

## Wheat and Barley Variety Demonstration Bruce Church Ranch, Poston, AZ - 1986

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### ABSTRACT

*A wheat and barley demonstration on the Bruce Church Farm, Poston, Arizona, harvested June 5, 1986, gave crop and variety performance differences under grower management conditions. The top yielding barley variety was Westbred Gustoe, 6190 lbs/acre. The leading durum varieties were Turbo and Yavaros, 7280 and 7220 lbs/acre, respectively. Durum Wheat Westbred 881 was highest in protein (15.6%) and lowest in percentage of yellowberry. In the bread wheat varieties, yields ranged from 6740 to 6570 lbs per acre. Varieties tested were Yecora Rojo, Probred, Probrand 775, and Westbred 911, with no significant differences in yield between varieties. Yecora Rojo was highest in protein (15.8%). While these are the results of one year, continued testing over several years is necessary to assess variety performance under grower management conditions.*

### INTRODUCTION

In 1985 wheat and barley was worth nearly \$4.5 million in La Paz County. It is estimated this will increase 25% in 1986. The performance of wheat and barley varieties, as tested in grower's fields, is increasingly important. For economic and marketing reasons, varieties producing high quality grain are even preferable to varieties with high yield performance.

To assist growers, four barley varieties, five durum wheat varieties, and four bread wheats were evaluated in a demonstration planted December 16, 1985 on the Bruce Church Farm, Poston, Arizona. Characteristics evaluated included yield, protein, yellowberry, bushel weight, lodging and height.

### CROP DATA

Elevation:	450 feet
Previous Crop:	Cotton
Plot Size:	0.19 acre - (20 feet X 416 feet)
Date Planted:	12/16/85
Date Harvested:	06/05/86
Seeding Rates:	Wheat 114 lbs per acre, barley 91 lbs per acre
Irrigation:	28 inches of Colorado River water applied in 7 irrigations
Fertilizer:	211 lbs total N, 119 lbs preplant NH <sub>3</sub>
Herbicide:	2 pints Buctril
Insecticide:	None
Soil Texture:	Silt loam

### RESULTS

#### Barley

The top-yielding varieties were Westbred Gustoe, (6190 lbs/acre) followed by Westbred Barcott (5610 lbs/acre); Westbred Gus (5290 lbs/acre); and Columbia (4980 lbs/acre). There were slight significant

differences in lodging percentages, but no significant height difference at time of harvest. Protein and yellowberry were not evaluated.

#### Durum Wheat

The top-yielding varieties of durum wheat were Westbred Turbo (7280 lbs/acre) and Yavaros (7220 lbs/acre); followed by Gem and Aldura (6790 lbs/acre); and Westbred 881 (5410 lbs/acre). Westbred 881 was the leading durum in protein (15.6%); second was Aldura (13.8%), with the other varieties showing no significant differences. Yellowberry affected Westbred 881 and Aldura the least.

Bushel weight was the highest with Gem. Similar bushel weights are indicated with Westbred Turbo, Yavaros, Aldura, and Westbred 881. Lodging percentage ranged from 13 to 32% with Westbred Turbo, Aldura, and Westbred 881 as compared to a range from 80% to 81% for Gem and Yavaros. Height of plant at time of harvest did not follow lodging pattern.

#### Bread Wheat

The yield of the four bread wheats showed no significant difference. Yields were Westbred 911, 6,690 lbs per acre; Probrand 775, 6570 lbs/acre; Probred, 6740 lbs/acre; Yecora Rojo, 6720 lbs/acre. In protein, Yecora Rojo (15.8%) was better compared to the other three varieties, which ranged from 14.5% to 14.7%. Yellowberry was found in variety Westbred 911 only.

Test weight or bushel weight was highest in Yecora Rojo (68 lbs), followed by Westbred 911 and Probred (66 lbs), and then Probrand 775 (65 lbs). Lodging percentage was lowest in Westbred 911 (8%) compared to 40% to 60% lodging of other varieties. Plant height at time of harvest was constant with all bread wheats in this demonstration.

# DEMONSTRATION DATA

Crop	Variety	Height (in)	Lodging (%)	Test Wt (lbs/bu)	Yellow Berry (%)	Protein* (%)	Yield* (lbs/A)
Barley	Westbred Barcott	28 a**	29 a	48 c	-	-	5610 b
	Columbia	31 a	72 bc	51 b	-	-	4980 d
	Westbred Gus	31 a	92 c	51 b	-	-	5290 c
	Westbred Gustoe	26 a	55 b	54 a	-	-	6190 a
Durum wheat	Aldura	32 a	26 a	68 b	5 ab	13.8 b	6790 b
	Westbred 881	38 b	32 a	66 c	3 a	15.6 a	5410 c
	Gem	34 a	80 b	70 a	15 c	13.2 c	6790 b
	Westbred Turbo	40 b	13 a	68 ab	10 bc	13.0 c	7280 a
	Yaveros	33 a	81 b	69 ab	10 bc	13.1 c	7220 a
Bread wheat	Westbred 911	28 a	8 a	66 b	7 b	14.5 b	6690 a
	Probrand 775	28 a	40 b	65 c	0 a	14.4 b	6570 a
	Probred	30 a	56 bc	66 cb	0 a	14.7 b	6740 a
	Yecora Rojo	28 a	60 c	68 a	0 a	15.8 a	6720 a

\* Adjusted to 10% moisture

\*\*Means within a column for a particular crop followed by the same letter are not significantly different at P=0.05 according to Fisher's LSD