

Corn Variety Trial in Bonita, Cochise County, 1987

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ABSTRACT

The 1987 trials included 14 commercial corn hybrids, which were tested on a heavy-textured soil in northern Cochise county; they were the better yielding hybrids from the previous trial. Five new entries, not previously tested in Cochise county, were included. Garst 8345, one of the new entries, was both the top-yielder, at 12,499 pounds per acre, and the hybrid producing the highest adjusted gross income per acre. Hybrids produced by Pioneer, Cargill, DeKalb and NC+ seed companies all yielded more than 12,000 pounds per acre.

INTRODUCTION

The search for a corn hybrid that will yield more than the established hybrids is a never-ending process. This year, five new hybrids were imported from the Midwest, three with notable yields in the National Corn Growers Association Yield Contest (1). As in the previous year's trial (2), the hybrids were compared in a non-replicated strip trial with check strips, to reduce the number of acres required to make the evaluations. Even so, the experiment took almost 30 acres. Emphasis was again placed on income produced per acre, not just on total quantity of grain produced.

MATERIALS AND METHODS

The experiment was placed on a dark, heavy soil in Coon Hollow on the Haas farm. The field, irrigated with a center pivot, was one quarter of a mile west and one quarter of a mile north of Jerome Thompson's home. The seed was planted using a John Deere 8 row plateless planter, in a randomized strip plot design with a check strip of Pioneer 3183 every third pass.

Crop History

Elevation: 4200 feet above sea level

Previous crop: Wheat

Planting date: 3 April 1987

Planting rate: 34,000 seeds per acre

Herbicide: Atrazine

Fertilizer: 165 lbs/ac 16-48-0 at planting and 250 units of nitrogen applied during the growing season in the irrigation water

Plot size: 8-36 inch rows approximately 2400 feet in length

Harvest date: 28 September

Strips were harvested with an International 1480 combine with an 8-row corn header and dumped into individual trucks. At the elevator, weights and moistures were determined. Plot yields were corrected for field variation by multiplying by the ratio of the nearest check strip to the average of all the check strips.

RESULTS AND DISCUSSION

Table 1. Yields, Agronomic Variables and Adjusted Gross Income per acre for Corn Hybrids Grown in Bonita, 1987.

CULTIVAR	%M	BU WT	PL/AC	%BARE*	%LDG#	LBS/AC	YIELD** BU/AC	ADJ GROSS INCOME/AC(\$)
Garst 8345	22.0	57	30855	0.0	0.0	12499.1	223	515.40
PAG SX352	20.9	58	34485	5.3	0.0	12334.4	220	512.00
PIO 3181	23.3	57	33578	5.4	2.7	12434.6	222	508.70
DK 656	21.3	59	34485	10.5	0.0	12236.9	219	506.70
PMSTR 7990	23.9	55	32670	8.3	0.0	12333.4	220	502.70
NC+ 5990	22.1	60	32670	8.3	0.0	12028.9	215	495.70
PIO 3377	21.3	57	31763	5.7	0.0	11859.2	212	491.10
NK 9540	21.9	58	36300	7.5	0.0	11744.1	210	484.50
PIO 3183	26.6	56	38115	9.5	0.0	11965.9	214	479.60
PIO 3186	25.7	59	30855	11.8	0.0	11884.3	212	479.00
NC+ 6881	24.3	55	34485	5.3	0.0	10795.2	193	438.90
DK 711	25.8	56	31763	8.6	2.9	10724.7	192	432.00
DP 5750	24.3	55	3357	13.5	5.4	10060.4	180	409.00
NK 9584	23.7	55	31763	17.1	8.6	10006.7	179	408.30

* Percent of stalks that were barren.

Percent of plants that were lodged.

** Yields were adjusted to 15.5% moisture.

Adjusted gross incomes were calculated using a value of \$2.40/bushel and deducting \$0.02 per point of moisture from harvest moisture to 15.5% moisture.

Yields were generally better this year than the year before (2), which may be attributed to the weather, better soil or higher plant populations. Pioneer 3183 yielded about the same as last year, but was lower in the ratings because other hybrids yielded higher. Both Pioneer 3183 and Northrup King 9540 had plant populations which were excessively high; in both cases, this may have reduced potential yields. Garst 8345 produced the highest yield per acre and, because of its relatively low harvest moisture, also produced the largest adjusted gross income per acre.

REFERENCES

1. Contestants in the 1986 National Corn Growers Contest. 1987. National Corn Growers Association, Bloomington, IL.
2. Clark, Lee and Ronald Cluff. 1987. Forage and Grain, A College of Agriculture Report, Series P-71, University of Arizona, Tucson, AZ.