

# **The Relationship Between Ten Alfalfa Varieties and the Presence of Weeds After Two Years**

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## **INTRODUCTION**

Several alfalfa varieties are commercially available for use in central and southwestern Arizona, although no more than 5 or 6 are commonly grown. Varieties have different adaptability to this region in terms of insect and disease tolerance or resistance, stand persistence and vigor.

Weeds, both summer and winter annuals and perennial weeds, are serious pests in alfalfa grown in this region. Weeds are most troublesome where alfalfa is less vigorous and stand longevity is poor.

This test was conducted to evaluate the relationship between ten commercially available alfalfa varieties and the presence of annual and perennial weeds two years after stand establishment.

## **MATERIALS AND METHODS**

Twenty-five alfalfa varieties were planted on September 24, 1985 at the Yuma Mesa Agricultural Center on a 5 x 5 lattice design with 4 replications. The plots were 3 x 17 ft.; the seeding rate was 30 pounds per acre; and the soil type was Superstition sand. All varieties were managed and cut according to standard production practices.

Ten commercially available varieties were selected from this test at the beginning of the third season of production. The first 1988 cutting was harvested on April 28, 1988 with a 1/10,000 acre grid. Alfalfa and weeds were separated, air dried and weighed. Weeds were annual sowthistle and common Bermuda grass. The number of crowns per 1/10,000 acre subplot were counted.

## **RESULTS AND DISCUSSION**

Yields ranged from 2,433 lbs. per acre for the best adapted variety to 605lbs. per acre for the poorest adapted variety. The number of crowns per acre ranged from 120,000 to 40,000 and the percent weeds ranged from 7 to 72. The varieties producing the highest yields of alfalfa were also those having the higher number of crowns per acre and the lowest percentage of weeds.

**Table 1. Relation of 10 Alfalfa Varieties to the Presence of Weeds after Two Years: First Cutting - 1988**

<u>Variety</u>	<u>Alfalfa Yield (lbs/A)</u>	<u>Crowns Per Acre (X 1000)</u>	<u>Weeds (lbs/A)</u>	<u>Total Yield</u>	<u>Percent Weeds</u>
1 Pioneer 581	2433	120	330	2763	12
2 WL516	2285	120	198	2483	7
3 Cibola	2160	110	300	2460	12
4 CF101	2130	100	615	2745	22
5 AZ Common	2091	110	448	2539	18
6 Pioneer 5929	1875	90	571	2446	23
7 Lew	1663	100	470	2133	22
8 WL605	1655	90	507	2162	23
9 NK Sundor	1595	80	710	2305	30
10 Ladak	605	40	1520	2125	72