

1995-1996 Alfalfa Hay Yields From Eight Varieties Planted in February 1995 on the Colorado River Indian Tribes Reservation

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Abstract

Eight alfalfa varieties were evaluated for forage production during 1995 and the first half of 1996 following a Feb. 1995 planting. DK 189 has yielded the most tonnage thus far (104.8% of CUF 101), and all varieties have averaged over one ton of hay/acre/harvest.

Introduction

A number of alfalfa varieties have become available for use in the low desert alfalfa producing areas in Arizona in the past several years. Each of the varieties are promoted by the company, but few comparisons under local conditions exist. This trial was designed to compare the yields of several alfalfa varieties that had not previously been tested in Arizona using grower conditions and management.

Methods and Materials

Eight alfalfa varieties were planted February 11, 1995, and irrigated on Feb. 12 and 13. Varieties planted were DeKalb 189, WL 612, WL 525-HQ, Mecca II, Mesa, CW 2995, Prestige, and CUF 101 which served as the variety with which all others were compared.

Plots were 27 ft wide by length of field (length varied as field angled, ranged from 876 to 535 feet). All varieties were replicated four times in a randomized complete block design. Soil type for the three longest replicates consisted of a Holtville-Kofa complex and Vint sandy loam, however the other replicate (with shortest lengths) was planted on soil that was primarily Lagunita loamy sand.

Plots were cut five times during 1995. Fields were custom cut and harvested. Since personnel operating the swather for cutting of alfalfa changed frequently and were not always instructed as to plot layout, each plot was not perfectly cut each time, and some windrows may have had some overlap (usually less than 10%). For this reason, alfalfa weights were not taken from each plot, nor were partial bales obtained per plot.

Plots were baled and bale counts obtained from the 2nd, 3rd and 4th harvests in 1995 (July 2 and 29, and August 29). Number of hay bales were obtained for each plot for all cuttings except for the first harvest (June) and the last harvest (October-November). The June cutting was not included due to the weediness in the plots (partially as a result of a February planting and subsequent winter/spring rains) which was expected to alter hay yield data. The last harvest (October-November) was not recorded as personnel were unavailable.

Data were collected from all plots. Data from the replicate with sandy soil was not included in mean yield calculations due to severe reduction (300-500 lbs/acre on some cuttings) in yields caused by moisture stress. Three plots from one replicate (WL 612, Mesa, and CW 2995) were also not included for yield calculations due to grassy weed overtaking alfalfa stand and severely limiting alfalfa production.

During the winter of 1995-1996 one entire replicate (sandy area) and several plots and partial plots were replanted with CUF 101, which has resulted in mixed numbers of plots available for data for 1996. Most varieties have 2-3 replicates with the exception of CW 2995 which has only one replicate.

Five harvests have been completed by early July 1996, with cuttings and subsequent baling on March 9, April 10, May 7, June 2 and July 1. Data (bale counts) were collected for all but April harvest as custom crews picked up bales before counts were obtained.

Data from several plots which were partially reseeded were corrected (variety vs. new seeding area) so that varietal production from each plot could be determined.

Results

Because of the problems inherent with this study, it is difficult to place a high level of confidence on the data. Some differences between varietal yields were noted (Table 1), with a total difference of approximately 1,300 lbs of hay/acre between the highest yielding variety (DK 189) and the lowest yielding variety. All varieties have averaged over 1 ton of hay per cutting thus far in the study. Higher yields were noted (as expected) in early July, as this cutting contained the longest day lengths of the year, than in late August when day lengths are shortening and soil temperatures were considerably warmer due to higher air temperatures

No variety consistently led in hay yield from one cutting to the next, although some varieties yielded slightly more than others at each harvest. In 1995, DK 189 was the highest yielding variety on July 2, WL 612 the highest yielding variety on July 29, and CUF 101 the highest yielding variety on August 29. In 1996 the highest yielding varieties by individual harvest were CW 2995, CUF 101, Mecca II, and DK 189. DK 189 has yielded the highest overall of all varieties thus far, averaging 104.8% of CUF 101.

Table 1. Alfalfa yields (lbs. dry hay/acre) from 1995-June 1996 from seven harvests of alfalfa planted February 1995, Colorado River Indian Tribes Reservation.

Variety	1995			1996			'95-96 Total	% of CUF 101
	July 2	July 29	Aug	Mar 2	May	June		
DK 189	3,203	2,219	1,165	2,482	2,561	2,033	3,334	16,998 104.8
WL 612	2,793	2,482	1,085	2,482	2,341	2,180	2,964	16,327 100.7
CUF 101	3,113	2,191	1,191	2,156	2,577	1,985	3,007	16,221 100.0
CW 2995	3,101	2,074	1,027	2,529	2,529	2,213	2,529	16,001 98.6
Prestige	2,892	2,288	993	2,289	2,260	2,280	2,972	15,974 98.5
Mesa	3,072	2,401	1,058	2,096	2,422	2,117	2,728	15,895 98.0
Mecca II	2,753	2,243	1,176	2,213	2,286	2,377	2,797	15,845 97.7
WL 525 HQ	2,895	2,308	1,144	1,669	2,391	2,217	2,986	15,611 96.2

Yields calculated using bale weight of 135 lbs/bale.