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CORN PRODUCTION IN EASTERN OKLAHOMA

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Corn was produced on nearly 6 million acres in Oklahoma shortly after the turn of the century. Much of this acreage was in eastern Oklahoma. By 1957 corn was produced on only 234,000 acres; and in 1975 corn acreage was down to a low 120,000 acres with the bulk of the remaining production in the three Oklahoma panhandle counties. Low yields, dry weather and the profitability of converting cropland to bermudagrass for livestock production were mainly responsible for moving all corn production out of eastern Oklahoma.

Depressed cattle prices and profitable crop prices the past several years has stimulated interest in returning some bermudagrass pastures to cultivation. One possible crop being considered is corn. Research work in 1957 demonstrated that corn growing with bermudagrass was possible in the sandy Costal Plains soil in Coal County. Yields were respectable and some use of the bermuda for grazing was also shown.

Initial studies in 1975 on corn growth with bermudagrass were encouraging but were inconclusive. Only one variety was considered in a variable fertility study which produced up to 80 bushel/acre. This further substantiated the fact that corn could be grown successfully. However, little or no current information was available on the production potential of improved varieties and/or hybrids nor their ability to compete with bermudagrass under eastern Oklahoma conditions.

In 1976, two field size non-replicated studies were used to observe the growth and production of commercially available corn varieties.

Study 1, conducted at the Eastern Oklahoma Pasture Research Station, involved growing corn in tilled bermudagrass. The field was on Taloka silt loam 1-3% slope and was fertilized with 80# P and 60# K/acre and plowed down on February 18. The field was tandem disced and planted to 13 corn varieties using 30 inch row spacing. Twenty lbs. of N was applied at planting. Atrazine was applied as a broadcast preemergence for weed control. The corn was top-dressed with 130# N on May 17. Silage was harvested from part of the plot on July 28, and grain was harvested from the remainder on September 30. Rainfall totaled 22.96 inches from January to August with monthly distribution of 0, 0.6, 3.47, 7.40, 5.28, 3.35, 1.35, 1.33. The results of this test are shown in Tables 1 and 2.

Study 2, involved growing no-till corn on a cooperators farm near Checotah. The field had been in soybeans the previous year. The soil was a Taloka silt loam 0-1% slope. Seventeen commercially available corn varieties were planted on April 6 with a no-till planter in 36 inch rows. No soil tillage was performed. The field was fertilized immediately after planting with 150# 10-34-0 liquid with 1 qt. Lasso and 1 qt. Atrazine per acre added for weed control. The corn was top-dressed with 300# of liquid 18-6-12 + 5 sulfur on June 21. (Soil tests were not taken for fertilizer needs but corn yields would suggest that some residual fertility was present.) Silage was harvested on July 29 and grain was harvested August 27. The results of this test are shown in Tables 3 and 4.

TABLE 1. Yield of corn silage from 13 varieties grown at Eastern Oklahoma Pasture Research Station in 1976.

Variety	Tons/Acre Oven Dry	Tons/Acre 68% Moisture	Plants/Acre
Pioneer Brand 3147	5.1	16.0	9,600
Weathermaster EPX 888	4.6	14.5	13,950
Coker 16	4.3	13.5	12,200
Northrup King PX 95	4.2	13.0	14,800
Weathermaster EP 97	3.8	11.8	11,750
Pioneer Brand 3932A	3.7	11.4	15,250
Texas 34	3.6	11.2	8,700
Northrup King PX 79	3.6	11.2	14,375
Funk G-4808	3.5	10.8	13,500
Mexican June OP (B & W)	3.4	10.5	9,600
Funk G-4628	3.3	10.3	13,500
Funk G-4761	2.9	9.1	9,150
Pioneer 3780	2.4	7.5	13,500

TABLE 2. Yield of corn grain from 13 varieties grown at Eastern Oklahoma Pasture Research Station in 1976.

Variety	Bushels/Acre 14% Moisture	Plants/Acre
Pioneer Brand 3147	110	7,750
Weathermaster EPX 888	95	13,700
Funk G-4808	91	10,050
Pioneer Brand 3780	87	13,700
Pioneer Brand 3932A	87	12,775
Funk G-4628	84	12,325
Weathermaster EP 97	76	13,700
Coker 16	72	12,325
Northrup King PX 79	69	16,425
Mexican June OP (B & W)	69	8,200
Texas 34	69	4,560
Funk G-4761	60	5,930
Northrup King PX 95	53	11,400

TABLE 3. Yield of corn silage from 17 varieties grown near Checotah in 1976.

Variety	Tons/Acre Oven Dry	Tons/Acre 68% Moisture	Plants/Acre
Weathermaster 97A	5.3	18.1	23,950
Acco UC 8801	5.1	15.8	17,420
Mexican June OP (B & W)	4.9	15.4	17,420
Pioneer Brand 3306	4.6	14.5	22,500
Weathermaster EPX 888	4.6	14.5	18,150
Pioneer Brand 3149	4.6	14.5	18,880
Pioneer Brand 3195	4.4	13.9	23,960
Pioneer Brand 3780	4.4	13.9	20,330
Ring Around SP 2825	4.3	13.3	17,420
Northrup King PX 95	4.2	13.1	15,970
Pioneer Brand 3369A	4.2	13.0	21,050
Pioneer Brand 3147	4.0	12.4	15,250
Ring Around F2585	4.0	12.3	17,425
Pioneer Brand 3305	3.9	12.2	37,025
Pioneer Brand 3219	3.8	11.8	22,500
Northrup King PX 79	3.7	11.5	26,140
Texas 34	2.8	8.7	14,520

TABLE 4. Yield of corn grain from 17 varieties grown near Checotah in 1976.

Variety	Bushels/Acre 14% Moisture	Plants/Acre
Pioneer Brand 3149	179	19,600
Pioneer Brand 3195	166	25,400
Pioneer Brand 3219	159	18,875
Pioneer Brand 3147	158	15,250
Pioneer Brand 3780	152	20,300
Pioneer Brand 3369A	139	24,700
Northrup King PX 95	136	21,780
Ring Around F2585	126	22,500
Texas 34	118	15,970
Mexican June OP (B & W)	117	15,250
Pioneer Brand 3306	114	22,500
Pioneer Brand 3305	111	29,770
Northrup King PX 79	111	22,500
Weathermaster EPX 888	106	17,400
Ring Around SP 2825	103	20,330
Acco UC 8801	99	18,150
Weathermaster 97A	81	16,700

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