GRAIN SORGHUM HYBRID PERFORMANCE EVALUATION

Texas AgriLife Extension Service
Nueces County, 2011

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Summary

This test was located on the McNair Farm in Driscoll on CR 79. Soil moisture conditions at planting were good. Rainfall was below normal during the growing season. Twelve sorghum hybrids were evaluated for agronomic performance. The best performing hybrid numerically in this test was Pioneer 83G19 at 5,401 pounds per acre, although there was not a statistical difference between it and Pioneer 84G62, Pioneer 83P99, and DeKalb DKS 53-67, while the test average was 4,914 pounds per acre.

Objective

To evaluate commercially available grain sorghum hybrids growing under Nueces County conditions in a replicated evaluation.

Materials and Methods

Grain sorghum hybrids were planted in a replicated test. Each plot consisted of 6 rows with three replicates. Seed was planted using a John Deere Max-emerge II 32-row planter. Soil moisture conditions at planting were good at planting depth. Rainfall in the season was below normal and rainfall occurred as follows; March = 0.90 inch, April = 0 inch, May = 2.3 inches, and June = .34 inches for a total of 3.54 inches during the growing season. Plant populations were determined on March 28, 2011 and percent bloom was determined on May 4, 2011.

Table 1: Agronomic data for grain sorghum hybrid demonstration, McNair Farm, Nueces County, Texas, 2011.

Planting Date: 3/1/2011 **Harvest Date:** 6/24/2011	**Soil Type:** Victoria clay	**Row Width:** 30 inch **Rows/Plot:** 6
Fertility: 240# 25-5-0- 3S 0.7 gal/A Hydra-Hume	**Herbicide:** Aatrex@ 1qt/A 10 oz/A Outlook Peak @ 0.23 oz/A	**Previous Crop:** Grain Sorghum
Planting Rate: 56,000 plants/Ac		**Insecticide:** Seed Treatment

Results and Discussion

Plots were machine harvested on June 24, 2011 and weighed with an electronic weigh wagon in the field.

Table 2. Comparison of plant population, percent bloom, percent moisture, bushel weight, and yield per acre between hybrids, McNair Farm, Nueces County, Driscoll, TX, 2011.

Sorghum Hybrid	Plt Population per Acre	Bloom (%) 5/4/11	Moisture (%)	Bu. Wt. (lbs.)	Yield/Acre[1] (lbs.)
Pioneer 83G19	36,767	18	17.3 a	59.7 a	5,401 a
Pioneer 84G62	45,958	3	17.3 a	59.7 a	5,261 ab
Pioneer 83P99	41,121	1	17.3 a	59.0 a	5,208 ab
DeKalb DKS 53-67	47,700	8	16.8 a	59.3 a	5,123 abc
Triumph TRX85131	45,958	4	17.1 a	58.3 ab	5,031 bcd
Pioneer 84P74	48,377	36	17.1 a	59.7 a	4,975 bcd
Terral TV 96H81	48,861	30	16.9 a	59.0 a	4,834 cde
B-H Genetics 5350	47,894	50	16.9 a	56.3 c	4,808 cde
Gayland Ward 9417	43,781	38	16.7 a	59.0 a	4,703 def
Golden Acres 3696	47,893	50	16.6 a	58.7 a	4,617 ef
Golden Acres 5308	43,540	46	17.1 a	58.3 ab	4,617 ef
Warner W-965-E	44,023	1	17.6 a	56.7 bc	4,398 f
LSD (P=.05)			0.551	1.86	338.33
CV			1.91	1.88	4.07
Grand Mean			17.06	58.64	4,914.66

[1]*Yield per acre is reported in pounds per acre and adjusted to 14% moisture. Means followed by same letter do not significantly differ (P=.05, LSD)*

Conclusions

Using the market price at harvest ($10.00 per cwt), the top yielding hybrid had a gross value of $540.10/acre, while the least productive hybrid was valued at $439.80 per acre, a difference of $100.30 per acre. This significant difference between hybrids illustrates the need to continue to evaluate hybrids for their production performance under local conditions.

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