



Forage Research in Texas

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(INFLUENCE OF) PHOSPHOROUS ON PERCENT LEGUME IN TALL FESCUE
 OVERSEEDED WITH THREE LEGUMES

OBJECTIVE:

To determine the feasibility of establishing legumes in tall fescue sod and the effect of four levels of P.

PROCEDURE:

Plots were established on an existing Kenwell tall fescue sod on Austin silty clay at Dallas, Texas, in October 1974, using a split block design with 3 replications. Legume species were whole blocks. The tall fescue was shredded to a uniform height of 3 inches prior to planting and a uniform application of N applied at a rate of 50 lbs per acre. Strips of legumes were planted using a grassland drill at a rate of 20 lb/ac for Victoria Alfalfa, and 15 lb/ac for Yuchi Arrowleaf Clover and button clover. Plots were 5.5 ft. wide and 20 ft. long. The four levels of P (0, 75, 150, and 225 lbs of P_2O_5 per acre) were applied at planting using 0-20-0. The plots were shredded to a uniform 3 in. height on November 19, 1974 to promote legume growth.

A 3 ft. by 6 ft. strip in the center of each plot was harvested by hand on May 7, 1975. The legume forage was separated from the grass forage, oven dried and weighed separately to determine the percent legume.

RESULTS AND DISCUSSION:

Total forage yield was not affected by the level of P (Table 1), but in each case as P level was increased there was an increase in percent legume in the sward (Table 2).

Button clover is considered a short season, low production legume but its performance was superior to both alfalfa and arrowleaf clover in this test. Of the three legumes tested only button clover shows promise in overseeding into tall fescue sod.

TABLE 1

TOTAL FORAGE YIELD OF TALL FESCUE OVERSEED WITH LEGUMES AT 4
LEVELS OF PHOSPHOROUS

	LBS P ₂ O ₅ /Ac			
	0	75	180	225
Victoria Alfalfa	1555	1969	1705	1944
Yuchi Arrowleaf Clover	1848	1685	1532	1290
Button Clover	1905	1599	1990	2147
Mean	1769	1751	1742	1794

TABLE 2

PERCENT OF LEGUME BY WEIGHT IN OVERSEEDED TALL FESCUE AT 4
LEVELS OF PHOSPHOROUS

	LBS P ₂ O ₅ /Ac			
	0	75	150	225
Victoria Alfalfa	0.0	0.0	1.3	2.1
Yuchi Arrowleaf Clover	0.9	1.8	1.0	3.1
Button Clover	3.3	13.9	15.2	19.1
Mean	1.4	5.2	5.8	8.1