

**FORAGE-LIVESTOCK
FIELD DAY REPORT - 1998**

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at OVERTON**

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BIOMASS PRODUCTION OF KENAF AT OVERTON

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Background. Kenaf (*Hibiscus cannabinus* L.) variety biomass trials were conducted at Overton from 1991 through 1996. Native soils are usually sandy and are low in fertility. Kenaf should have high biomass yield potential in this area if normal summer rainfall occurs and diseases are not a problem.

Research Findings. Kenaf seed was drilled into a prepared seedbed. Preplant fertilizer application was 50 lb/ac nitrogen (N), 100 lb/ac of both P₂O₅ and K₂O annually. Weeds were controlled by applying Dual preemergence at the recommended rate in 1991 and 1992. In 1993, Surflan was applied one week after planting (postemergence) at one-third the recommended rate. In 1995 and 1996, Treflan at the recommended rate was applied preemergence and tilled into the soil. Weed control was not acceptable the first 3 years of the study and some hand-hoeing was required to control broadleaf weeds. Plot size was 4 rows spaced 32 in. apart, 22 ft in. length. Seed were drilled in late April to a depth of 1/3 in at a seeding rate of 140,000 seed/ac. The experiments were top-dressed with 100 lbs/ac N when the plants were about 10 in height. Harvest dates were in late October or early November. The test was abandoned in 1994 due to drought. Mean yields over all varieties for years were 8,712 in 1991, 9,058 in 1992, 9,968 in 1993, 5,662 in 1995, and 5,341 lb/ac in 1996, respectively (Table 1). Only four cultivars were tested in each of the five years. Significant differences (0.05 level) in yield were obtained in three of five years. In 1991, entry 19-117-2 produced the highest yield of 11,385 lb/ac, but was not significantly higher than Tainung 2, Everglades 71, SF 459, or 78-18RS10. In 1993, the highest stem yield was produced by Tainung 2 with a yield of 13,986 lb/ac but was not different than Everglades 71, 19-117-2, SF 459, Tainung 1, or Cuba 108. In 1995, the highest yielding entry was SF 459 with a stem yield of 8,229 lb/ac, followed by several other entries.

Application. These results indicate that kenaf can be grown successfully in northeast Texas. Risks include summer droughts which can be severe on sandy soils. We also observed some apparent root rot problems late in the growing season which killed plants in isolated spots in the variety test.

Table 1. Stem biomass yield of ten kenaf cultivars at Overton, Texas over five growing seasons.

Cultivar	1991	1992	1993	1995	1996	5 Year Mean
	-----lbs dry matter per acre-----					
Tainung 2	10148 abc	11509 a	13986 a	7208 ab	4958 a	9562
Everglades 71	11138 ab	9900 a	10730 abc	4928 ab	4375 a	8214
19-117-2	11385 a	8848 a	12691 ab	--	--	--
SF 459	9158 abc	9653 a	10175 abc	8229 a	6708 a	8785
78-18RS10	9405 abc	9219 a	8066 cd	--	--	--
Tainung 1	7920 bc	8786 a	10286 abc	7415 ab	--	--
Everglade 41	6930 c	9096 a	9287 bcd	4840 ab	5625 a	7696
Cubano	7425 bc	8168 a	5587 d	4721 b	--	--
Cuba 108	7178 c	8106 a	11211 abc	6623 ab	--	--
15-2	6435 c	7301 a	--	--	--	--
7N	--	--	7659 cd	4322 b	--	--
C531-92	--	--	--	4233 b	--	--
C315-92	--	--	--	4003 b	--	--
C615-92	--	--	--	--	7124 a	--
C617-92	--	--	--	--	6166 a	--
C305-90	--	--	--	--	5249 a	--
C118-92	--	--	--	--	4875 a	--
C304-92	--	--	--	--	4166 a	--
C122-92	--	--	--	--	4166 a	--
Annual mean	8712	9058	9968	5662	5341	--

†Means followed by the same letter are not significantly different (0.05) as judged by the LSD method.