

Alfalfa Variety Performance at Maricopa, 1997-1999

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Introduction

Alfalfa varieties are being introduced into the marketplace at a record-setting pace. The number of varieties available for low-elevation desert areas in Arizona is about 44. New varieties are introduced each year and unbiased yield comparisons are helpful to the grower to base the decision of whether or not to sow a new variety. The study reported here is part of the on-going effort to evaluate alfalfa variety performance in Arizona.

Procedure

Alfalfa varieties and experimentals (potential varieties being evaluated for future release) were compared in a field study on a Casa Grande sandy loam soil on Field 106 at the Maricopa Agricultural Center near Maricopa, Arizona. The experimental design was a randomized complete block with four replications and 29 entries. Seed was sown on October 11, 1996 into five rows spaced 6 inches apart with a single row hand planter at a rate of 20 pounds of seed per acre. The plots were 3 ft. wide by 12 ft. long. Irrigation water was applied the same day as planting to germinate the seed. The plots were fertilized with 100 pounds of P_2O_5 per acre as 11-52-0 broadcast in December of 1996. Irrigations of about 4 to 6 inches each were applied using the border flood method at an interval of twice per cutting. The plots were cut with a sickle-bar mower, the forage was raked, placed on a tarp, and weighed. The cutting interval at the peak of the season was every 4 weeks. The plots were subjected to insect pressure from Egyptian alfalfa weevil, various aphids, alfalfa caterpillar, beet armyworm, and whitefly, but damage from these pests was not severe enough to warrant chemical control. No herbicides were applied.

Discussion

Hay yields for the varieties tested are presented in Table 1. No general conclusions are intended to be made from this study, which is part of an ongoing effort to evaluate alfalfa variety performance in Arizona. This information is intended to help growers decide whether or not to plant a new variety on a limited acreage on commercial farms. A new variety should be planted on a larger acreage only after the variety has been evaluated on a smaller acreage under farm-specific conditions.

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Table 1(cont'd). Forage yield for alfalfa varieties and experimentals at Maricopa, AZ from 1997 to 1999.

Source	Entry	Forage Yield									
		1998					1999			1997-99	
		18-Jun	16-Jul	20-Aug	1-Oct	3-Dec	4-Mar	15-Apr	20-May	Sum	Sum
----- lbs/plot -----										%CUF	
Univ. Arizona	94 AZ MELC	14.0	14.3	6.8	7.9	7.0	8.0	11.1	12.7	204	91
Novartis Seeds	Coronado	13.9	14.1	6.8	8.1	7.3	8.3	12.4	13.5	205	92
Univ. California	CUF 101	15.4	15.6	7.4	8.5	8.0	9.6	13.9	15.6	223	100
Cal/West Seeds	CW 49100	14.2	14.4	6.7	7.7	6.8	8.2	12.3	13.1	201	90
Cal/West Seeds	CW 49125	15.1	14.7	6.8	8.3	7.2	9.7	12.9	14.8	217	97
Cal/West Seeds	CW 4956	14.7	14.8	6.6	8.1	7.7	8.0	12.2	14.4	211	94
Cal/West Seeds	CW 4958	13.9	14.0	6.1	7.6	6.9	7.9	11.9	13.4	197	88
Cal/West Seeds	CW 4978	15.1	13.8	6.3	7.7	7.4	9.1	13.1	14.8	211	95
Dairyland Res.	DS 691	14.7	14.6	7.0	8.4	6.9	8.3	12.8	14.8	211	94
Univ. California	Highline	14.6	14.2	7.2	8.4	7.8	8.7	12.6	14.4	210	94
Univ. Arizona	Lew	14.3	13.8	6.6	8.7	7.9	9.3	13.1	14.0	213	95
Dairyland Res.	Magna 9	14.0	13.8	6.7	7.8	6.9	9.4	12.7	14.7	211	94
PGI/MBS	Mecca II	14.4	14.2	6.7	8.1	6.9	8.2	12.5	13.7	206	92
PGI/MBS	Mesa	13.1	13.1	6.2	7.4	6.9	8.3	11.7	13.2	197	88
S & W Seed	SW 14	13.5	13.1	6.4	7.7	6.6	7.5	10.5	12.3	189	85
S & W Seed	SW 7408	12.6	12.9	5.8	7.1	6.4	6.9	11.0	13.2	187	84
S & W Seed	SW 8210	14.0	13.6	6.3	7.6	6.5	7.7	11.5	13.8	204	91
S & W Seed	SW 9301	14.1	13.7	6.6	8.0	6.6	8.0	12.2	13.6	205	92
S & W Seed	SW 9409	13.9	13.5	6.6	7.7	7.0	8.0	11.7	13.3	187	84
S & W Seed	SW 9523	11.7	11.8	5.9	6.7	5.6	6.3	9.7	11.7	166	74
S & W Seed	SW 9628	15.2	15.7	7.7	8.7	8.1	9.3	13.1	15.0	221	99
WL Research	WL 525HQ	13.6	13.8	6.3	7.8	6.7	7.3	11.6	13.5	201	90
WL Research	WL 612	14.2	14.0	6.9	8.2	7.8	10.0	13.0	15.1	213	95
Jim Roth Seed	XA 524	12.8	12.4	6.0	7.4	6.4	7.0	10.9	12.7	191	85
ABI Alfalfa	ZS 9491	15.2	15.7	7.0	8.3	7.5	8.9	13.4	13.7	223	100
ABI Alfalfa	ZX 9392	14.1	14.4	6.8	8.2	7.1	8.1	12.1	13.8	206	92
ABI Alfalfa	ZX 9497	13.8	13.9	6.6	7.9	6.7	7.6	11.8	13.5	204	91
ABI Alfalfa	ZX 9499A	12.8	12.9	5.8	7.2	6.2	6.9	11.2	12.9	189	85
ABI Alfalfa	ZX 9590C	12.5	13.0	5.9	7.6	6.5	7.0	11.1	12.9	188	84
	AVERAGE	14.0	13.9	6.6	7.9	7.0	8.2	12.1	13.7	203	91
LSD (5%)		1.3	0.9	0.7	0.7	0.8	1.1	1.0	1.3	11	5
CV (%)		6.5	4.8	7.1	5.9	8.2	9.7	6.1	6.9	4.0	4.0