

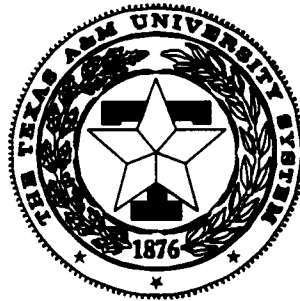
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COMPARISON OF CRIMSON CLOVER VARIETIES IN NORTHEAST TEXAS

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Background. Crimson clover is a cool-season annual legume grown throughout the southeastern US except for peninsular Florida. It is used to a limited extent as a summer annual green manure crop in the northern US. Good seedling vigor, earlier forage production than other clovers, and adaptability to a wide range of soils, make it well suited for overseeding warm-season perennial grasses. Crimson clover is preferred for overseeding hay meadows because it is earlier maturing than other cool-season legume species and therefore less competitive to the warm-season grasses initiating growth in the late spring. Since the development of Dixie in 1946, the first crimson clover released in the US, public and private plant breeders have released many new varieties.

Seven crimson clover varieties were planted at 18 lb PLS (pure live seed)/acre in a prepared seedbed on September 29, 1996. Sixty lb of phosphorus and 120 lb of potassium/acre were applied and disked in two days before planting. Experimental design was a randomized complete block with four replications. All varieties were harvested on March 4 and all but Columbus harvested on April 23, 1997. The second harvest of Columbus was delayed until May 22 because of its later maturity. The date on which each variety reached first bud stage and 10, 50, and 90% flower was recorded.

Research Findings. All varieties except Columbus reached first bud and flower stages within about a week of each other (Table 1). Columbus did not reach these growth stages until a month later. The later maturity of Columbus extends the growing season into late May which should result in higher yields but also greater competition to any warm-season perennial grasses it may be overseeded on. Except for Columbus there were only small yield differences among varieties at the first harvest and none for the second harvest or total yield (Table 2). The lower production of Columbus at the first harvest is probably due to its later maturity. The second harvest of Columbus was a month later than the other varieties because of its later flowering that resulted in a 2 to 3 fold greater yield than the other varieties. Total forage production of Columbus was twice that of the other varieties.

Application. When seed is available, Columbus crimson clover will provide higher yields than varieties now available. However, its early production is less and its later maturity may preclude its use for overseeding hay meadows.

Table 1. Appearance of first bud and percent flowering of Crimson clover varieties at Overton 1997.

Variety	First bud	Percent flower		
		10	50(M)†	90
Auburn	Mar 24	Mar 31	Apr 3(0)	Apr 7
AU Robin	Mar 24	Mar 28	Apr 4(1)	Apr 11
Flame	Mar 29	Apr 3	Apr 8(5)	Apr 13
Tibbee	Mar 30	Apr 4	Apr 9(6)	Apr 14
Chief	Mar 28	Apr 4	Apr 10 (7)	Apr 14
Dixie	Mar 30	Apr 4	Apr 11(8)	Apr 16
Columbus	Apr 30	May 5	May 10 (37)	May 14

†Days to reach 50% flower in comparison to Auburn.

Table 2. Production of crimson clover varieties at Overton 1997.

Variety	March 4	April 23	Total
-----lb D.M./acre-----			
Columbus	699 d†	7442 a‡	8141 a
Tibbee	1386 a	2797 b	4182 b
Flame	1328 ab	2785 b	4113 b
Dixie	1089 bc	2989 b	4078 b
Chief	1025 c	2973 b	3998 b
Auburn	1285 a-c	2661 b	3946 b
AU Robin	1150 a-c	2583 b	3733 b

†Yields within a column followed by the same letter are not significant at the 0.05 level Waller-Duncan Multiple Range Test.

‡Columbus was not harvested until May 22 because of its later maturity.