

Late Corn Variety trial in Greenlee County, 1986

Lee Clark and Edith DeRosa

ABSTRACT

Five corn varieties with maturities varying from 95 to 108 days were grown in a double crop situation following barley. The variety that produced the highest net value (after deducting drying costs) yielded only \$194.39 per acre, slightly less than the marginal cost of production.

INTRODUCTION

Occasionally growers need to plant a crop in mid-June to early July. They must select a crop that will mature in 95 to 108 days and still produce a profit. This is particularly difficult to do in Greenlee county because fewer heat units accumulate per day than in the lower valleys in Arizona. Corn was late-planted in this experiment because the cooperater had a pig operation and would feed the crop to his animals.

MATERIALS AND METHODS

Five varieties of field corn were acquired with maturity dates from 95 to 108 days, one from each of the major seed companies working in the area. They were planted in 36-inch beds with a John Deere plateless planter. Henley Peltó was the cooperater.

Previous crop: Barley

Fertilizer: 200 lbs per acre of anhydrous ammonia applied preplant

Herbicide: Banvel, 0.5 pints per acre, for broadleafed weeds

Insecticide: 10 lbs per acre of furadan applied in-furrow at planting

Planting date: 3 July 1986

Planting rate: 30,000 seeds per acre

Irrigation: Four times

Harvested: 3 December 1986

Replications: 4

The test strips were harvested with a John Deere 6620 harvester with a four row corn header and each test strip was weighed in a weigh wagon provided by the Pioneer or Northrup King Seed companies.

RESULTS AND DISCUSSION

Table 1. Short Season Corn Varieties and their Characteristics.

Variety	%M	Bu Wt lbs	Yield* lbs/ac	Pl/ac	%Bare	%Lodg	Wt/ear lbs
PAG SX269	25.4	43.5	4627a**	29497	13.7	5.9	0.183
Pioneer 3737	17.9	46.6	4521a	29951	5.9	9.1	0.162
Paymaster 4790	24.3	46.4	4334ab	25867	5.2	7.2	0.183
NK PX9242	19.3	47.2	3765 bc	26321	6.8	3.6	0.156
DeKalb XL-25A	23.5	47.5	3496 c	34035	12.1	7.9	0.119

* Yields are corrected to 15.5% moisture.

** Yields with the same letter are not significantly different at the 5% level using the Student-Newman-Keuls test.

According to seed company literature, the days to maturity were 108, 100, 95, 95 and 100 from PAG to DeKalb, respectively. PAG SX269 was the longest maturing variety. As expected, it produced the largest yield and had the highest moisture content. For other varieties, no good correlation between maturity and yield and % moisture existed.

No correlations were observed between bushel weights and yields nor between plants per acre and yield; however negative correlations were observed between % moisture and bushel weights and between plant population and ear weight. The bushel weights were too low, partly because of their high moisture, but also because the corn just was not as high in quality as the full season corn.

The economic analysis (Table 2) is perhaps more important than the corn characteristics (Table 1).

Table 2. Economic Production and Drying Costs on a per Acre Basis of Short Season Corn Varieties Grown in Greenlee County 1986.

Variety	% M	Yield*	Value**	DryCost***	NetValue
Pioneer 3737	17.9	4520.6	\$198.91	\$ 4.52	\$194.39
PAG SX269	25.4	4626.8	203.58	14.81	188.77
Paymaster 4790	24.3	4333.7	190.68	12.13	178.55
NK PX9242	19.3	3764.6	165.64	4.89	160.75
DeKalb XL-25A	23.5	3495.5	153.80	8.39	145.41

* Yields are corrected to 15.5% moisture.

** Values are calculated assuming \$4.40 per cwt of corn.

*** Drying costs are figured using the drying schedule at Bonita Grain.

The most significant factor is that the cost of corn production at this site is about \$200 per acre, excluding the value of the land or management. The only justification for growing the crop is to improve the soil by turning under the corn stubble. Otherwise, note that the order of the varieties is changed from Table 1. The variety that produced the highest yield did not produce the highest net value. With costs of fuel on the rise again, drying costs should be considered before choosing a corn variety.