Corn Hybrid Evaluations in Northern Cochise Counties, 1991

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Abstract

1990 was a good year for corn yields, and 1991 was even better. The two new hybrids by Pioneer and Northrup King (Pioneer 3162 and NK N8318) were at the top of the list again, but yielding around 1000 pounds per acre more than last year. The Pioneer hybrid yielded over 14,000 pounds per acre and eight of the fourteen hybrids yielded over 13,000 pounds per acre.

Introduction

The corn trial was conducted in the Stewart district of Cochise county in 1991 since little corn was being produced in the southern part of the county this year. Our tests continue to be a source of information to the farmers who continue to grow corn in the high deserts in the state. The information is also used by exporters who sell seed in Mexico.

Materials and Methods

Crop History - Dunlap Farm, Stewart district

Elevation: 4200 feet above sea level
Soil: Pima loam/Frye sandy loam complex
Planting date: 16 April, 1991 Rate: 32,500 seeds/acre
Irrigation: Center pivot
Herbicide: Dual and Bladex
Fertilizer: 20 gal/ac 10-34-0 preplant, 260 units of N (all in the water)
Insecticide: Asana
Field variety: Pioneer 3162
Plot size: 8-36 inch rows approximately 2,500 feet in length
Harvest date: 10 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. Yields are corrected to 15.5% moisture. Gross values are calculated using a value of $5/cwt. Drying charges were calculated at 8 cents/cwt for moistures between 15.1 and 17.1 and a 1 cent step per cwt per 0.5% moisture from 17.2 to 22.1. Above 22.2% moisture the steps were 2 cents per 0.5% moisture.

Data from this trial are found in Table 1.

Results and Discussion

If 1990 was considered a good year, 1991 would have to be classified an exceptional year since the average yield in the test was more than 1000 pounds per acre higher than in 1990. As in the 1990 test (1), Pioneer 3162 was the highest yielding hybrid, with a yield of 14,203 pounds (253.6 bushels) per acre. It was just a couple

couple of years ago that the magical 250 bushels per acre was reached for the first time in Arizona in the NCGA trials (2) and now that mark has been surpassed in the University trials. The number two hybrid in 1990 held its place in 1991. Northrup King's N8318 trailed the leader by just over 300 pounds per acre and because of the difference in drying costs only lagged behind by about $10 per acre. Two new Pioneer hybrids and a new hybrid by Garst were less than $20 behind the leader. The two DeKalb hybrids, first seen in our trials in 1990, have good yield potentials but don't dry down quickly enough and the drying costs drop them behind some of the competitors.

References

1. Clark, L.J. and E. Schwennesen. 1991. Corn Hybrid Evaluations in Cochise and Southern Graham Counties, 1990. Forage and Grain, A College of Agriculture Report, The University of Arizona, Tucson, AZ. Series P-90, pp.91-3.

2. Christopherson, Hiram. 1989. 1988 Final NCGA Yield Contest Results. National Corn Growers Association, St. Louis, MO.

Table 1. **Yields and other agronomic data for yellow corn hybrids grown on the Dunlap farm in Northern Cochise county, 1991.**

VARIETY	%M	BU WT lbs	CYLD[1] lbs/ac	EAR HT in	PL/AC	% BARE[2]	% SMUT	% LODG	GROSS VALUE	DRYING COST	NET VALUE
PIO 3162	20.9	60	14203	48.5	31581	0.0	0.0	0.0	710	2.72	687.40
NK N8318	19.0	56	13876	53.0	32670	3.3	0.0	0.0	694	16.65	677.14
PIO 3245	18.4	58	13777	50.0	27225	-8.0	0.0	8.0	689	15.15	673.69
GARST 3245	18.4	--	13669	58.0	29403	-7.4	0.0	3.7	683	15.04	6.68.42
PIO 3317	15.0	61	13376	46.5	30492	-3.6	0.0	0.0	669	0.00	668.79
DK 743	21.0	59	13276	56.5	27225	4.0	0.0	0.0	664	21.24	642.56
DK 671	19.6	58	13261	52.0	30492	0.0	0.0	0.0	663	17.24	645.82
GARST 8345	17.7	--	13149	65.0	28314	3.5	0.0	0.0	657	13.15	644.31
CONLEE 8850	20.2	60	12337	44.0	28314	-3.8	0.0	0.0	617	18.51	598.33
ASG RX 947	20.1	59	12320	63.0	26136	0.0	0.0	0.0	616	17.25	598.74
ASG XP8519	20.1	58	12258	57.0	27225	0.0	0.0	0.0	613	17.16	595.75
CRGL 8127	17.7	61	11397	55.0	26136	0.0	0.0	0.0	570	11.40	558.43
NK X800	22.3	58	11389	52.0	26136	0.0	4.2	0.0	569	22.78	546.65
CRGL 8527	20.1	58	10891	55.5	29403	0.0	0.0	0.0	545	15.25	529.28
AVERAGE	19.3	58.8	12798	54.0	28625	0.85	0.83	0.3	640	15.97	623.95

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.