



Agriculture and Natural Resources



WHEAT VARIETY EVALUATION
Texas AgriLife Extension Service
 Nueces County, 2012

Cooperator: Texas AgriLife Research & Extension Center

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Summary

This test was located at the Research & Extension Center on Hwy 44. Rainfall early in the growing season was below normal while stored soil moisture was very short due to no rain in the fall. Rabbits applied heavy grazing pressure early in the growing season which hurt yields. There were some significant differences in vernalization between varieties.

Objective

To evaluate both spring and winter wheat varieties for yield and production in South Texas and determine the economics of producing these crops and potential risks associated with production.

Materials and Methods

Wheat was planted December 2, 2011 at 50 lbs./acre, at Clarkwood on the Texas AgriLife Research & Extension Center in a randomized complete replicated block design with four replications. Soil test indicated a pH of 7.8 and a fertilizer recommendation of 50-10-0 for 59 bushel yield potential. Fertilizer (67-0-0) was applied on November 16, 2011. Rainfall recorded during the growing season was as follows; December=1.09 inches, January=0.49 inches, February=3.82 inches, March=2.12 inches, April= 1.29 for a total of 8.81 inches in the growing season. Cultivars were machine harvested on May 17, 2012.

Table 1: Agronomic data for Wheat Variety Test, Research & Extension Center, Nueces County, TX 2012.

Planting Date: 12/ 2/ 2011	Plot Size: 5' x 20' replicated four times	Row Width: 8 inch
Fertility: 11/16/11 67-0-0	Soil Type: Clareville loam	Previous Crop: Cotton
Planting Rate: 50 lbs/ac	Herbicide: Huskie on 12/21 12 oz/Acre	Harvest: May 17, 2012

Results and Discussion

Temperatures in March and April were above normal. Heavy grazing pressure by rabbits early in the season and very dry conditions hurt yields. Vernalization scores were taken the day of harvest.

Table 2: Comparison of percent moisture, test weight, vernalization score, and yield per acre, Research & Extension Center, Nueces County, Texas, 2012

Wheat Variety ³	Moisture (%)	Test Weight (Lb/Bu)	Vernalization (0-5) ²	Yield ¹ (Bu/Acre)
<i>Faller</i>	<i>10.75 abc</i>	<i>54.63 a</i>	<i>5.0 a</i>	<i>14.4 a</i>
<i>Howard</i>	<i>11.20 abc</i>	<i>55.33 a</i>	<i>5.0 a</i>	<i>13.2 ab</i>
<i>Prosper</i>	<i>10.78 abc</i>	<i>53.06 ab</i>	<i>4.0 b-e</i>	<i>12.5 abc</i>
TAM 203	10.85 abc	51.93 abc	4.3 a-d	11.5 a-d
Santa Fe	11.55 a	55.35 a	4.5 abc	9.7 b-e
<i>Barlow</i>	<i>11.10 abc</i>	<i>55.88 a</i>	<i>4.5 abc</i>	<i>9.7 b-e</i>
Greer	10.13 cde	54.06 ab	4.8 ab	8.8 c-g
TAM 401	10.98 abc	40.08 bcd	4.5 abc	8.1 d-g
Shocker	11.30 ab	51.57 abc	3.0 fg	7.7 d-g
Billings	11.23 abc	55.09 a	3.3 efg	6.6 e-h
<i>Expresso</i>	<i>10.35 b-e</i>	<i>37.85 cd</i>	<i>3.5 def</i>	<i>6.3 e-i</i>
Jagalene	10.82 abc		0.8 jk	3.7 h-l
Amour	11.02 abc	46.33 a-d	1.8 hi	2.7 i-l
Jackpot	9.30 efg	2.14 e	1.5 ij	2.4 jkl
Fannin	8.49 fg	2.28 e	1.3 ij	2.0 kl
Fuller	-	-	0.0 k	0
Duster	-	-	0.0 k	0
Deliver	-	-	0.0 k	0
Endurance	-	-	0.0 k	0
Pete	-	-	0.0 k	0
Coronado	-	-	0.0 k	0
TAM 304	-	-	0.0 K	0
Sturdy 2K	-	-	0.0 K	0
Cedar	-	-	0.0 k	0
Weathermaster 135	-	-	0.0 k	0
<i>LSD (P=.05)</i>	1.146	14.112	0.86	3.81
<i>CV</i>	7.69	21.47	23.81	36.42
<i>MEAN</i>	10.54	46.47	2.58	7.4

¹Yield is adjusted to 10% moisture.

²Vernalization score was a visual observation on day of harvest with 0 being no seed heads present and 5 being fully headed.

Means followed by same letter do not significantly differ (P=.05, LSD)

³Varieties marked in Bold Italics are Hard Red SPRING Wheat and all other varieties are Hard Red WINTER Wheat.

Conclusions

During times of drought in Nueces County, small grain tests in small plots are susceptible to significant damage from rabbit grazing, as was the case in this study. Numerous varieties were kept grazed to the ground by these rabbits early in the season when these plots were the only green forage available for miles.. Moreover, the lack of significant rainfall in the fall due to the drought of 2011 hurt the crop as well. Rainfall in the spring of 2012 allowed the crop to recover to some degree. Vernalization (heading) differences were noted between the varieties. Most of the spring types vernalized almost completely, while most of the winter types had little to no heading observed at harvest. However, TAM 203, Santa Fe, Greer, and TAM 401 all had significantly higher vernalization scores than the other winter types. These increases in heading correlated to yield. TAM 203 was in the top grouping of this trial with three other spring varieties (Faller, Howard, and Prosper). This trial is intended to be repeated in subsequent years to gain better knowledge on the yield potential between spring and winter varieties when grown in Nueces County. Due to the climate and the wildlife grazing, this trial had a lot of variation within the data. It is important for the reader to utilize numerous data from multiple years and locations to make an informed production decision.

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