

Durum Wheat Variety Trial, Cochise County - 1986

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INTRODUCTION

Durum wheat is grown in this area, but with the surplus in grain supplies and the unstable market, there is some pressure on the farmers to plant a high protein durum wheat, WestBred 881. It has a lower yield potential than the normally grown Aldura. The incentives for growing WestBred 881 are two: (1) a higher crop value per pound and (2) a contract which insures a buyer at harvest time. The question is whether the increased price per pound and the grower's peace of mind will compensate for the potential decrease in yield.

A new durum wheat variety was also evaluated.

MATERIALS AND METHODS

Cooperator: Noel Curry, Duncan, AZ
Elevation: 4000 feet
Crop History:
Previous Crop: Cotton
Planting date: 14 Feb 1986
Rate: 180 lbs/ac
Harvested: 25 June 1986
Herbicide and insecticide: None
Fertilizer:

| Source | Lbs/Ac | Lbs N/Ac | Lbs P ₂ O ₅ /Ac |
|--------|--------|----------|---------------------------------------|
| UN32 | 400 | 128 | |
| 11-53 | 200 | 22 | 104 |

Irrigation: Center pivot applied approximately 3 acre feet
Plot size: 4' by 15"

The plots were planted and harvested mechanically with small plot equipment with 4 replications. The plots were maintained and managed by the cooperator consistent with the needs of the rest of the circle which was planted to WestBred 881.

RESULTS

Table 1. Durum wheat moisture, bushel weight, yield, protein and sedimentation value

| Variety | %Moisture (lbs) | Bushel Wt | Yield* (lbs/ac) | %Protein | Sedimentation value |
|-------------------|--------------------|-----------|--------------------|----------|------------------------|
| Aldura | 12.2 | 54.5 | 3897a** | 16.4 | 28 |
| Westbred 881 | 12.3 | 56.6 | 4586ab | 17.0 | 47 |
| Westbred Turbo | 13.5 | 58.0 | 5467 b | 15.5 | 37 |

* Yields corrected to 10% moisture.

** Values followed by different letters indicate significant differences at the 5% level.

DISCUSSION

Differences of yields, percent protein and sedimentation values shown in Table 1, were relatively large between varieties. Sedimentation value is a measure of the gluten strength of the flour and a high number is desirable. WestBred 881, with high protein and high sedimentation value, is in high demand and sells for a premium price, compared with the other two varieties, which don't measure up to the standard in either category.

Table 2. Value of wheat per pound and per acre

| Variety | Value/pound c/lb | Value/acre \$/ac |
|----------------|---------------------|---------------------|
| Westbred 881 | 7.0 | 321 |
| Westbred Turbo | 5.6 | 306 |
| Aldura | 5.6 | 218 |

The bottom line on this study, from Table 2, is that WestBred 881 returned more money to the farmer per acre than Aldura; also, he had the peace of mind of the contract. Turbo was close on its heels, though, and should be evaluated further.

The question that yet remains is whether Aldura or Turbo would have yielded more had the field been managed to their needs. This will be explored in subsequent studies.