

Wheat and Durum Variety Trial at the Bruce Church Ranch, Poston, 1988

S. Winans and M. J. Ottman

INTRODUCTION

Small grain variety trials have been conducted at the Bruce Church Ranch in Poston every year for approximately the past 15 years. On-farm variety testing assists growers in evaluating the performance of new varieties. Variety performance varies from year to year; therefore trials conducted over several years at a specific location are particularly valuable. The trial this year contains a new durum (NK Nudura), a white wheat untested in the lower Colorado River area and of current interest for export to the Orient (Klasic), plus two relatively new varieties that don't have long-term yield data available (WestBred Turbo and WestBred Baker).

MATERIALS AND METHODS

Six durum and six wheat cultivars were planted at 120 lbs seed/A in 20 ft x 600 ft strips on January 4, 1988 at the Bruce Church Ranch in Poston at 680 ft elevation. The previous crop was cotton, and the soil type varied from a sandy loam to a silty loam. A total of 214 lbs N/A were applied as UN32: 60 lbs N/A on Dec. 24 preplant, 55 lbs N/A on Feb. 21 at jointing, 49 lbs N/A on March 15 at boot, and 50 lbs N/A on March 31 at heading. Approximately 32 inches of water were applied in eight flood irrigations on the following dates: Dec. 24 preplant, Feb. 21 at jointing, March 15 at boot, March 31 at heading, April 12, April 22, May 2, and May 13. No pesticides were applied. The growing season was cooler than normal especially early in the year and heat unit accumulation was 10 to 12 days behind normal. Grain yields were harvested from 0.25/acre plots.

RESULTS AND DISCUSSION

The yield results are presented in Table 1. WestBred Turbo was the highest-yielding durum variety and WestBred 881 was the lowest-yielding. Nudura yielded 96% of Aldura. WestBred 911 produced the highest wheat yield. Klasic yielded 101% of Yecora Rojo. The yield results obtained this year are fairly typical for the varieties tested. Absolute yields were lower than normal this year, perhaps due to a combination of late planting and adverse weather.

Variety evaluation involves not only yield, but also quality. Quality analyses are not complete at this time and will be presented in a later report. Some of these varieties have unacceptable milling quality and may not have a market despite high yields. Varieties such as WestBred 881 and Yecora Rojo, however, have desirable quality characteristics, but they are not usually high-yielding.

Table 1. Grain yields for assorted varieties of durum and bread wheat.

Crop	Variety	Replication				Average	
		1	2	3	4	lb/A	% check
		lbs/plot					
Durum	WestBred Turbo	1080	1430	1380	1400	5290a*	117
	Yavaros	1060	1150	1350	1200	4760ab	106
	Aldura (check)	940	1040	1360	1160	4500 bc	100
	Gem	1060	1310	1310	730	4410 bc	98
	Nadura	1030	1030	1360	890	4310 bc	96
	WestBred 881	720	990	1160	1120	3390 c	75
Wheat	WestBred 911	950	940	940	990	3820a	107
	WestBred Baker	870	940	960	870	3640ab	102
	Klasic	820	850	1040	900	3610ab	101
	Yecora Rojo(check)	950	810	920	890	3570ab	100
	Topaz	890	780	860	840	3370 b	94
	Probred	900	810	820	840	3370 b	94

* Grain yields followed by the same letter are not significantly different at P = 0.10 according to Fisher's LSD.