



## Result Demonstration Report

Fort Bend County Grain Sorghum Hybrid Variety Trial

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Fort Bend County

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### Summary

Grain sorghum, because of its drought tolerance and low potential for insect pressure, has historically been used (along with corn) to rotate with cotton. According to USDA Farm Service Agency data, in 2015, grain sorghum replaced cotton as the most planted crop in Fort Bend County with just over 37,000 acres, accounting for slightly less than fifty percent of annual field crop acreage. With this increase in acreage, it is important to evaluate available varieties and other best management practices to provide producers with up-to-date information to make important production decisions.

### Objective

The objective of this demonstration plot was to evaluate seven varieties of grain sorghum for production in Fort Bend County and to provide unbiased data that local producers could reference when selecting sorghum varieties.

### Materials and Methods

Seven varieties of sorghum (Dyna-Gro DG766B, B-H Genetics 5566, Dekalb, 53-67, Dekalb 53-53, Alta AG3201, Terral REV 9782, Golden Acres 3545S SN) were planted on March 29, 2019 at a rate seeding rate of 75,000 seeds per acre. A total of 120 lb. nitrogen, 54 lb. of phosphorus (P2O5), and 54 lb. of potassium (K2O) were applied prior to crop establishment and another 42 lb. on nitrogen were applied on May 16 via airplane. The experiment was arranged in a randomized complete block design with six rows (36" spacing) per treatment and three replications. While this was dryland production, 2015 was an especially rainy year with more than 70 inches of rainfall between January 1 and December 31, much of that in large rain events throughout the growing season. On July 18, 2015 the plot was harvested, weighed, and tested for moisture and bushel weight. An analysis of variance (ANOVA) was performed for bushel weight, moisture and yield (adjusted to 14 percent moisture) and means were separated using Fisher's protected LSD.

## **Results**

There were differences in moisture, bushel weight, and yield per acre ( $p < 0.001$ ,  $p < 0.001$ , and  $p = 0.002$ , respectively) across the seven varieties tested.

| Company/Brand               | Hybrid    | Moisture (%) | Bushel Weight (lbs.) | Pounds/Acre |
|-----------------------------|-----------|--------------|----------------------|-------------|
| Monsanto/Dekalb             | DKS 53-53 | 13.7 A       | 62.53 A              | 6,756 A     |
| Monsanto/Dekalb             | DKS 53-67 | 12.5 E       | 60.90 B              | 6,447 AB    |
| Advanta/Alta                | AG3201    | 13.4 B       | 62.40 A              | 6,371 BC    |
| B-H Genetics                | 5566      | 13.0 D       | 60.03 C              | 6,104 C     |
| Terral/REV                  | 9782      | 13.2 C       | 60.17 C              | 6,055 C     |
| CPS Dyna-Gro                | DG766B    | 13.0 D       | 60.30 BC             | 6,026 C     |
| Golden Acres Genetics       | 6545 SN   | 13.6 A       | 58.50 D              | 5,884 C     |
| Mean                        |           | 13.2         | 60.69                | 6,235       |
| CV (%)                      |           | 0.805        | 0.646                | 3.055       |
| LSD (P=.05)                 |           | 0.19         | 0.70                 | 338.8       |
| Treatment Probability (P>f) |           | <0.0001      | <0.0001              | .0002       |

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

## **Conclusions**

Among the seven hybrids, DKS 53-53, outperformed all hybrids except DKS 53-67 and there was no yield difference among the other five hybrids. The overall average for the plot was 6,235 lb./acre, which was very good for the 2015 crop year. The objective of this result demonstration was met and it will provide an unbiased analysis of the seven varieties of sorghum and will provide producers with valuable information to select hybrids for production in Fort Bend County. Because of the continued interest in growing sorghum in Fort Bend County, this result demonstration will be continued next year.

## **Acknowledgements**

*Special thanks to Ronnie Schnell for coordinating and providing guidance for the demonstration, and Alan and Lisa Stasney for space, equipment, and manpower.*