

# Corn Hybrid Evaluations in Cochise and Southern Graham Counties, 1990

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## ***Abstract***

*1990 was a good year for corn yields. Favorable weather and a new yellow corn hybrid have combined to produce over 13,000 pounds of corn per acre. Pioneer 3162 was the highest producer. Two other hybrids, a new entry from Northrup King (N8318) and a new entry from Germain's (GC 5247) produced yields greater than 12,000 pounds per acre and all of the entries yielded over 10,000 pounds per acre. The white corn trial in Elfrida also showed good production with three of the ten entries yielding over 9,000 pounds per acre. DeKalb 703W yielded highest with Conlee 113W and DeKalb 77W following closely.*

## **Introduction**

The yellow corn trial was shifted back to southern Graham county this year and eight of the twelve entries were entries not tested before in University tests. We continued our cooperation with the white corn "Fact" plot in Elfrida as we had done in 1989. Results from the previous year are printed in reference (1). The number of acres of corn grown in the area continues to dwindle as many corn farmers have opted for the '0-92' government program, but we continue our testing with the encouragement of the corn farmers and seed companies.

## **Materials and Methods**

Crop History - Ted Johnson Farm in Stewart district

Elevation: 4200 feet above sea level  
Soil: Cowan sandy loam  
Planting date: 16 April, 1990    Rate: 31,000 seeds/acre  
Irrigation: Center pivot, ca, 36 acre inches  
Herbicide: Atrazine  
Fertilizer: 90 units P<sub>2</sub>O<sub>5</sub>, 240 units of N (all in the water)  
Insecticide: Lorsban  
Field variety: Pioneer 3162  
Plot size: 6-36 inch rows approximately 1,200 feet in length  
Harvest date: 4 September

This was a strip trial with check plots every two planter passes. Plots were harvested with a John Deere 7720 combine, dumped in separate trucks and sent to a warehouse for weighing and bushel weight and moisture determination. Stalk, ear and lodging counts were taken immediately prior to harvest.

Data from this trial are found in Table 1.

## Crop History - Rainbow's End Ranch, Elfrida

Elevation: 4200 feet above sea level  
Soil type: Sandy clay loam  
Planting date: 6 April, 1990 Rate: 27,700 seeds/ac  
Irrigation: Center pivot, ca. 41 acre inches  
Herbicide: Sutan and atrazine  
Fertilizer: 227 lbs of N, 69 lbs of P<sub>2</sub>O<sub>5</sub>, 4 lbs of Zinc, 1 lb of Boron per acre  
Insecticide: Lannate and PennCap-M  
Plot size: 6-30 inch rows by approximately 2200 feet long  
Field variety: DK 703W  
Harvest date: 12 November

This was a "Fact plot" design with a check plot every other plot. Plots were harvested with a John Deere 7720 combine, weighed in a weigh wagon and sampled for bushel weight and moisture. Stalk, ear and lodging counts were taken prior to harvest. This trial was conducted in cooperation with Mark Brooks of Kamprath Seed Co. Data from this trial are found in Table 2.

## Discussion

Average yields of yellow corn in 1990 were nearly 3000 pounds per acre higher than in 1989. The weather played a large part in this difference, the location being the remaining factor. Corn yields in the Bonita-Stewart District are nearly always superior to yields in the Sunsites-Elfrida area. A relatively new hybrid, Pioneer 3162, produced the top yield exceeding the second place entry by more than 800 pounds per acre. Percent moisture and related drying costs varied greatly in the yellow hybrids and in several cases increased yields were eaten by the drying costs. For example, see Yields and Net Values for DK 743 and GC 2990. Five dollars per hundred weight was used as the value of yellow corn. Ear heights varies also, but there wasn't a strong correlation between ear height and lodging, so the differences were considered non-consequential.

DeKalb 703W the replacement for DK 77W was the highest yielding white hybrid with Conlee 113W and DK 77W trailing closely. Yield of the white corn hybrids was almost 2000 pounds greater than in 1989, with the weather being considered the major factor. A value of \$5.85 per hundredweight was used to calculate crop production values.

## References

1. Clark, L.J. and E. Schwennesen. 1990. Corn Hybrid Evaluation in Cochise County, 1989. Forage and Grain, A College of Agriculture Report, The University of Arizona, Tucson, AZ. Series P-84, pp. 94-8.

**Table 1. Yields and other agronomic data for yellow corn hybrids grown on the Ted Johnson farm in Southern Graham county, 1990.**

VARIETY	%M	BU WT lbs	CYLD <sup>1</sup> lbs/ac	EAR HT in	PL/AC	% BARE	% SMUT	% LODG	GROSS VALUE	DRYING COST	NET VALUE
PIO 3162	21.2	57	13192	50.5	29948	0.0	3.0	6.1	\$660	\$22.43	\$637.17
NK N8318	19.7	52	12369	57.5	34485	2.6	0.0	2.6	618	17.32	601.12
GER GC 5247	18.8	54	12008	61.5	25410	0.0	0.0	0.0	600	14.41	585.99
NK S7759	17.0	57	11823	60.5	31763	0.0	2.9	2.9	591	9.46	581.72
DK 671	21.7	52	11859	58.5	31763	0.0	0.0	2.9	593	21.35	571.60
GER GC 2990	17.5	57	11485	65.0	29040	0.0	3.1	6.3	574	10.34	563.92
GARST 8345	17.3	56	11440	65.0	29040	0.0	0.0	3.1	572	10.30	561.71
DK 743	24.9	53	11810	56.5	29040	0.0	0.0	3.1	591	35.43	555.07
PIO 3343	15.5	56	11031	56.0	30855	0.0	0.0	14.7	552	8.82	542.72
GARST 4445	17.3	57	10970	61.5	33578	2.7	5.4	2.7	549	9.87	538.64
ASG RX 911	21.8	56	10813	61.5	29948	0.0	0.0	0.0	541	19.46	521.18
ASG RX 947	21.4	56	10236	70.0	28133	3.2	0.0	12.9	512	17.40	494.38
AVERAGE	20.0	55.7	11586	60.3	30149	0.3	1.1	3.7	579	16.22	563.10

1. Yields were normalized using check plots and adjusted to 15.5% moisture.

**Table 2. Yields and other agronomic data for white corn hybrids grown on the Rainbow's End Ranch in Elfrida, 1990.**

VARIETY	%M	BU WT lbs	CYLD <sup>1</sup> lbs/ac	EAR HT in	PL/AC	% BARE	% SMUT	% LODG	GROSS VALUE	DRYING COST	NET VALUE
DK 703W	17.4	55.7	9173	57.4	29258	6.1	2.0	2.5	\$537	\$8.26	\$528.33
CONLEE 113W	17.6	59.0	9143	64.3	27588	2.6	0.0	2.6	535	8.23	526.62
DK 77W	18.6	57.0	9122	69.3	31218	9.3	0.0	16.3	534	10.03	523.59
ASG X9699W	18.8	28.0	8831	58.7	29766	9.8	4.9	7.3	517	10.60	506.03
ASG 9559W	19.4	58.0	8672	58.3	25410	17.1	0.0	14.3	507	11.27	496.07
ASG RX956W	18.4	60.0	8369	56.0	25047	-4.3 <sup>2</sup>	0.0	17.4	490	9.21	480.35
ASG 405W	18.2	58.0	8196	65.3	31944	18.2	2.3	20.5	479	9.02	470.43
ASG RX959W	20.0	59.0	8166	54.7	29766	17.1	0.0	9.8	478	11.43	466.28
PIO 3463W	15.4	57.5	8084	53.0	31944	0.0	2.3	2.3	473	6.47	466.43
PIO 3372W	14.8	61.0	7372	54.3	34122	14.9	0.0	8.5	431	0.00	431.29
AVERAGE	17.9	58.3	8513	59.1	29606	9.1	1.2	10.2	498	8.45	489.54

1. Yields were normalized using check plots and adjusted to 15.5% moisture.

2. A negative percent barren means that percent of the plants had an extra ear.