

Lahoma

Sweet Sudan Grass

By

Charles E. Denman

Department of Agronomy



Agricultural Experiment Station
DIVISION OF AGRICULTURE
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*Charles E. Denman**
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"Lahoma" is a wide-leaved, late-maturing variety of sweet sudan. It is notably uniform in growth habit, and has a distinctive yellow-green leaf color. This variety has been found to contain up to 17 percent protein when in the young succulent stages. It generally averages 10 to 12 percent protein. Livestock relish both stems and leaves even when the plants are in the late stages of growth.

Forage yields of 2½ tons per acre may be expected on upland soil during favorable seasons. Yields of 6½ tons of forage per acre have been obtained on good bottomland soil under irrigation. Seed yields of 1,500 pounds per acre have been obtained on upland soils, and yields up to 6,000 pounds per acre have been obtained on bottomland soil under irrigation.

Seed Source

A limited supply of certified seed is available for the 1955 planting season. Most seed crops resulted in failure in 1954 because of the severe drought throughout the Lahoma

seed-growing area in the state. If the growing season is favorable in 1955, there should be an adequate quantity of certified seed to supply the demand in 1956.

Origin and Description

Lahoma sweet sudan grass was selected from among the progeny of breeding materials from the Texas Agricultural Experiment Station in 1948. The original selection was made by W. C. Elder of this Station in 1949, from a progeny row that remained in a vigorous growing condition after the other entries had succumbed to drought and severe chinchbug infestation. Lahoma has been widely tested under the designation of Oklahoma No. 130.

Lahoma sweet sudan grass is a wide-leaved, late-maturing, drought-enduring variety. It is very uniform in growth habit, tillers well, and has a distinctive yellow-green leaf color. Lahoma is a good seed producer and the seeds range in color from apricot to sienna.

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Forage Production

In general, the common non-juicy types of sudan grass outyield the sweet, juicy-stemmed types in Oklahoma. Because of the late-maturing habit of the sweet types, they may outyield the common types in certain years when early-summer drought is followed by late-summer rains.

Forage yields have been obtained for several years for both common and sweet types of sudan grass in uniform variety trials. Yields for both pasture and hay have generally been obtained. The pasture plots were clipped at intervals when the varieties reached 12 to 18 inches in height, and the hay plots were clipped when the plants were in

the boot stage and 30 to 42 inches tall. Samples were taken to determine dry weight per acre and for chemical analyses.

Average yields of Lahoma sweet sudan, Texas 372 sweet sudan, and Piper and Tift, both common sudans, are given in Tables I and II. These yields were obtained at the Perkins Agronomy Farm on a Norge fine sandy loam upland soil over a four-year period. Yields of 6½ tons of forage per acre have been obtained in preliminary trials under irrigation on bottom-land soil.

In 1952, ratio studies of leaf to stem were conducted for three varieties and the results are summarized in Table III. The increase



A typical field of Lahoma, showing uniform growth and leafiness of young plants.

in leafiness of Lahoma indicates an improvement in quality of forage over the common types since leaves are preferred to stems by the grazing animal. In grazing trials, cattle have grazed both stems and leaves in sweet varieties, but grazed only the leaves and left the stems in common varieties. In one grazing trial at the Perkins Station, cattle left an average of 650 pounds residue per acre on the common type plots and an average of only 300 pounds residue per acre on the sweet variety plots. The sweet varieties, Lahoma and Texas 372,

Table I—Forage Yields of Sudan Grass Strains (Pasture); Perkins, Oklahoma, 1950-1953.*

(Pounds Per Acre at 12 Percent Moisture)

	1950	1951	1952	1953	Four-year Average
Lahoma (Oklahoma No. 130)	1656	3545	3052	4337	3148
Texas 372 (sweet)	1131	3986	3180	4098	3098
Tift (Common)	2316	5297	2686	4670	3742
Piper (Common)	1750	5679	3142	5975	4136
Average of Varieties	1713	4626	3015	4770	3531

* 12-18 inches in height.

Table II—Forage Yields of Sudan Grass Strains (Hay); Perkins, Oklahoma, 1950-1953.*

(Pounds Per Acre at 12 Percent Moisture)

	1950	1951	1952	1953	Four-year Average
Lahoma (Oklahoma No. 130)	2370	5073	5041	4997	4370
Texas 372 (Sweet)	1385	4881	5035	4351	3813
Tift (Common)	2959	6757	4682	5664	5016
Piper (Common)	1817	6804	4569	6680	4968
Average of Varieties	2132	5878	4832	5423	4567

* 30-42 inches in height.

Table III—Ratio of Leaf to Stem in Forage of Sudan Strains; Perkins, Oklahoma, 1952.

(Pounds Per Acre at 12 Percent Moisture)

	Stems	Leaves	Total	Percent Leaves
Lahoma (Oklahoma No. 130)	1534	3105	4649	66.8
Piper	1880	2598	4478	58.0
Tift	2408	3103	5511	56.3
Average of Varieties	1940	2935	4880	60.1



This photo illustrates the leafiness and tillering ability of Lahoma plants.

were grazed down uniformly, permitting faster and more uniform regrowth than in the common types where only the leaves were eaten leaving the stems.

Seed Production

Seed yields of 1,500 pounds per acre have been obtained on upland soil at the Perkins Station, and preliminary trials under irrigation at El Reno indicate that yields up to 6,000 pounds can be expected on fertile bottom-land soils.

Protein Content

The protein content of Lahoma is similar to that of other sudans. The later maturity of Lahoma in-

sure green forage over a longer period, and gives a higher percentage of protein in the late-season growth. Protein yields for Lahoma and other varieties are summarized in Table IV.

Adaptation, Disease, and Insect Pests

Lahoma sweet sudan is adapted throughout the state of Oklahoma. Like common types it responds to fertility and moisture. When moisture is excessive, as often is true in eastern Oklahoma, leaf diseases may become troublesome. If the crop is to be utilized for pasture or hay, diseases are not as harmful because they usually do not affect the plants a great deal until the later stages of growth.

Seed yields will be reduced in eastern Oklahoma because as the plants near maturity the effect of the leaf diseases becomes greater. This variety produces good seed yields in central and western Oklahoma because of the reduced rainfall and humidity.

At present no known commercial variety of sudan is resistant to chinchbug infestations. The original selection of Lahoma appeared to be resistant or tolerant to chinchbug attacks. There has been no severe natural infestation of chinchbugs since 1949 and efforts to induce artificial infestations in the variety trial plots have been unsuccessful.

Table IV—Protein Content and Yield Per Acre of Sudan Strains; Perkins, Oklahoma, 1952-1953.*

	1952		1953	
	Percent Protein in Forage	Pounds Protein per Acre	Percent Protein in Forage	Pounds Protein per Acre
<i>As Pasture</i>				
Lahoma	8.88	271	17.0	737
Texas 372	9.07	288	19.0	779
Piper	8.11	255	18.0	1076
Tift	8.45	227	19.0	887
<i>As Hay</i>				
Lahoma	6.88	347	17.0	850
Texas 372	6.70	337	15.0	653
Piper	5.80	249	14.0	935
Tift	6.72	315	16.0	906

* Protein determination was made by V. G. Heller, Department of Agricultural Chemistry.

Plant aphids often become troublesome as the plants near maturity and seem to infest the sweet types more than the common varieties. This is probably because of the increased sugar concentration in the sweet varieties. In certain outbreak seasons, grasshoppers may severely damage sudan.

Management

When sudan grass is drilled in 14-inch rows about 15 to 30 pounds of seed are required. When planted in 36- to 42-inch rows, 8 to 12 pounds of seed are required. A thick stand is not absolutely necessary because plants tiller well when in thin stands. If a seed crop is to be taken, sudan should always be planted in 36- to 42-inch rows. A firm, moist seed bed is preferable, and the seeds should be planted about 1 to 1½ inches deep.

The proper seeding date depends somewhat upon local conditions and the use to be made of the crop. Danger of frost should be past before planting. In Oklahoma, seeding dates in general range from May 1 to July 1. Seedings may be made as late as August 1 when emergency pasture is needed. If the crop is to be used for seed production it should be seeded not later than June 15.

Lahoma sudan grass should be grazed when it has reached a height of 15 to 24 inches. At this stage the plants will contain from 10 to 15 percent protein, depending upon the moisture available, temperature, and age of the plants.

Prussic acid content varies in the different types of sudans, with the sweet types tending to be more dangerous than the common types.

Lahoma tends to contain relatively more prussic acid than the common types but no more than the other sweet types available. Lahoma has been grazed by cattle for three seasons at this Station with no ap-

parent ill effects to the animals. Nevertheless, precaution should be exercised when first turning animals into sudan fields of any variety whether of the sweet or common type.

