

FIELD DAY REPORT - 1996

TEXAS A&M UNIVERSITY AGRICULTURAL RESEARCH and EXTENSION CENTER at OVERTON

**Texas Agricultural Experiment Station
Texas Agricultural Extension Service**

Overton, Texas

April 18, 1996

Research Center Technical Report 96-1

All programs and information of the Texas Agricultural Experiment Station and Texas Agricultural Extension Service are available to everyone without regard to race, color, religion, sex, age, or national origin.

Mention of trademark or a proprietary product does not constitute a guarantee or a warranty of the product by the Texas Agricultural experiment Station or Texas Agricultural Extension Service and does not imply its approval to the exclusion of other products that also may be suitable.

EVALUATION OF SUMMER LEGUMES AS SUPPLEMENTAL BROWSE FOR WHITE-TAILED DEER

G. R. Smith, Billy Higginbotham, and J. Gilbert

Background. Summer legumes have the potential to produce high quality forage from June through September and can provide a supplemental protein source to white-tailed deer during the late summer months. Our objectives were to evaluate forage production and establishment methods of 'Iron and Clay' cowpea (*Vigna unguiculata*) and lablab (*Lablab purpureus*) under east Texas climate and soil conditions.

Research Findings. Iron and Clay cowpea and lablab were planted in 10 x 20 ft plots at Overton, Texas using two establishment methods. For the DRILL/50 method, 50 lbs seed per acre were planted using a small plot drill with drill rows 9 in. apart. For the ROW/10 method, 10 lbs seed per acre were planted in rows with a 36 in. row spacing. Plots were spaced 10 ft apart and treatments were arranged in a randomized complete block design with three replications. Fertilizer and lime had been applied according to soil test in Sept. 1994. No additional fertilizer was applied prior to planting on 19 May 1995.

Pigweed (*Amaranthus spinosus*) was a major weed problem in these evaluations. We were not able to control this pest in the DRILL/50 plots and this treatment was abandoned for both summer legumes. Weeds were controlled in the ROW/10 plots using two cultivations in June. Forage production was evaluated at about 40-day intervals beginning at 60 days after planting. Each harvest was separated into leaf and stem fractions, dried at 90 C for 72 hr, and dry forage production per acre calculated.

Iron and Clay cowpea was more productive than lablab in the first 140 days, with total dry forage production over 3 tons/acre (Fig. 1). Lablab was later maturing than Iron and Clay but also produced over 3 tons dry forage/acre by 180 days post-planting. Forage quality of both species is currently being analyzed.

Application. This study indicates that both Iron and Clay cowpea and lablab are productive summer legumes under east Texas climate and soil conditions. Under 1995 conditions, Iron and Clay cowpea was most productive in late summer and lablab forage production continued to mid November. Lablab continued to grow until the first freeze of the season. Analysis of the samples for protein content is needed for comparisons of the two species regarding their potential contribution to the summer diet of white-tailed deer.

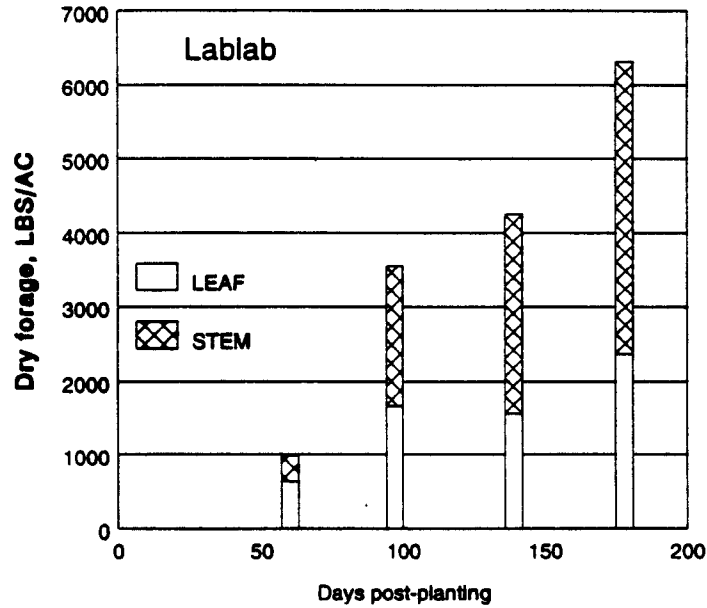
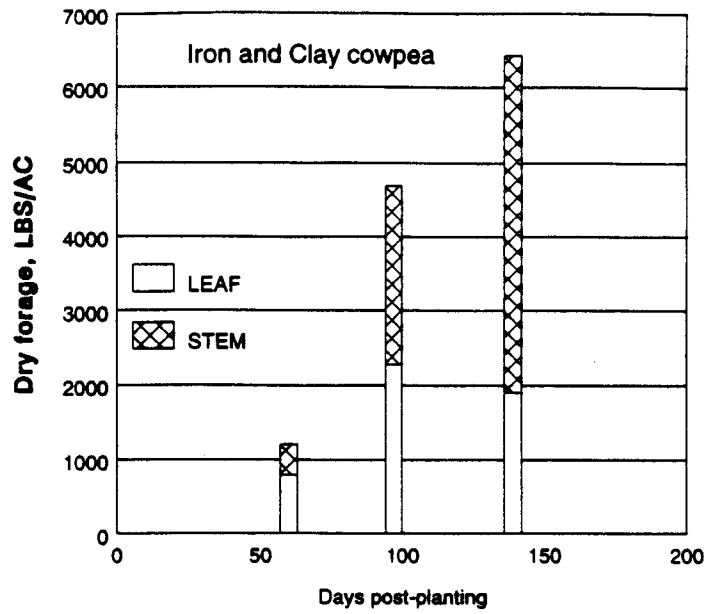


Figure 1. Forage production of Iron and Clay cowpea and lablab at Overton, TX in 1995.