LESPEDEZA sericea (L. cuneata) is now being grown on more than one-half million acres in Alabama. This indicates that sericea holds an important place in the forage crop program of that state.

One of the factors favoring sericea production is its ability to furnish grazing under summer conditions so adverse that most other forage crops cease growth. It is also well adapted to soils of low fertility, and often produces satisfactory yields for several seasons without lime or fertilizer treatments. One of the most unfavorable characteristics of the crop is its low palatability. This has generally been attributed to the relatively high content of tannins or tannic acid (3, 10). The tannin content of sericea leaves is generally 6 to 8% as compared to less than 2% for alfalfa at the hay stage. Tannin contents up to 18% have been reported for sericea leaves where plants were at advanced stages of maturity (2).

Observations by experiment station personnel and farmers have indicated that cattle grazed sericea more readily where lime and/or fertilizers had been applied even where yield responses to such treatments were not apparent. Most reports of this nature have stressed the beneficial effects of lime and in some cases potash.

If it is assumed that tannin affects palatability and fertilizers cause the crop to be grazed more readily, one is led to speculate as to whether there is a soil fertility-tannin relationship. Results reported from the Georgia Experiment Station (4) indicated that sericea fertilized with a complete fertilizer and lime contained less tannin than that receiving no fertilizer. Work was started in 1950 to study the effect of soil treatments on the tannin content of sericea. Five field fertility experiments already in progress on five different soil types were utilized in this study. A greenhouse experiment was set up with a wider range of fertilizer treatments than was present in the field experiments.

MATERIALS AND METHODS

The five field experiments were located on Kalmia, Boswell and Greenville fine sandy loams, Appling sandy loam, and Decatur clay loam. Soils utilized in the field experiments were low in fertility and typical of soils used for sericea in the respective soil areas. The experimental design was a randomized block with three replications. Treatment factors included phosphorus rates of 50, 100, and 150 pounds of P₂O₅ per acre; potash rates of 60, 120, and 240 pounds of K₂O per acre; and lime rates of 0, 3,000, and 6,000 pounds per acre.