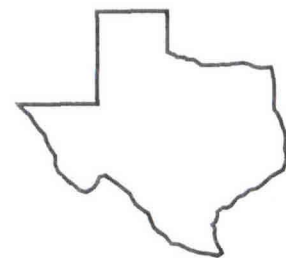
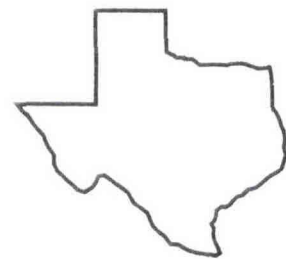
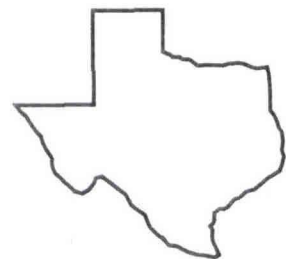


# **PUBLICATIONS**

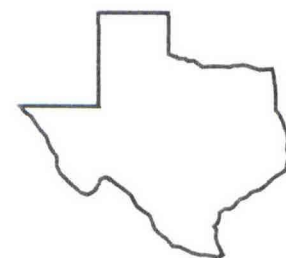
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## INTERPLANTED 'ALFAGRAZE' ALFALFA AND 'COASTAL' BERMUDAGRASS RESPONSE TO GRAZING

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**Background.** Three-year results from non-grazed, small-plot research at Overton has shown that 'Alfagraze' alfalfa may be a viable economic alternative for hay production in East Texas. The primary objective of this research was to evaluate dry matter (DM) and stand maintenance of Alfagraze planted into a 'Coastal' bermudagrass pasture under a rotationally grazed scheme.

**Research Findings.** A Coastal bermudagrass pasture was site-prepared in early spring of 1992 and planted to Alfagraze in the autumn at 4 replications each of 3 row spacings (10, 20, and 30 in.). The entire Alfagraze-bermudagrass pasture was harvested for hay at 10% bloom in May 1993, and succeeding DM was grazed to simulate rotational grazing. Grazing events occurred on June 7, July 2, and August 27 with grazing duration ranging from 7 to 14 days. The DM was measured via sickle bar mower (Table 1). Samples separated into components showed that on June 7, Alfagraze was the predominant forage in each row-spacing planting. Table 2 shows the height of each forage and a visual estimate of alfalfa canopy cover. During this initial

Table 1. Harvested dry matter of 'Alfagraze' alfalfa and 'Coastal' bermudagrass at 3 row spacings.

Harvest Date	Grazing Event	Forage	Row Spacings		
			10"	20"	30"
			-----lbs/ac DM-----		
Jun 7	1	Alfalfa	1698 a <sup>1</sup>	1035 b	931 b
		Coastal	96 a	272 a	388 a
		TOTAL	1794 a	1307 b	1319 b
Jul 2	2	Alfalfa	1196	898	596
		Coastal	663	1104	1196
		TOTAL	1859	2002	1791
Aug 27	3	Alfalfa	252	138	99
		Coastal	1253	1641	1972
		TOTAL	1505	1779	2071
		<u>Season Total</u>			
		Alfalfa	3146 a	2071 b	1626 b
		Coastal	2012 b	3017 ab	3556 a
		TOTAL	5158 a	5088 a	5182 a

<sup>1</sup>Within a row, numbers followed by the same letter do not differ (P<.05).

year of evaluation, alfalfa was the dominant forage in early summer and bermudagrass was the dominant forage in late summer. Canopy ratings showed a severe decline in the alfalfa from July 2 to August 27, due to drought and an extreme deficiency of boron. Total DM was similar for row spacings, however, the 10" spacing favored alfalfa and the 30" rows favored bermudagrass.

**Application.** This initial, preliminary assessment of forage response to defoliation by grazing showed Alfagraze to be a vigorous competitor with bermudagrass. Production scale grazing ventures should proceed with care or be delayed until additional grazing management criteria can be evaluated under comparative research conditions. Site selection and preparation remain to be the most important aspect of establishment and stand maintenance of alfalfa in East Texas.

Table 2. Height and canopy cover ratings of 'Alfagraze' alfalfa and 'Coastal' bermudagrass at initiation (IN) and termination (OUT) of each grazing event.

Item	Grazing Events					
	1		2		3	
	IN	OUT	IN	OUT	IN	OUT
	-----Height (inches)-----					
<b>10" Row Spacing</b>						
Alfagraze	19.2	7.8	15.9 b	4.7	10.4	0.5
Coastal	14.6 a <sup>1</sup>	5.8	17.1 b	5.3	13.1	3.6
<b>20" Row Spacing</b>						
Alfagraze	18.2	7.9	16.3 b	5.9	10.1	0.7
Coastal	13.2 ab	6.3	17.4 b	6.2	12.6	3.7
<b>30" Row Spacing</b>						
Alfagraze	17.5	9.3	17.2 a	6.4	8.9	0.7
Coastal	11.8 b	7.4	18.7 a	7.4	13.1	3.8
	<b>Overall Averages</b>					
<b>Forage</b>						
Alfagraze	18.3 a <sup>2</sup>	8.3 a	16.4 b	5.7	9.8 b	0.6 b
Coastal	13.2 b	6.5 b	17.7 a	6.3	13.0 a	3.7 a
<b>Row Spacing</b>						
10"	16.9 a	6.8 b	16.5	5.0 b	11.8	2.1
20"	15.7 b	7.1 b	16.9	6.0 ab	11.4	2.2
30"	14.7 b	8.4 a	17.9	6.9 a	11.0	2.2
	<b>% Alfalfa Cover</b>					
<b>Row Spacing</b>						
10"	98.3	26.7	75.0	8.7	4.0	1.3
20"	75.0	20.0	46.7	8.7	5.0	1.3
30"	56.7	13.3	33.3	10.3	4.7	2.7

<sup>1</sup>Within a column and for each forage, numbers followed by the same letter do not differ (P<.05) by SNK.

<sup>2</sup>Within a column for forage or row spacing, numbers followed by the same letter do not differ (P<.05) by SNK.