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Perennial Clover Production at Overton, Texas - 1988 and 1989

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Summary

Red and white clover varieties were evaluated for forage production and adaptation at Overton in 1988 and 1989. Test plots were established in the fall of 1987 and 1988. In 1988, forage production ranged from 2,705 lb dry matter/acre (DM/A) for 'Fl-5' red clover to 1,374 lb DM/A for 'La. S-1' white clover. Forage production ranged from 5,169 lb DM/A to 2,436 lb DM/A in 1989 for 'Kenstar' red clover and 'Haifa' white clover, respectively. No red or white clover cultivars survived their first summer as perennials.

Introduction

White and red clovers are perennial legumes with potential for early summer forage production. Although classified as perennials, these clovers rarely survive through the summer on sandy, upland soils in East Texas. Summer survival of these perennial clovers is much more reliable on clay and clay loam bottomland soils. When used in conjunction with annual clovers, perennial clovers can extend clover forage production. The objectives of these experiments were to evaluate perennial clovers for seasonal forage production, adaptation, and summer survival.

Procedure

Eleven and 14 entries of perennial clover were drilled into a Coastal bermudagrass sod on October 23, 1987, and October 27, 1988, respectively. The plot areas were fertilized according to soil test recommendations. Fertilizer applied before planting in 1987 was 428 lb/A of 0-20-20 and 1 lb/A boron, and in 1988 was 400 lb/A of 0-20-20 and 1

lb/A of boron. Soil pH was 6.4 in 1987 and 7.0 in 1988. A small-plot drill, with six double disk openers spaced 9 in. apart, was used to place the seed 0.5 in. deep.

Seeding rate of the clovers was 14 lb/A for red clover and 6 lb/A for the white clover. Rhizobial inoculant type B, supplied by Nitragin Co., was applied at a rate of 1.6 oz./lb of seed, using Pelgel solution as an adhesive to stick the inoculant to the seed.

Each experiment was arranged in a randomized complete block design with four replications. The plots were harvested with a rotary mower to 2.25 in. At each harvest, a subsample was weighed, dried at 60 °C for 48 hours, then weighed again to calculate dry matter yield per acre.

Results

In 1988, Fl-5 red clover produced 2,705 lb DM/A (Table 1). 'Kenland' and Kenstar red were also productive and yielded 2,535 lb DM/A and 2,458 lb DM/A, respectively. All the ladino-type white clovers were productive in 1988. La. S-1 white clover produced only 1,374 lb DM/A but is well adapted to East Texas and reseeds well. However, the forage production potential of La. S-1 is not as high as that of 'Ladino' white clover or red clover. Only two harvests were taken in 1988 because of lack of moisture in both April and May. In 1989, Kenstar and Kenland red clovers were the most productive, yielding 5,169 and 4,966 lb DM/A, respectively (Table 2). 'SRVR', 'C/W 600', and 'Regal' were the most productive white clovers in 1989. Haifa white clover produced less than the other white clovers tested. No varieties of red or white clover survived as perennials after the first summer. In both years, the red clovers were the most productive; the Florida experimentals compared favorably to Kenstar and Kenland red.

Keywords: red clover / white clover.

Table 1. Seasonal forage production of sod-seeded perennial clovers at Overton, Texas - 1988.

Variety	Harvest date (mo.-day-year)		Total
	4-4-88	5-2-88	
 lb DM/A		
Fl.-5 red	1408	1297	2705
Kenland red	1021	1514	2535
Kenstar red	986	1472	2458
C/W 600 white [†]	804	1627	2431
Regal white [†]	718	1556	2274
Cal. Ladino white [†]	763	1491	2254
Osceola white [†]	772	1454	2226
Brown Loam 2 white [†]	686	1377	2063
Fl. XPL-3 white [†]	668	1356	2024
Haifa white [‡]	477	1001	1478
La. S-1 white [‡]	393	981	1374
C.V. 23.27%	LSD (0.05) = 725		

[†]Ladino-type white clover.

[‡]Intermediate-type white clover.

Table 2. Seasonal forage production of sod-seeded perennial clovers at Overton, Texas, 1989.

Variety	Harvest date (mo.-day-year)			Total
	4-7-89	5-11-89	6-21-89	
 lb DM/A			
Kenstar red	803	2474	1892	5169
Kenland red	781	2387	1798	4966
FL-6-EF red	882	2006	2035	4923
FL-5 red	915	2074	1799	4788
FLMTC red	871	2162	1697	4730
SRVR white [†]	649	1716	1763	4128
C/W 600 white [†]	589	1662	1784	4035
Regal white [†]	592	1706	1642	3940
Brown Loam 2 white [†]	687	1567	1609	3863
Osceola white [†]	630	1526	1692	3848
FL-XPL-3 white [†]	629	1681	1511	3821
Cal. Ladino white [†]	548	1465	1597	3610
La. S-1 white [‡]	599	1695	1215	3509
Haifa white [‡]	310	1216	910	2436
C.V. = 9.4%	LSD (0.05) = 556			

[†]Ladino-type white clover.

[‡]Intermediate-type white clover.