

EVALUATION OF CORN VARIETIES IN NAVARRO COUNTY, TEXAS

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SUMMARY:

Corn hybrid field variety trial was conducted in 2008 south of the community of Dawson, TX. 18 varieties were evaluated in this agricultural result demonstration. Varieties were planted, grown and harvested to compare yield performance and economic return under local field growing conditions. Yields were poor to fair given the hot and dry conditions experienced during the growing season of 2008. The adjusted yield of the top variety was Croplan 6831TS at 65.0 bu/ac. Adjust yields (at 15% moisture for comparison) averaged 49.3 bu/ac which was a decrease from the 2007 variety trials which averaged 82.5 bu/ac.

PROBLEM:

Variety selection is one of several primary production inputs that impacts the profitability of farming enterprises. New varieties are introduced each year that have the potential to increase yield through improved genetics for yield and insect and disease resistance. These varieties need to be tested against established varieties under local growing conditions to determine which varieties have the greatest profit potential.

OBJECTIVE:

The purpose of this trial was to compare the yield performance and gross economic return of eighteen corn hybrids under the same field growing conditions. Data from this trial should be compared to data from other counties and on the farm production to assist producers in making sound variety selection decisions.

METHODS AND MATERIALS:

Twelve rows of each variety were planted March 30, 2008 on 30 inch rows. The site was a Houston Black Clay. Corn had been the previous crop grown. Land preparation included shredding stalks, discing, field cultivating and planting. Preplant fertilizer was applied at 160 pounds per acre of 82-0-0 (anhydrous ammonia) and 6 pounds per acre of 9-24-3 (a starter phosphorous fertilizer) and no topdress application was made. 2 applications of glyphosate and 1 application of atrazine were made for weed control. Seed was treated with insecticide. Plots were harvested August 12, 2008 using a John Deere 9760STS combine with a John Deere 893 header. Harvested plot size was 0.6509 acres.

Yields were weighed with an electronic weigh wagon. Samples were taken on each variety to obtain bushel weight and moisture. All yields were then adjusted to 15% moisture for comparison.

RESULTS AND DISCUSSION:

The adjusted yield of the top variety was Croplan 6831TS at 65.0 bu/ac. The lowest yielding variety was Triumph 1802 with an adjusted yield of 28.0 bu/ac. The yield range between the highest and lowest yield variety was 37.0 bu/ac. The average of all varieties was 49.3 bu/ac. Refer to Table 1 and Figure 1.

ECONOMIC ANALYSIS:

The highest economic return will be associated with the highest yielding varieties. Due to the fluctuations in prices of grain in 2008 and the locality of prices, no prices will be provided in this report.

Table 1: 2008 Grain Sorghum Variety Trial - Frost, TX

Variety	Seed Treatment	Maturity Range (days)	Plot Weight lbs	Moisture %	Bu. Wt. lbs	Yield bu/a	Adj. * Yield bu/a
Croplan 6831TS	Cruiser Extreme 250	112	2354	14.4	57.0	64.6	65.0
Triumph 1109 VT3	Poncho 250	111	2114	13.7	56	58.0	58.9
Syngenta N78N	Cruiser Extreme 250	115	2062	14	57	56.6	57.2
Syngenta N77P 3000GT	Cruiser Extreme 250	114	2052	14.2	56	56.3	56.8
Dekalb DKC67-23	Poncho 1250	117	2010	14.2	56.0	55.1	55.7
BH Genetics 8895VT3	Poncho 250	118	2006	14.2	55	55.0	55.6
Dekalb DKC64-79	Poncho 250	114	1974	13.9	57	54.2	54.9
Pioneer 31G70	Poncho 250	119	1882	13.7	56	51.6	52.4
Pioneer 33F85	Poncho 1250	114	1778	14.2	56.5	48.8	49.2
Croplan 851VT3	Cruiser Extreme 250	118	1770	14.1	55	48.6	49.1
Dekalb DKC69-40	Poncho 250	119	1756	14.2	59.5	48.2	48.6
Garst 82R45GT	Cruiser Extreme 250	117	1742	14	56.5	47.8	48.4
Pioneer 32B80	Poncho 1250	115	1724	14.3	58	47.3	47.7
Triumph 1536 VT3	Poncho 250	115	1650	14	56.5	45.3	45.8
Dekalb DKC63-46	Poncho 1250	113	1432	14.4	54.5	39.3	39.6
BH Genetics X8010VT3	Poncho 250	115	1362	14.1	56.5	37.4	37.8
Pioneer 31P40	Poncho 1250	119	1336	13.6	57.5	36.7	37.3
Triumph 1802 CBRR	Poncho 250	118	1014	14.5	56.0	27.8	28.0
Average			1779	14.1	56.5	48.8	49.3

* All yields adjusted to 15% moisture for comparison.

CONCLUSIONS:

Variety selection is an important decision in farming enterprises in determining profits and economic feasibility of agronomic practices. As grain prices continue an upward trend producers will want to pay closer attention to wheat variety selection and agronomic practices to enhance yields and profits. Producers should evaluate yearly data and compare to other years data of new and established varieties to evaluate their performance under different weather and growing conditions in different locations. Producers should be aware that this demonstration only has one replication and therefore data should be compared to other demonstrations or on-farm production data to enhance value and improve decision making capabilities.

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Figure 1: 2008 Navarro County Corn Variety Bar Graph

