

Double Crop Corn Variety Trial, Graham County 1990

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Abstract

Eight corn hybrids, including one white hybrid, were grown in the lower end of the Safford valley as a double crop following wheat. A tornado came through the valley flattening the field where the test was located. The crop recovered and was harvestable, but, the resulting yields were undoubtedly lower than they would have been. Nevertheless, the top hybrid yielded nearly three tons and the production and crop value were about the same as a nearby field of double crop milo. It is felt that lack of corn harvesting and drying equipment in the area will likely slow the development of this crop in the area.

Introduction

There continues to be curiosity about growing corn as a double crop in Graham county as an alternative to milo. The 1989 test was planted on the 20th of June and it was decided to try to get this one in the ground about a week earlier and plant slightly longer maturing corn hybrids with their greater yield potential. To be successful, corn has to produce an income higher than milo, which is being grown in the area.

Materials and Methods

This experiment was designed as a "Fact Plot" design with a check plot planted on each side of each variety being tested. Test variety yields are then normalized to remove any field variation. A crop of wheat was swathed and harvested prior to the preparation and planting of this experiment. The following crop history lists the important cultural practices.

Crop History - Colvin Farms in Eden

Elevation: 2800 feet above sea level
Soil: Anthony-Gila-Comoro loam
Planting date: 15 June 1990 Rate: 30,000 seeds/acre
Irrigation: Furrow irrigated
Herbicide: 2,4-D
Fertilizer: 200 units of N (shanked in cold flow)
Insecticide: sprayed once for corn ear worm
Plot size: 6-38 inch rows approximately 1,200 feet in length
Harvest date: 20 November

This was a strip trial with check plots every two planter passes. Plots were harvested with a John Deere 4420 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.

Results and Discussion

The yields and other agronomic data are found in Table 1. Even though the planting date was nearly a week earlier than the 1989 test, the yields were not higher, and this deserves some explanation. During the middle of the growing season, a tornado passed through the area, destroying barns and trailers and laying this corn field flat! The crop was able to recover but the lodging that was created by the storm made harvesting very difficult and a loss of 10 to 20% of the ears occurred. In the Gross Value calculation, \$5 per hundredweight was used for yellow corn and \$5.85 was used for the white hybrid. Both of these values may have been lower than what the crop was actually sold for, but it is felt that the differential between yellow and white is fairly accurate. The white corn hybrid didn't yield as much as the yellow hybrids but the price differential helped it considerably.

The question remains whether double crop corn can replace double crop milo. The pros and cons of the issue are detailed below. Corn has the advantages of not being attacked by birds, higher yield potential, and it can be sold locally. Its disadvantages are that it must be sprayed for corn ear worm, it requires more careful management and it requires a special harvester header not useable for other crops. Comparing this corn field with a milo field grown less than a mile away, the costs of inputs were close to the same, the yields were about the same and both sold for the same value per pound. The lack of corn harvesting equipment and drying facilities in the area will likely sway the balance toward milo for the time being.

Acknowledgements

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References

1. Clark, Lee J. and Ronald E. Cluff. 1990. Double crop corn hybrid evaluations, Graham County 1989. Forage and Grain, A College of Agriculture Report, The University of Arizona, Tucson, AZ. Series P-84, pp. 99-101.

Table 1. Yields and other agronomic data for corn hybrids grown on the Colvin farm in Eden, 1990.

VARIETY	Pct M	Bu Wt lbs	CYld ¹ lbs/ac	PI/Ac	Pct Barren	Pct Smut	Pct Ldg	Gross Value
DK 656	12.8	55.0	5590	30095	0.0	0.0	54.3	\$279.52
NK S7759	13.1	56.5	5428	25795	10.0	0.0	53.3	271.38
ASG RX911	14.0	58.0	5197	26655	0.0	0.0	29.0	259.83
PIO 3343	12.7	53.0	5153	31814	2.7	0.0	73.0	257.63
NK N7816	11.8	55.0	4727	25795	3.3	0.0	99.9	236.33
GARST 8345	11.7	56.0	4698	34394	5.0	0.0	37.5	234.91
NK N8565W	14.6	57.5	4212	21496	0.0	0.0	16.0	246.38
ASG RX908	12.3	56.5	4107	31814	5.4	0.0	59.5	205.36
AVERAGE	12.9	55.9	4889	28482	3.3	0.0	52.8	248.92

1. CYlds are normalized using the check plots to remove field variability and then corrected to 15.5% M.