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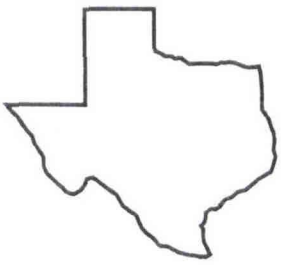
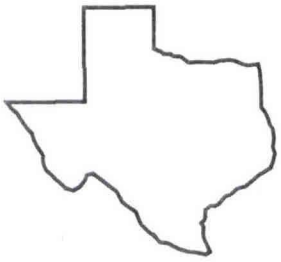
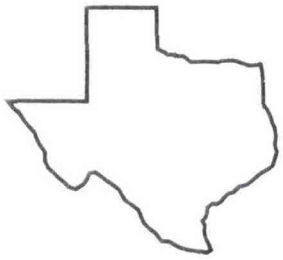
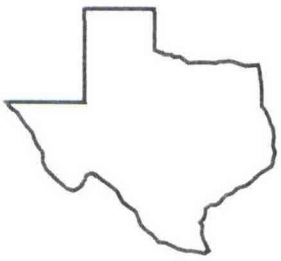




Overton Field Day Report - 1994





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Texas Agricultural Experiment Station • Edward A. Hiler, Director
The Texas A&M University System • College Station, Texas

KENAF YIELD EVALUATION AT OVERTON

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Background. The commercial kenaf industry in the Lower Rio Grande Valley harvested 550 acres in 1993 and plans to expand to over 1000 acres in 1994. Kenaf (*Hibiscus cannabinus* L.) is a summer annual plant which produces two fibers which can be used in the manufacture of paper and pulp products, poultry litter, cattle feed, potting soils, packing media, and oil spill clean up products. The major advantage that kenaf products have compared to petroleum based products is that kenaf is biodegradable and fiber yields are often in excess of 10,000 pounds dry matter/ac per year. Kenaf yields in variety tests at Overton have been about 10,000 lb/ac. Industry is presently taking over in the development and promotion of marketable materials. Presently, there is a shortage of several products which can be made of kenaf fibers. Four commercial kenaf ventures presently in operation are located in Louisiana, California, Mississippi, and Texas. The research at Overton is in cooperation with the USDA-ARS research program at Weslaco, Texas. The shortage of natural products for poultry litter in Northeast Texas offers a potential market for kenaf in this area. In the future kenaf may be substituted for peat moss.

Research Findings. This experiment has compared 10 kenaf varieties for total stem yield at Overton for 3 years. Kenaf seed has been drilled into a prepared seedbed. Preplant fertilizer application was 50 lbs nitrogen (N), 100 lbs of both P_2O_5, and K_2O per acre in each of the three years. Weeds were controlled by applying Dual preemergence at a rate 1 and 1/2 pt/ac in years 1 and 2 but not in 1993. In 1993, Surflan was applied one week after planting (postemergence) at one-third the recommended rate or at 660 ml product/ac. Weed control was not acceptable, however, and some hand-hoeing was required to control broadleaf weeds. Plot size was 4 rows spaced 32 inches apart, 22 ft in length. Seed were drilled to a depth of 1/2 inch at a seeding rate of 140,000 seed per acre. Planting date in 1993 was April 26. Good stands were obtained each year. The experiments were topdressed with 100 lbs/ac N on June 7, 1991 and on May 14, 1992, and with 120 lbs/N on June 1, 1993. Plant height of kenaf varied with variety, however, and was approximately 13 ft tall in 1991 and about 10 ft in 1992 and 1993. Harvest dates were Oct. 16, and 14 in 1991 and 1992 and Nov. 9 in 1993, respectively. Significant differences in stalk yield (Table 1) were obtained in 1993. Three year mean yields are also presented in Table 1. Highest yields were slightly over 13,000 lbs dry matter per acre. These yields are representative for kenaf and the higher yielding varieties at Overton were also better in South Texas.

Application. These results indicate that kenaf can be grown successfully in northeast Texas. This crop may offer a potentially profitable alternative to growing forage or grain crops in this area. Possible

markets for kenaf in northeast Texas are for poultry litter or as a substitute for peat moss.

Table 1. Stem yield of ten kenaf cultivars at Overton, Texas for 1991, 1992, and 1993.

Cultivar	1991	1992	1993	Combined across years
Tainung 2	10148 abc[2]	11509 a	13986 a	11881
Everglades 71	11138 ab	9900 a	10730 abc	10589
19-117-2	11385 a	8848 a	12691 ab	10975
SF459	9158 abc	9653 a	10175 abc	9662
78-18RS10	9405 abc	9219 a	8066 cd	8897
Tainung 1	7920 abc	8786 a	10286 abc	8997
Everglades 41	6930 c	9096 a	9287 bcd	8438
Cubano	7425 bc	8168 a	5587 d	7060
Cuba 108	7178 c	8106 a	11211 abc	8832
7N	--	--	7659 cd	--
Mean	8712	9058		

[1]Cultivar not tested in 1991 or 1992.
[2]Means followed by the same letter are not significantly different at the 0.05 probability level according to Duncan's Multiple Range Test.