

2022 MISSOURI GRAIN SORGHUM TEST

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PREFACE

Our motto is “We test the best” and that is exactly what we do. Each year, the best seed companies and organizations select several of their best hybrids for evaluation by the MU Variety Testing Program. We use the latest scientific principles and procedures to provide farmers and others interested in corn hybrid performance with accurate and unbiased information.

We respect the seed companies and organizations that put their hybrids to the test. We are honored that they entrust us with their valuable products. It takes courage to allow their hybrids to be compared with all of the others. Not every company participates in our program for various reasons. Those companies that do participate deserve your consideration when purchasing seed for the next growing season. Please view the table at the back of our book for names and addresses of participating seed companies. Thank them for their courage and tell them you saw their hybrid in our program.

The MU Variety Testing Program has provided Missouri farmers with unbiased variety comparisons for more than 75 years, first with corn, then soybean and wheat. Current staff members have a total of over 100 years of experience with testing crop yield performance. Our plots are placed where you farm. They have the soils and weather conditions your fields have. The MU Variety Testing Program is on-farm research in the truest sense of the word. Four of our locations are on farmer fields in your communities. The other location is on an MU farm. These CAFNR owned and operated research centers sample the north, central and southeast regions of Missouri and, combined with the private farm locations, provide you with the diversity of environments you need to select the best hybrids for your farm. View the map in our procedures section to see the placement of our locations and the cooperators that are so important to the quality of our information.

Evaluating yield and making decisions based on that evaluation are difficult because yield is highly affected by environment — even the small differences that exist across a field. We use replication, plot size and plot placement to minimize the “noise.” Please read the procedures section of this book to better understand what we do and the tools we provide you to make hybrid selection decisions. Our data tables are arranged to help you quickly see how hybrids compare. We strongly suggest that you use information from more than one location. Our tables of “region means” provide you comparisons across multiple locations. Although yield is extremely important, please see our hybrid characteristics table located near the back of the book to view additional information that you might find helpful during hybrid selection.

Thank you for your interest and support. Please support the companies that participate in our program. If you have suggestions on how we can improve our program, please contact me directly (wieboldw@missouri.edu). The MU Variety Testing Program exists to serve your needs. We want to provide you with the best information possible.



William “Bill” Wiebold

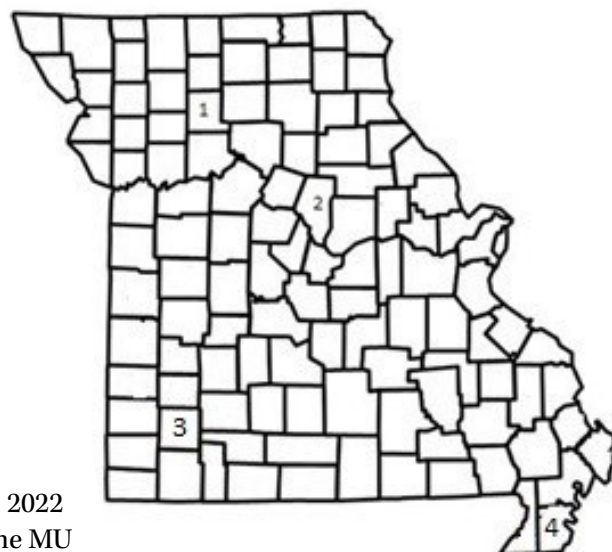
PROCEDURES

Regions and locations

The MU Variety Testing Program tested grain sorghum hybrids at four locations distributed throughout the grain sorghum growing region in Missouri. The same hybrids are tested in all four locations.

Locations for 2022 are as follows:

1. **Mooreville** (Livingston County),
Beetsma Farm
2. **Columbia** (Boone County),
Bradford Research Center
3. **Mt. Vernon** (Lawrence County),
Southwest Research Center
4. **Portageville** (Pemiscot County),
Delta Research Center



Entries

All seed companies were eligible to enter hybrids in the 2022 grain sorghum tests. Participation was voluntary and the MU Variety Testing Program exercised no control over which, or how many, hybrids were entered. The MU Variety Testing Program receives no Missouri tax dollars, so a fee was collected for each entry to fund the program.

Field plot design and plot management

Hybrids were randomly arranged in the field according to a randomized complete block design with three replications. At all locations, plots were four rows wide (10 feet) and 27 feet long. The center two plot rows were harvested to determine yield. All tests were planted and harvested with commercial equipment modified for small plot work. Row spacing was 30 inches and planting rate was 100,000 seeds/acre at all locations.

Fertilizer was applied at each site at the discretion of the farmer or the research station manager. Herbicides were used to control weeds, and additional hand weeding was performed as required. Management details varied among locations and are specified in individual regional crop management summaries.

Data recorded

Lodging was rated immediately before harvest using a scale of 1 to 5 where 1 = less than 20% plants lodged, 3 = all plants leaning moderately or 40% to 60% lodged, and 5 = 80% or more plants lodged. During harvest, plot grain weights were measured and an electronic moisture tester was used to determine the moisture content of the grain. Yields were corrected to a grain moisture content of 14% and expressed as bushels/acre.

Comparing varieties

The performance of a hybrid cannot be measured with absolute precision. Uncontrolled variability is involved in determining each plot's yield. This variability exists in all field experiments and in farmer fields. Statistics are used to account for this variability and to help farmers select superior hybrids. The statistical tool used by the MU Variety Testing Program is called "least significant difference" (LSD). The LSD is simple to use. When two hybrids are compared and the difference between them is greater than the LSD, the entries are considered to be significantly different. Differences between two hybrids that are smaller than the LSD may have occurred by chance and are considered to be not significant. In other words, the two hybrids might have the same yield, grain moisture or other characteristics of interest.

Procedures (continued)

The LSD can be found at the bottom of each table.

The MU Variety Testing Program arranges hybrids within each table from highest yield to lowest yield. The “top yielding” hybrid in each test is identified by a double asterisk (**) placed next to its yield. Hybrids that did not yield significantly less than the highest yielding hybrid in the test are denoted in the tables by a single asterisk (*). Thus, by reading down the yield column, readers can readily identify the highest yielding hybrids in a test.

Hybrid performance may seem inconsistent from location to location and from year to year. These differences are caused by differences among environments for rainfall, temperatures, soil fertility, diseases, insects and many other factors. For an improved estimate of relative hybrid performance, readers should consider results from more than one environment (locations and/or years). The vast majority of hybrids are entered into our tests for only one year, so comparing hybrids across multiple locations becomes even more important. The MU Variety Testing Program facilitates hybrid comparisons across locations by publishing statewide means. The hybrid with the highest average yield and hybrids that do not differ for yield from that hybrid are designated with double (**) and single (*) asterisks.

Although yield usually receives first consideration, other agronomic characteristics may be important when selecting a grain sorghum hybrid. Maturity, resistance to insects, and diseases are among the hybrid characteristics that deserve careful consideration. We provide a table that contains several important characteristics of hybrids entered into the MU Variety Testing Program. This information was provided by seed companies. Please contact seed company representatives for the latest information. Seed entered into the MU Variety Testing Program is usually treated with one or more seed treatments. These seed treatments are identified in the table listing the hybrid characteristics.

Accessibility of data

Results of the crop performance tests are available online at *varietytesting.missouri.edu*. If you need help accessing the website or would like to receive a printed copy, please call 573-882-2307.

Authors

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CROP MANAGEMENT AT TEST LOCATIONS

Columbia

Cooperator: Missouri Ag Experiment Station
Tillage: No tillage
Planting date: May 31
Harvest date: Oct. 24
Nitrogen (pounds/acre): 120
Herbicides: Atrazine, Dual II Magnum, Roundup,
Liberty

Mooreville

Cooperator: Beetsma Farms
Tillage: Conventional Tillage
Planting date: May 19
Harvest date: Oct. 19
Nitrogen (pounds/acre): 130
Herbicides: Atrazine, Bicep II Magnum

Portageville

Cooperator: Missouri Ag Experiment Station
Tillage: Ridged Tillage
Planting date: May 20
Harvest date: Sept. 28
Nitrogen (pounds/acre): 150
Herbicides: Atrazine, Dual II Magnum, Roundup,
Liberty

Mt. Vernon

Cooperator: Missouri Ag Experiment Station
Tillage: No Tillage
Planting date: June 14
Harvest date: Nov. 2
Nitrogen (pounds/acre): 120
Herbicides: Atrazine, Dual, Roundup,
Liberty

SOIL AND WEATHER INFORMATION FOR TEST LOCATIONS

Location	Soil type	Precipitation (inches)					
		May	June	July	August	Sept.	Season
Columbia	Mexico silt loam	5.2	1.4	2.5	3.9	1.9	15.7
Mt. Vernon	Dapue silt loam	10.7	1.4	0.7	5.0	2.0	19.8
Mooreville	Lagonda silty clay loam	5.1	6.0	6.3	2.5	1.7	21.7
Portageville	Tiptonville silt loam	6.9	1.9	4.3	5.6	0.9	19.6

GRAIN SORGHUM TEST

Columbia

Brand-Hybrid	Yield (bu/ac)	Moisture (%)	Lodging ~	Height (in)
Advanta G2193IG	182.0**	15.0	1	58
Dyna-Gro GX21965	180.7*	14.7	1	54
Dyna-Gro GX22932	179.6*	17.8	1	60
Dyna-Gro GX22934	167.9	12.8	1	54
Dyna-Gro M60GB31	163.3	17.7	1	52
Dyna-Gro M63GB76	161.1	14.3	1	56
Dyna-Gro M67GB87	160.7	13.4	1	59
Dyna-Gro M71GR91	159.7	15.8	1	52
Dyna-Gro M72GB71	158.2	17.3	1	57
Sorghum Partners SP 67B17	156.8	15.7	1	56
Sorghum Partners SP 68M57	154.4	18.7	1	56
Sorghum Partners SP7715	152.1	16.9	1	60
Sorghum Partners SPSC343	141.7	14.5	1	56
Mean	162.9	15.7	1	56
LSD (10%)	9.5	0.7		
CV (%)	5.4	4.1		

** Highest yielding variety in test

* Yield not significantly less than the highest yielding variety in the test

~ Lodging rated on a 1 to 5 scale, where 1 = less than 20% plants lodged, 3 = all plants leaning moderately or 40% to 60% lodged, and 5 = 80% or more plants lodged.

GRAIN SORGHUM TEST

Mooreville

Brand-Hybrid	Yield (bu/ac)	Moisture (%)	Lodging ~	Height (in)
Dyna-Gro M72GB71	143.7**	10.2	1	75
Sorghum Partners SP7715	143.7**	12.8	1	71
Dyna-Gro M63GB76	140.0*	11.1	1	66
Dyna-Gro GX22934	139.9*	12.0	1	74
Sorghum Partners SP 68M57	136.9*	11.7	1	63
Sorghum Partners SP 67B17	134.9	12.1	1	72
Sorghum Partners SPSC343	133.8	10.7	1	75
Dyna-Gro M71GR91	130.8	10.8	1	76
Dyna-Gro M60GB31	128.5	10.8	1	67
Dyna-Gro GX21965	127.9	11.1	1	68
Advanta G2193IG	120.9	11.4	1	69
Dyna-Gro M67GB87	118.1	11.4	1	75
Dyna-Gro GX22932	116.8	11.1	1	74
Mean	132.0	11.3	1	71
LSD (10%)	7.0	0.8		
CV (%)	4.9	6.6		

** Highest yielding variety in test

* Yield not significantly less than the highest yielding variety in the test

~ Lodging rated on a 1 to 5 scale, where 1 = less than 20% plants lodged, 3 = all plants leaning moderately or 40% to 60% lodged, and 5 = 80% or more plants lodged.

GRAIN SORGHUM TEST

Portageville

Brand-Hybrid	Yield (bu/ac)	Moisture (%)	Lodging ~	Height (in)
Dyna-Gro GX21965	111.1**	15.8	1	63
Dyna-Gro M60GB31	110.7*	13.0	1	63
Dyna-Gro M72GB71	108.0*	14.6	1	63
Dyna-Gro M63GB76	105.6	15.2	1	67
Sorghum Partners SP7715	104.3	14.3	1	62
Sorghum Partners SP 68M57	100.7	12.9	1	58
Sorghum Partners SP 67B17	96.0	19.5	1	65
Dyna-Gro M67GB87	94.7	17.5	1	68
Dyna-Gro M71GR91	92.4	13.6	1	66
Advanta G2193IG	87.6	13.0	1	64
Dyna-Gro GX22934	87.5	18.9	1	72
Dyna-Gro GX22932	84.6	12.1	1	70
Sorghum Partners SPSC343	74.6	14.3	1	66
Mean	96.8	15.0	1	65
LSD (10%)	3.9	0.6		
CV (%)	3.8	3.9		

** Highest yielding variety in test

* Yield not significantly less than the highest yielding variety in the test

~ Lodging rated on a 1 to 5 scale, where 1 = less than 20% plants lodged, 3 = all plants leaning moderately or 40% to 60% lodged, and 5 = 80% or more plants lodged.

GRAIN SORGHUM TEST

Summary

Brand-Hybrid	Columbia (bu/ac)	Mooreville (bu/ac)	Portageville (bu/ac)	Mean (bu/ac)
Dyna-Gro GX21965	180.7*	127.9	111.1**	139.9**
Dyna-Gro M72GB71	158.2	143.7**	108.0*	136.6*
Dyna-Gro GX22934	182.0**	139.9*	87.5	136.5*
Dyna-Gro M63GB76	163.3	140.0*	105.6	136.3*
Dyna-Gro M60GB31	167.9	128.5	110.7*	135.7*
Sorghum Partners SP7715	156.8	143.7**	104.3	134.9*
Sorghum Partners SP 68M57	159.7	136.9*	100.7	132.5
Dyna-Gro M67GB87	179.6*	118.1	94.7	130.8
Sorghum Partners SP 67B17	154.4	134.9	96.0	128.4
Dyna-Gro M71GR91	160.7	130.8	92.4	128.0
Dyna-Gro GX22932	161.1	116.8	84.6	120.8
Advanta G2193IG	152.1	120.9	87.6	120.2
Sorghum Partners SPSC343	141.7	133.8	74.6	116.7
Mean	162.9	132.0	96.8	130.6
LSD (10%)	9.5	7.0	3.9	6.3
CV (%)	5.4	4.9	3.8	5.1

** Highest yielding variety in test

* Yield not significantly less than the highest yielding variety in the test

CHARACTERISTICS OF GRAIN SORGHUM VARIETIES

All information in this table was provided by the seed companies. The MU Variety Testing Program does not guarantee accuracy. Please contact seed dealers for the latest information. N/I means information was unavailable.

Brand/Hybrid	Maturity	Grain Color	Special Traits	Gr. Bug Biotype	Fungicide ¹	Insecticide ¹
Advanta G2193IG	65	Red	N/I	N/I		
Dyna-Gro GX21965	71	Bronze	None	C, D, E	Apron	Cruiser
Dyna-Gro GX22932	71	Red	None	C, D, E	Apron	Cruiser
Dyna-Gro GX22934	71	Bronze	None	C, D, E	Apron	Cruiser
Dyna-Gro M60GB31	60	Bronze	None	C, D, E	Apron	Cruiser
Dyna-Gro M63GB76	63	Bronze	None	C, D, E	Apron	Cruiser
Dyna-Gro M67GB87	67	Bronze	None	C, D, E	Apron	Cruiser
Dyna-Gro M71GR91	71	Red	None	C, D, E	Apron	Cruiser
Dyna-Gro M72GB71	72	Bronze	None	C, D, E	Apron	Cruiser
Sorghum Partners SP 67B17	67	Bronze	High SCA Tolerance	N/I	Apron-Maxx	Cruiser
Sorghum Partners SP 68M57	65	Bronze	Moderate SCA Tolerance	N/I	Apron-Maxx	Cruiser
Sorghum Partners SP7715	66	Bronze	High SCA Tolerance	N/I	Apron-Maxx	Cruiser
Sorghum Partners SPSC343	65	Bronze	High SCA Tolerance	N/I	Apron-Maxx	Cruiser

¹ Seed treatments were applied by seed companies. Purchased seed may have other seed treatments. Please contact seed dealers and seed labels for more information.