FORAGE-LIVESTOCK FIELD DAY REPORT - 1998

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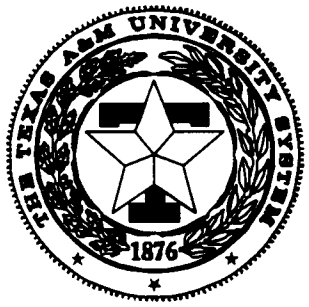

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MANAGING CRIMSON CLOVER FOR RESEEDING

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Background. Crimson clover is one of the predominant cool-season annual legumes grown in the eastern half of Texas and the southeastern US. If crimson clover could be managed to reseed each fall, annual costs of seed and planting ($15 to $25/acre) could be eliminated. Other advantages of volunteer stands are that the seed are already present when the first significant rainfall occurs in early fall and stands may be thicker because of more seed/acre than the recommended seeding rate. Successful reseeding of cool-season annual clovers is dependent on spring seed production and its percentage hard seed to prevent summer germination. Seven crimson clover varieties were drilled in 7-in. rows at 16 lb PLS (pure live seed)/acre on a lightly disked bermudagrass sod on Oct. 25, 1996. Cattle were allowed to graze the test site and surrounding pasture beginning in late January. At each grazing termination date (GTD) an electric fence was used to exclude the cattle from part of the planting. When the clover matured, a random 3-ft length of row was hand cut from each plot to record seedhead number and seed yield. Cattle than grazed the area until late September when volunteer crimson clover seedlings began to appear. On Oct. 28, 1997 crimson clover seedling density was determined from a ft^2 quadrate at two locations in each plot.

Research Findings. Seedhead density and seed yields decreased as grazing was extended from Mar. 31 to May 12 (Table 1). There was no difference among varieties for seedhead density until the Apr. 14 GTD when Chief and Columbus produced the most seedheads. Because of its later maturity, Columbus produced about the same number of seedheads at all GTD's. The greatest drop in seed yields was from the Mar. 31 to Apr. 14 GTD. Seed yields of Columbus never exceeded 400 lb/acre with the highest yields at the two latest GTD's. Seed weight/seedhead decreased an average of 54% from the Mar. 31 to the Apr. 14 GTD because of the large decrease in seed yields. Weight of 100 seeds wasn't reduced until grazing extended past Apr. 14. Hundred seed wt. is an indication of seed viability and vigor of seedlings from the seed. There were few volunteer seedlings when grazing extended past Apr. 14. Auburn and Flame had the best volunteer seedling density. Although Columbus produced seedheads and seed at the Apr. 28 and May 12 GTD's, there were few volunteer seedlings at any GTD because hard seed percentage was usually less than 10% (data not shown). About 20 to 25 crimson clover seedlings per ft^2 is considered a good stand.

Application. Good volunteer stands of most crimson clover varieties can be obtained if grazing is terminated in mid-Apr. except for Columbus. Although Columbus is about a month later in maturity than the other varieties, it has very low hard seed percentage and seed yields.

Table 1. Influence of grazing termination date on seed production parameters and volunteer seedling density of seven crimson clover varieties.

Variety	Seedheads	Seed	Seed wt. Seedhead	100 seed weight	Seedling density
	no./ft^2	lb/acre	mg	mg	no./ft^2
Grazing Terminated March 31					
Auburn	67.3 a†	969 ab	87.3 c	285 c	171 a
AU Robin	51.3 a	1026 ab	140.8 ab	364 a	105 b
Chief	71.8 a	1189 a	96.9 bc	292 c	66 cd
Columbus	70.0 a	204 b	16.8 d	342 ab	8 e
Dixie	65.7 a	1419 a	127.8 a-c	334 b	72 c
Flame	57.6 a	1304 a	138.4 ab	337 ab	135 b
Tibbee	68.4 a	1717 a	152.1 a	343 ab	36 de
Mean	64.6 A‡	1122 A	108.6 A	328 A	84.4 A
Grazing Terminated April 14					
Auburn	37.5 bc	189 c	30.6 b	253 d	62 a
AU Robin	30.9 c	339 bc	61.0 a	312 bc	15 b-d
Chief	70.0 a	681 a	59.6 a	248 d	34 bc
Columbus	61.7 ab	266 bc	22.7 b	336 b	1 d
Dixie	43.7 bc	470 ab	61.7 a	296 c	18 b-d
Flame	30.2 c	182 c	35.8 b	365 a	40 ab
Tibbee	46.5 a-c	506 ab	70.9 a	298 c	5 cd
Mean	45.8 B	376 B	48.9 B	301 A	25.5 B
Grazing Terminated April 28					
Auburn	27.9 bc	86 bc	17.9 b	209 b-d	5 a
AU Robin	12.7 d	70 c	29.2 b	191 cd	6 a
Chief	20.8 cd	108 bc	30.2 b	151 d	3 a
Columbus	72.5 a	379 a	32.2 ab	326 a	1 a
Dixie	31.2 bc	187 b	35.5 ab	267 ab	4 a
Flame	27.9 bc	141 bc	29.4 b	233 bc	7 a
Tibbee	34.3 b	316 a	51.7 a	239 bc	2 a
Mean	32.5 BC	184 B	32.4 B	231B	4.0 C
Grazing Terminated May 12					
Auburn	2.7 d	12 c	26.7 a	84 c	0 b
AU Robin	5.7 cd	38 bc	43.3 a	180 bc	0 b
Chief	25.2 b	110 b	25.6 a	179 bc	0 b
Columbus	62.8 a	338 a	32.8 a	283 a	0 b
Dixie	15.7 bc	108 b	41.0 a	220 ab	0 b
Flame	8.3 cd	38 bc	29.1 a	181 bc	0 b
Tibbee	21.4 b	89 b	23.3 a	212 ab	2 a
Mean	20.2 C	105 B	31.6 B	191 B	0 C

†Within each grazing termination date values in a column followed by the same lower case letter are not significantly different at 0.05 level.

‡Means for grazing termination dates within a column followed by the same upper case letter are not significantly different at 0.05 level.