

EVALUATION OF OAT VARIETIES IN NAVARRO COUNTY, TEXAS

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SUMMARY:

Six oat varieties were planted west of Frost, TX in Navarro County to compare yield performance and economic return under local field growing conditions. Yields were poor to fair when compared with historical average yields for Central Texas. Lower yields may be attributed to a harvest date that was later than preferred and lodging and shattering at harvest as a result of the later harvest date. The adjusted yield of the top variety was Horizon314 at 53.4 bu/a and the average of all varieties was 38.6 bu/a.

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 six oat varieties under the same field growing conditions. Data from this trial should be compared to data from other counties and on-farm production data to assist producers in making sound variety selection decisions.

METHODS AND MATERIALS:

Plots were planted November 8, 2007 using a John Deere 8300 grain drill at 100 pounds of seed per acre. Plots were 12 feet wide and 633.6 feet long. The site was a Houston Black Clay. Cotton had been the previous crop grown. Land preparation included 2 way discing then planting. Fertilization included 100 pounds per acre of 18-46-0 applied preplant followed by 50 pounds per acre of Anhydrous Ammonia (NH_3) or 82-0-0) topdressed and 200 pounds per acre of 32-0-0. Plots were harvested June 4, 2008 using a John Deere combine. Harvested plot size was 0.174 acres.

Yields were weighed with an electronic weigh wagon. Samples were taken on each variety to obtain bushel weight and moisture.

RESULTS AND DISCUSSION:

The adjusted yield of the top variety was Horizon 314 at 53.4 bu/a. The lowest yielding early variety was Harrison with an adjusted yield of 20.4 bu/ac. The yield range between the highest and lowest yield variety was 33.0 bu/a. The average of all early varieties was 38.6 bu/a. Refer to Figure 1.

ECONOMIC ANALYSIS:

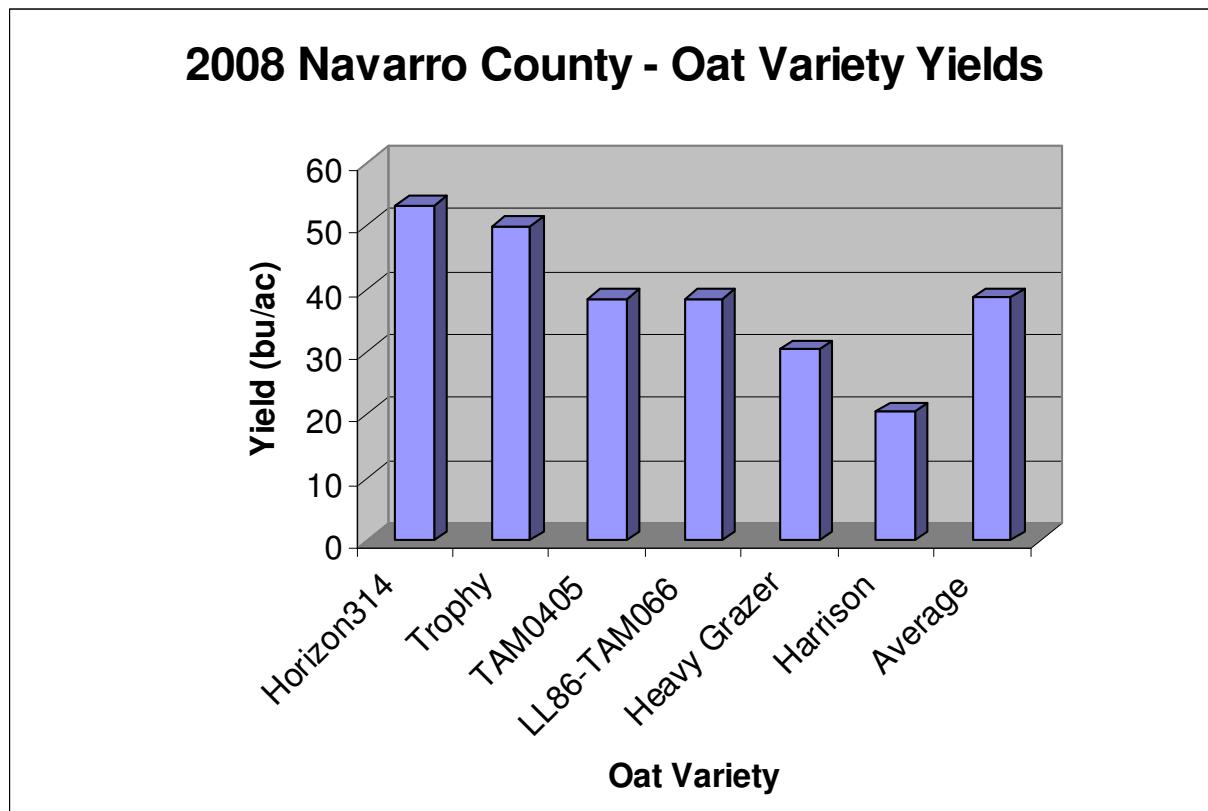
Economic return was calculated based on the actual yield and cash harvest price. As expected the varieties with the highest actual yield had the highest economic return.

The highest economic return for the varieties was Horizon 314 at \$424 per acre while the lowest return was Harrison at \$162 which represents a difference of \$262. Average return per acre was \$307. Refer to Figure 1.

Figure 1: 2008 Navarro County Oats Variety Trial (Frost Community)

Variety	Bu Wt. lbs	Moisture %	Yield lbs	Yield lbs/ac	Yield bu/ac	Adj. * Yield bu/a	Gross Return \$/a
Horizon 314 - East TX Seed	21.5	9.1	282	1615.7	50.5	53.4	\$424
Trophy - Terral Seed	23.0	14.4	280	1604.2	50.1	49.9	\$397
TAMO 405 - TAMU-PVP	24.0	11.4	208	1191.7	37.2	38.4	\$305
LL86 - TX Agri Exp Station.	24.5	9.5	204	1168.8	36.5	38.4	\$306
Heavy Grazer76-30 -East TX Seed	25.0	10	162	928.1	29.0	30.4	\$241
Harrison - Western Grain Seeds	20.5	9.2	108	618.8	19.3	20.4	\$162
Average	23.1	10.6	207.3	1187.9	37.1	38.6	\$307

* All yields adjusted to 14% moisture for comparison.



CONCLUSIONS:

Harvest of oat plots was delayed this year which led to increased lodging and shattering at

harvest time. Timing of harvest of oats is important to optimizing yields.

Variety selection is an important decision in farming enterprises in determining profits and economic feasibility of agronomic practices. 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 should be compared to other demonstrations or on-farm production data to enhance demonstration value and improve decision making capabilities.

ACKNOWLEDGMENTS:

Appreciation is expressed to Dwayne Watson for land, labor, equipment and materials to plant, grow and harvest the plots. Gratitude is expressed to the seed companies which provided seed for the plots under the coordination of Dr. Gaylon Morgan, Extension Small Grains Specialist as well as Dr. Greg Steele and Monsanto for providing the weigh wagon to harvest the plots.

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