyses are conducted on samples to determine nutritional trends within plant communities.

Data collected from 2004 to 2006 indicated that browse, forb, and grass biomass were similar between enclosures that had supplemental deer feed and enclosures that did not have supplemental deer feed. Biomass of these plant classes (browse, forb, and grass) was similar among deer densities. In 2005, forb biomass was greater in enclosures with low deer densities, but forb biomass was similar in enclosures with medium and high deer densities.

Preliminary findings suggest that the effects of white-tailed deer on vegetation biomass may be minimal among treatments in the short-term. However, more data collection is needed in order to make solid conclusions.

*Cooperative funding was provided by the Comanche Ranch, T. Dan Friedkin, Faith Ranch, Neva and Wesley West Foundation, Houston Livestock Show and Rodeo, and Houston Safari Club.*