

# Alfalfa Variety Demonstration at the Safford Agricultural Center, 1988

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## ABSTRACT

*A new alfalfa variety trial was planted in the fall of 1987 to replace the previous four-year trial. The top varieties from the previous trial were placed in the new trial, along with new, promising varieties. A single year's data is insufficient to judge the performance of a variety during its useful years of production. The data simply indicate performance in their first year. Pioneer 5929, the variety that had the best overall yield in the previous trial (1), performed well in this trial as well. However, Mecca, a new variety from Plant Genetics, Inc., had the highest yield.*

## INTRODUCTION

Alfalfa continues to be an important cash crop in Graham county. With droughts in various parts of the country, hay supplies have diminished and the price per ton has increased. These factors increased the interest in alfalfa production.

## METHODS AND MATERIALS

Twenty-one non- and very nondormant alfalfa varieties were included in this test. Spredor II, a dormant variety, was grown in buffer areas between the blocks of the experiment. The plots were planted by hand, using a Planet Jr. planter.

### *Crop History*

Location: Safford Agricultural Center, Graham county  
Elevation: 2950 feet above sea level  
Soil type: Pima clay loam variant  
Planted: 18 September, 1987. Rate: 25 pounds per acre  
Fertilizer: 300 pounds per acre of 16-20-0, preplant  
Plot size: 2.5 feet by 20 feet  
Replicates: four

Plots were cut by hand, using a Jari mower, when the crop was between 3 and 10 percent bloom. The plots were raked and weighed immediately after cutting to prevent loss of moisture; a dry weight of 12% moisture was calculated from the wet weights. Because of a high infestation of Egyptian alfalfa weevil, and our involvement in a beneficial predator program, the first cutting was sacrificed.

## RESULTS

Table 1. First year yield summary for 22 varieties of alfalfa grown at the Safford Agricultural Center, 1988.

VARIETY	Cut 2 21 Jun	Cut 3 22 Jul	Cut 4 26 Aug	Cut 5 4 Oct	Cut 6 8 Nov	Total 1988	% OF CUF 101
MECCA	2.33 (8)**	1.73 (4)	1.34 (3)	1.31 (1)	0.98 (1)	7.69 A*	105.5
PIONEER 5929	2.37 (6)	1.72 (5)	1.31 (7)	1.28 (2)	0.89 (4)	7.59 AB	104.1
PALMER SPECIAL	2.10 (18)	1.70 (6)	1.40 (1)	1.23 (14)	0.98 (1)	7.41 ABC	101.7
YOLO	2.49 (2)	1.67 (9)	1.10 (15)	1.24 (3)	0.84 (6)	7.35 ABC	100.8
KX87001	2.43 (14)	1.67 (9)	1.24 (11)	1.15 (7)	0.85 (5)	7.35 ABC	100.8
WL 516	2.27 (12)	1.76 (1)	1.29 (7)	1.19 (5)	0.81 (8)	7.33 ABC	100.5
CUF 101	2.31 (11)	1.74 (3)	1.28 (8)	1.13 (9)	0.82 (9)	7.29 ABC	100.0
MADERA	2.32 (9)	1.69 (7)	1.28 (8)	1.17 (6)	0.79 (3)	7.27 ABC	99.7
SUNDOR	2.27 (13)	1.72 (5)	1.24 (11)	1.12 (11)	0.91 (13)	7.25 ABC	99.4
MARICOPA	2.41 (4)	1.62 (14)	1.33 (5)	1.14 (8)	0.71 (2)	7.20 ABC	98.8
VALIANT	2.08 (19)	1.66 (10)	1.39 (2)	1.13 (10)	0.91 (16)	7.17 ABC	98.3
BARON	2.53 (1)	1.75 (2)	1.28 (9)	0.96 (17)	0.63 (7)	7.15 ABC	98.1
WL 605	2.22 (14)	1.68 (8)	1.34 (4)	1.09 (13)	0.73 (11)	7.06 ABCD	96.9
CONDOR	2.13 (17)	1.63 (13)	1.33 (5)	1.11 (12)	0.77 (10)	6.96 ABCD	95.5
ARDIENTE	2.32 (10)	1.73 (4)	1.16 (13)	0.95 (18)	0.66 (15)	6.82 BCD	93.6
LEW	2.03 (20)	1.68 (8)	1.22 (12)	0.96 (15)	0.72 (17)	6.62 CDE	90.8
SUTTER	2.13 (16)	1.66 (10)	1.26 (10)	0.96 (16)	0.59 (12)	6.60 CDE	90.6
GT 13R+	1.96 (22)	1.57 (15)	1.15 (14)	1.00 (14)	0.70 (14)	6.38 DEF	87.5
J-82	2.20 (15)	1.64 (12)	1.04 (17)	0.84 (19)	0.60 (18)	6.33 DEF	86.8
PIERCE	2.35 (7)	1.67 (9)	1.05 (16)	0.79 (20)	0.46 (19)	6.32 DEF	86.7
HYPHY	2.40 (5)	1.65 (11)	1.04 (18)	0.65 (22)	0.29 (21)	6.03 EF	82.8
SPREDOR II	2.03 (21)	1.72 (5)	0.95 (19)	0.67 (21)	0.34 (20)	5.72 F	78.4
GRAND MEAN	2.26	1.6875	1.2286	1.0488	0.726	6.95	
% CV	6.9	2.8	9.9	17.2	25.2	7.4	
LSD (05)	0.30	--	0.16	0.17	0.11	0.49	

\* Values followed by the same letter are not different at the 5% level using the Student-Newman-Keul's test.

\*\* Yields are in tons per acre corrected to 12% moisture, ranks are in parentheses. Because of a heavy Egyptian alfalfa weevil infestation, the first cutting was sacrificed.

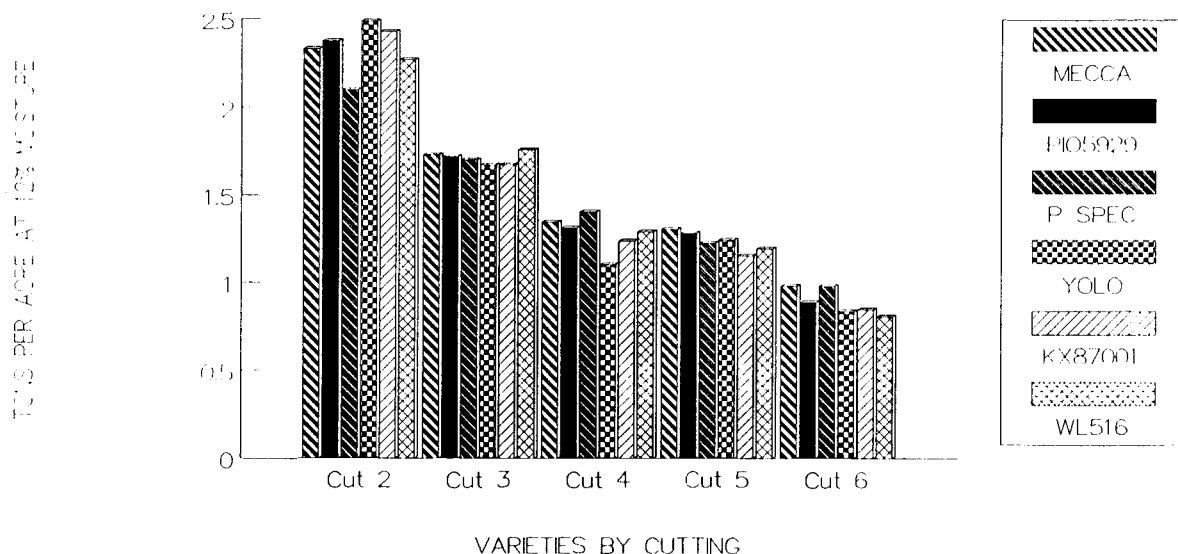


Figure 1. Yields of the top six alfalfa varieties by cutting grown at the Safford Agricultural Center, 1988.

### DISCUSSION

Two new varieties from Plant Genetics, Inc. performed well in the first year of this test: Mecca, a very nondormant variety and Yolo, a nondormant variety. Mecca excelled in the latter part of the season; it was the top-yielder in the last two cuttings and third in the fourth cutting. Pioneer 5929 was a close second, with consistently good cuttings throughout the year. Palmer Special had a comparatively small early cutting, but the yield was still more than 2 tons per acre in that second cutting and strong later cuttings except for October. Overall, several good varieties are available to choose from, many of them new to this area. Subsequent data from this study will reveal the more consistent and long producing varieties.

### REFERENCES

1. Clark, L.J. and R.E. Cluff. 1988. Alfalfa variety demonstration at the Safford Agricultural Center, 1984-1987. Forage and Grain, A College of Agriculture Report, University of Arizona, Tucson, AZ. Series P-74, pp.35-38.