

Alfalfa Variety Trial in Graham County Arizona, 2003

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Abstract

Thirteen alfalfa varieties with fall dormancy ratings of 7 - 9 were tested in a replicated small plot trial on a clay loam soil on the Safford Agricultural Center. This was the first year of the study. Beacon was the highest yielding variety in 2003 with ZX 9899B and AmeriStand 801S following closely behind. All three varieties produced a yield over 9 tons per acre.

Introduction

This is the first year of a study which includes a few varieties from the previous trial along with several new varieties that seem promising. This is the 28th year of continuous alfalfa variety testing in Graham County.

Materials and Methods

Thirteen alfalfa varieties with fall dormancy ratings ranging from 7 to 9 are included in this test. Plots were planted using a John Deere Van Brunt 6-foot grain drill with a small seed attachment. Eight lines were planted down two 36-inch beds, with 6-inch spacings between lines. A ring roller was run over the plots before planting to firm the beds and afterwards to help incorporate the seed.

Crop History:

Location: Safford Agricultural Center, Graham County

Elevation: 2950 feet above sea level

Soil type: Grabe clay loam

Planting date: 21 October 2002 Rate: 25 lbs/acre

Herbicide: None

Fertilizer: 300 lbs/ac 16-20-0 at planting

Insecticide: None

Irrigation: Border- 18 irrigations (ca. 80.0 acre inches)

Rainfall: 1.69 inches

Harvest strategy: Cut around 10% bloom to optimize quantity and stand longevity.

Plot size: 4 feet by 15 feet

Replicates: Four

Plots were cut and weighed immediately to prevent loss of moisture. Weights were converted to dry weight at 0% moisture for reporting purposes.

Table 1. First year yield summary for 13 alfalfa varieties grown at 2950 feet above sea level grown in a Grabe clay loam soil in southeastern Arizona. Yields are in tons per acre. (Graham County, Safford Agricultural Center. 32° 49' N, 109° 41' W)

Variety	Fall Dormancy Rating	Cut 1 4/29	Cut 2 6/9	Cut 3 7/9	Cut 4 8/8	Cut 5 9/16	Cut 6 10/22	Total 2003
Beacon	9	2.31 ab	1.96 a	1.52 a	1.07 a	1.37 a	1.09 ab	9.32 a
AmerStd 801S	8	2.40 ab	1.93 a	1.37 ab	0.88 a	1.45 a	1.09 ab	9.12 a
ZX 9899B	9	2.43 a	2.04 a	1.41 ab	0.82 a	1.20 a	1.20 ab	9.12 a
Mecca III	9	2.24 ab	1.85 a	1.48 ab	0.88 a	1.13 a	1.23 a	8.81 a
ZS 0090	9	2.20 ab	1.98 a	1.34 ab	0.77 a	1.21 a	1.10 ab	8.60 a
ZHB 0102	9	2.21 ab	1.75 a	1.40 ab	0.78 a	1.10 a	1.08 ab	8.32 a
AL 299	8	2.33 ab	1.74 a	1.34 ab	0.81 a	1.05 a	1.01 ab	8.28 a
ZS 0280	8	2.27 ab	1.84 a	1.38 ab	0.76 a	1.09 a	0.92 b	8.26 a
ZX 9894	9	2.06 ab	1.81 a	1.29 ab	0.73 a	1.09 a	1.14 ab	8.13 a
CW 907	9	2.00 ab	1.86 a	1.26 ab	0.72 a	1.24 a	1.04 ab	8.12 a
CW 704	7	2.03 ab	1.97 a	1.15 ab	0.81 a	1.19 a	0.93 b	8.08 a
Weston	8	2.12 ab	1.53 a	1.23 ab	0.90 a	1.29 a	0.96 ab	8.03 a
Mesa	8	1.85 b	1.59 a	1.08 b	0.74 a	1.24 a	0.98 ab	7.48 a
Average		2.19	1.84	1.33	0.82	1.20	1.06	8.44
LSD(05)		0.48	0.54	0.36	0.30	0.34	0.25	1.70
CV(%)		15.3	20.5	18.8	25.4	19.6	16.3	14.1
HU 77/41°F		1389	1141	963	1123	1178	1020	6814

1. Values followed by the same letter are not significantly different at the 5% level of probability using the Duncan Multiple Range test.