

MISSISSIPPI PEANUT

VARIETY TRIALS, 2023

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MISSISSIPPI'S OFFICIAL VARIETY TRIALS



MISSISSIPPI STATE UNIVERSITY™
MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

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Mississippi Peanut Variety Trials, 2023

BRAD BURGESS

Director, Research Support/Variety Testing
Mississippi State University

JAKE BULLARD

Assistant Director, Variety Testing
Mississippi State University

TYLER SOIGNIER

Research/Extension Program Manager
Brown Loam Branch Experiment Station

MIKE ELY

Research Associate I
Coastal Research and Extension Center

TYLER TOWLES

Assistant Professor
Delta Research and Extension Center

ALAN HENN

Extension Professor
MSU Biochemistry, Molecular Biology,
Entomology, and Plant Pathology

JOSHUA WHITE

Manager, Forage Variety Testing
Mississippi State University

BRENDAN ZURWELLER

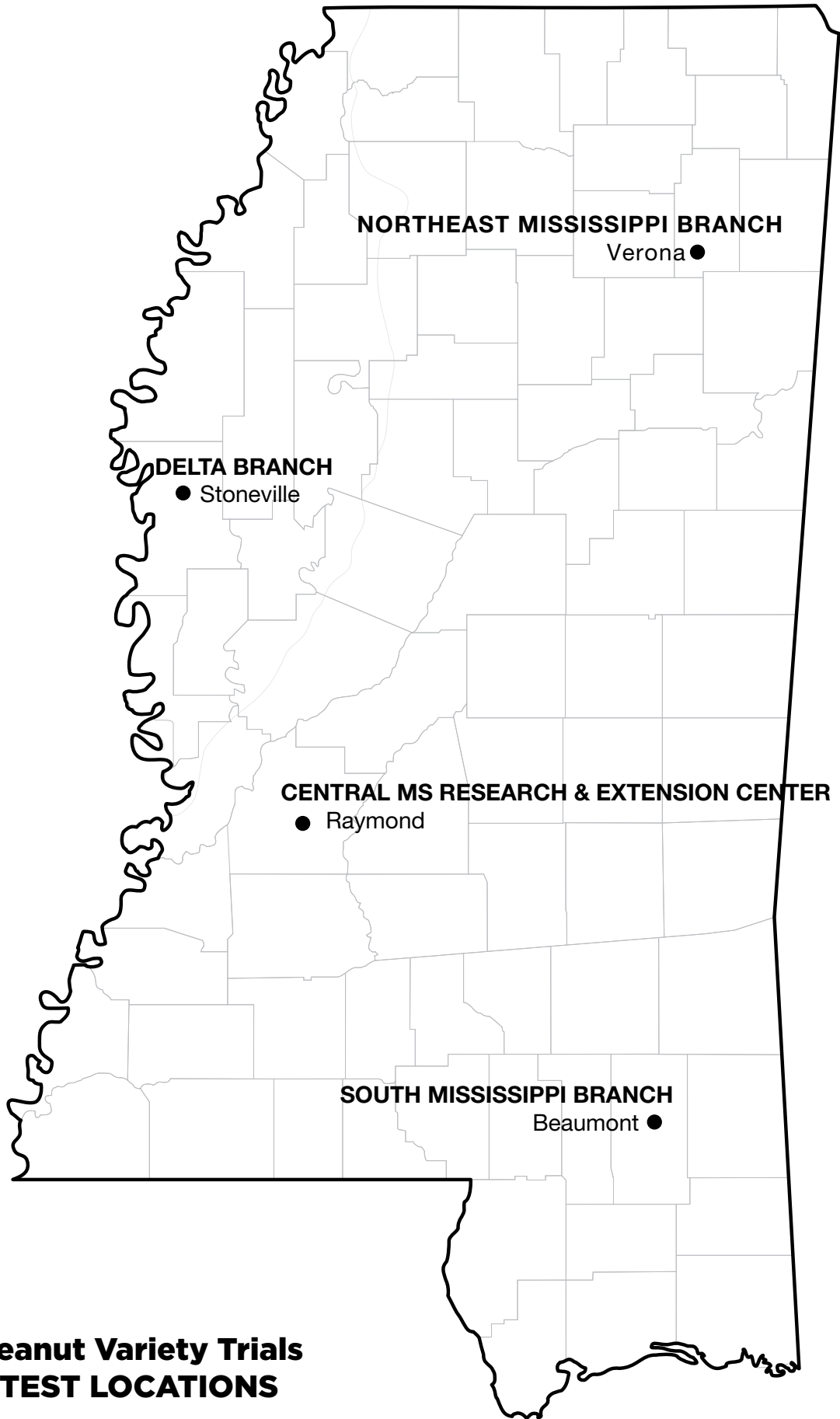
Assistant Extension/Research Professor
Peanut Specialist
Mississippi State University

For more information, contact Burgess at (662) 325-2390; email, Brad.Burgess@msstate.edu. Recognition is given to research technician Drew Nickels of the Variety Trial Program for his assistance in packaging, planting, harvesting, and recording plot data. This publication was prepared by Dixie Albright, office associate for MAFES Research Support Units.

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Find variety trial information online at mafes.msstate.edu/variety-trials.



**Peanut Variety Trials
TEST LOCATIONS**

Mississippi Peanut Variety Trials, 2023

PROCEDURES

Peanut variety trials were conducted at four locations in Mississippi in 2023. Trials were conducted on Experiment Station land to attempt to represent the different geographic regions of the state in which peanuts are grown. The same commercially available varieties of peanuts were tested at all four locations.

Plots consisted of two 38-inch-wide, 30-foot-long twin rows. Weeds were controlled by cultivation and/or herbicides. Only herbicides currently registered for use on peanuts were used in these studies, with strict adherence to all label instructions.

All varieties were treated with a fungicide seed treatment and an in-furrow insecticide. Experimental

design was a randomized complete block with four replications at each location.

All varieties were planted with a two-row, twin-drill, Monosem plot planter at a uniform seeding rate of six seeds per foot. Fertilizer was applied according to soil test recommendations.

The plots were dug with a KMC two-row peanut digger. After proper drying, the total plot area was harvested with a KMC two-row, pull-type, peanut combine fitted with a bagging attachment. The harvested plots were weighed, moisture was determined, and yields were converted to pounds per acre, following statistical analysis. All plots weights were adjusted to a standard moisture of 13%.

USE OF DATA TABLES AND SUMMARY STATISTICS

The yield potential of a given variety cannot be predicted with complete accuracy. Consequently, replicate plots of all varieties are evaluated for yield, and the yield of a given variety is estimated as the mean of all replicate plots of that variety. Yields vary somewhat from one replicate plot to another, which introduces a certain degree of error to the estimation of yield potential. This natural variation is often responsible for yield differences among different varieties. Thus, even if the mean yields of two varieties are numerically different, they are not necessarily significantly different in terms of yield potential. In other words, the ability to measure yield is not precise enough to determine whether such small differences are observed purely by chance or because of superior performance. The least significant difference (LSD) is an estimate of the smallest difference between two varieties that can be declared to be the result of something other than

random variation in a particular trial. Consider the following example for a given trial:

Variety	Yield
Abe	6,000 lb/A
Bill	5,600 lb/A
Charlie	4,900 lb/A
LSD	500 lb/A

The difference between variety Abe and variety Bill is 400 pounds per acre ($6,000 - 5,600 = 400$). This difference is smaller than the LSD (500 pounds per acre). Consequently, it is concluded that variety Abe and variety Bill have the same yield potential since the observed difference occurred purely due to chance. The difference between variety Abe and variety Charlie is 1,100 pounds per acre

(6,000 - 4,900 = 1,100), which is larger than the LSD (500 pounds per acre). Therefore, it is concluded that the yield potential of variety Abe is superior to that of variety Charlie since the difference is larger than would be expected purely by chance. The coefficient of variation (CV) is a measure of the relative precision of a given trial and is used to compare the relative precision of different trials. The CV is generally considered to be an estimate of the amount of unexplained variation in a given trial. This unexplained variation could be the result of variation between plots with respect to soil type, fertility, insects, diseases, weather stress, etc. In

general, the higher the CV is, the lower the precision in a given trial. The coefficient of determination (R^2) is another measure of the level of precision in a trial and is also used to compare the relative precision of different trials. The R^2 is a measure of the amount of variation that is explained, or accounted for, in a given trial. For example, an R^2 value of 90% indicates that 90% of the observed variation in the trial has been accounted for, with the remaining 10% being unaccounted for. The higher the R^2 value is, the more precise the trial. The R^2 is generally considered to be a better measure of precision than the CV for comparison of different trials.

TERMS USED

SMKRS count per pound (number per pound of sound, whole, mature kernels riding screen) — Number of sound whole mature kernels from 1 pound of the shelled sample riding a 15/64 x 1-inch slotted screen or a 16/64 x 3/4-inch slotted screen for Virginia or Runner varieties, respectively.

Pct. SMKRS (sound mature kernels riding screen) — Portion of shelled sample as described above.

Pct. SS (sound splits) — Portion of shelled sample split or broken but not damaged.

Pct. TSMK (total sound mature kernels) — Portion of the shelled sample comprised of sound mature kernels plus sound splits.

Pct. OK (other kernels) — Kernels that pass through a 15/64 x 1-inch slotted screen or 16/64 x 3/4-inch slotted screen for Virginia or Runner varieties, respectively.

Pct. DK (damaged kernels) — Kernels that are moldy, decayed, or affected by insects or weather conditions, resulting in seed coat or cotyledon discoloration or deterioration.

Pct. TK (total kernels) — All shelled sample kernels including TSMK, OK, and DK.

Pct. Hulls — All hulls from the shelled sample.

VARIETIES ENTERED

AU-NPL-17	Georgia-09B	Georgia-20VHO	TUFRunner™ '511'
DGX 0718	Georgia-12Y	Georgia-21GR	UF 11x23
DGX 0913	Georgia-16HO	IPG 517	UF11x27-1-14-1-1
FloRun™ '331'	Georgia-06G	TIFNV-H/OL	14X29-1-S-1-1
FloRun™ '52N'	Georgia-14N	TIFNV-HG	15X038-1-1-SSD-3
FloRun™ 'T61'	Georgia-18RU	TUFRunner™ '297'	

Table 1. 2023 MSU OVT Peanut Locations and Dates

Location	Soil Type	Planting Date	Digging Date	Harvest Date	Soil pH	Soil Fertility	Herbicide and fungicide
Raymond	Loring silt loam	5/22/23	10/18/23	10/23/23	5.8	P-M, K-M	Preemergence-Strongarm @ 0.25 oz/A, Valor @ 2 oz/A, Gramoxone @ 32 oz/A on May 25. Postemergence-Zidua @ 2 oz/A, Select @ 16 oz/A, Ultra Blazer @ 24 oz/A on July 6; Assure II @ 10 oz/A on July 20. Elatus @ 7 oz/A, Miravis @ 3.4 oz/A on July 6 & July 20.
Stoneville	Bosket very fine sandy loam	5/18/23	10/3/23	10/16/23	6.7	P-M, K-M	Preemergence-Strongarm @ 0.275 oz/A, Valor @ 3 oz/A, Prowl @ 3 pts/A on May 18. Postemergence-Selext Max@ 16 oz/A, HerbiMAX @ 16 oz/A on July 18; Zidua @ 3 oz/A, Strongarm @ 0.275 oz/A on July 21
Verona	Leeper fine sandy loam	5/25/23	10/13/23	10/17/23	6.4	P-M, K-M	Preemergence-Strongarm @ 0.25 oz/A, Valor @ 2 oz/A, Gramoxone @ 32 oz/A on May 25. Postemergence-Zidua @ 2 oz/A, Select @ 16 oz/A on June 29; Assure II @ 10 oz/A, Ultra Blazer @ 24 oz/A on July 20; Assure II @ 10 oz/A on August 7. Elatus @ 7 oz/A, Miravis @ 3.4 oz/A on Aug. 7
Beaumont ¹	McLaurin sandy loam	5/25/23	10/13/23	-	5.5	P-M, K-M	-
¹ Beaumont was not harvested due to severe drought and extensive deer damage							

Table 2. 2023 Mississippi Peanut Official Variety Trial average number of seeds per pound

Varieties	Raymond	Stoneville	Verona	Overall average
	no. seed/lb	no. seed/lb	no. seed/lb	no. seed/lb
AU-NPL-17	710	650	710	690
DGX 0718	700	630	660	663
DGX 0913	750	610	650	670
FloRun™ '331'	750	650	690	697
FloRun™ '52N'	780	690	660	710
FloRun™ 'T61'	770	690	620	693
Georgia-09B	760	690	670	707
Georgia-12Y	800	690	710	733
Georgia-16HO	670	650	670	663
Georgia-06G	680	620	600	633
Georgia-14N	730	820	700	750
Georgia-18RU	640	760	630	677
Georgia-20VHO	740	700	610	683
Georgia-21GR	750	740	610	700
IPG 517	740	720	640	700
TIFNV-H/OL	680	660	640	660
TIFNV-HG	610	640	500	583
TUFRunner™ '297'	610	600	640	617
TUFRunner™ '511'	810	790	680	760
UF 11x23	720	710	700	710
UF11x27-1-14-1-1	870	800	650	773
14X29-1-S-1-1	910	720	720	783
15X038-1-1-SSD-3	890	670	600	720
Location Average	742	691	650	695

Table 3. 2023 Mississippi Peanut Official Variety Trial yield and grade summary table.

Varieties	Raymond		Stoneville		Verona		Overall average	
	Yield	Grade	Yield	Grade	Yield	Grade	Yield	Grade
	lbs/A	%TSMK	lbs/A	%TSMK	lbs/A	%TSMK	lbs/A	%TSMK
AU-NPL-17	3697.0	63.9	4607.0	72.5	2907.2	69.1	3737.1	68.5
DGX 0718	3272.3	68.7	4908.4	73.2	3340.8	66.8	3840.5	69.6
DGX 0913	3704.1	69.6	4970.7	74.4	4008.7	72.5	4227.8	72.2
FloRun™ '331'	4116.0	66.6	4936.6	72.7	5225.4	73.4	4759.3	70.9
FloRun™ '52N'	3632.0	71.9	4899.0	75.7	4054.1	72.9	4195.0	73.5
FloRun™ 'T61'	3865.4	65.7	4847.0	71.7	4090.8	71.3	4267.8	69.6
Georgia-09B	3194.0	65.9	4709.9	74.3	4128.0	73.2	4010.6	71.1
Georgia-12Y	3630.6	64.0	5024.1	72.4	3474.2	69.5	4043.0	68.6
Georgia-16HO	3504.7	64.1	4871.5	72.6	5082.2	74.2	4486.2	70.3
Georgia-06G	4083.9	69.6	5274.6	72.3	3993.3	74.1	4450.6	72.0
Georgia-14N	2622.8	65.3	3401.4	73.6	3448.6	73.8	3157.6	70.9
Georgia-18RU	3526.7	70.6	4344.2	72.0	3803.8	76.5	3891.6	73.0
Georgia-20VHO	3703.4	66.9	4949.5	74.2	4443.8	76.5	4365.6	72.5
Georgia-21GR	3337.7	70.7	4720.0	76.0	4178.2	76.3	4078.7	74.3
IPG 517	2803.1	64.9	4323.2	71.6	3350.4	62.5	3492.2	66.3
TIFNV-H/OL	3638.1	64.5	3950.5	72.5	4673.9	69.7	4087.5	68.9
TIFNV-HG	4089.7	64.7	4936.6	73.0	4648.3	72.3	4558.2	70.0
TUFRunner™ '297'	3993.1	67.5	4733.7	75.6	3874.5	74.3	4200.4	72.5
TUFRunner™ '511'	3398.9	67.5	5473.8	75.1	4125.2	74.9	4332.7	72.5
UF 11x23	4061.2	68.2	5203.1	72.9	3890.0	72.4	4384.8	71.2
UF11x27-1-14-1-1	4077.1	64.6	5287.9	74.3	4751.8	69.9	4705.6	69.6
14X29-1-S-1-1	3404.5	67.3	4040.7	72.6	5123.6	74.8	4189.6	71.6
15X038-1-1-SSD-3	4120.1	66.6	5377.7	72.8	5237.7	73.1	4911.8	70.8
Mean	3629.4	66.9	4773.5	73.4	4167.6	72.4	4190.2	70.9
CV	11.8		13.3		19.9			
LSD	604		900		1175			
R ²	65		56		50			
Error DF	66		66		66			

Table 4. Two-year (2022 and 2023) yield summary of peanut variety trials in Mississippi.

Varieties	Raymond	Stoneville	Verona	Overall average
	<i>lbs/A</i>	<i>lbs/A</i>	<i>lbs/A</i>	<i>lbs/A</i>
AU-NPL-17	5296.5	4263.3	3356.8	4305.5
FloRun™ '331'	5700.9	4942.8	5388.0	5343.9
FloRun™ 'T61'	5242.3	4522.7	4421.8	4728.9
Georgia-09B	5002.5	4628.2	4147.4	4592.7
Georgia-12Y	5114.3	5155.8	3950.7	4740.2
Georgia-16HO	5945.6	4888.6	4667.3	5167.2
Georgia-06G	5658.9	5001.7	4016.3	4892.3
Georgia-14N	4311.9	3600.8	3587.7	3833.5
Georgia-18RU	5352.2	4698.9	3953.8	4668.3
Georgia-20VHO	5152.8	5081.2	4597.0	4943.7
TIFNV-H/OL	4918.8	3907.6	4480.5	4435.6
TUFRunner™ '297'	5500.2	4602.8	4113.8	4738.9
TUFRunner™ '511'	5853.4	4891.5	4123.5	4956.1
UF11x27-1-14-1-1	5457.2	5344.9	4374.3	5058.8
15X038-1-1-SSD-3	6365.5	5295.6	5101.7	5587.6
Overall Mean	5391.5	4721.8	4285.4	4799.6

Table 5. Three-year (2021, 2022, and 2023) yield summary of peanut variety trials in Mississippi.

Hybrid	Raymond	Stoneville	Verona	Overall average
	<i>lbs/A</i>	<i>lbs/A</i>	<i>lbs/A</i>	<i>lbs/A</i>
AU-NPL-17	6367.1	5241.0	4588.2	5398.8
FloRun™ '331'	6370.0	5938.7	5860.1	6056.3
Georgia-09B	5605.0	5880.4	4750.7	5412.0
Georgia-12Y	5939.6	6027.1	4512.9	5493.2
Georgia-16HO	6796.0	5845.8	5285.4	5975.7
Georgia-06G	6229.3	6038.0	4860.2	5709.1
Georgia-14N	4485.0	5021.1	3840.2	4448.8
Georgia-18RU	6328.5	5871.9	4837.2	5679.2
Georgia-20VHO	5811.7	5956.3	4490.5	5419.5
TIFNV-H/OL	5894.6	4945.9	5105.2	5315.2
TUFRunner™ '297'	6472.1	5624.1	5136.3	5744.1
TUFRunner™ '511'	6425.5	5725.1	5200.8	5783.8
Overall Mean	6060.4	5676.3	4872.3	5536.3



CENTRAL MISSISSIPPI RESEARCH & EXTENSION CENTER, RAYMOND

Table 6. Yield, average seed size, and grade of peanut varieties at the Central Mississippi Center, Raymond.

Variety	2023 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
	<i>lbs/A</i>	<i>lbs/A</i>	<i>lbs/A</i>	<i>%</i>	<i>no./lb</i>
15X038-1-1-SSD-3	4120.1	6365.5	-	66.6	890
FloRun™ '331'	4116.0	5700.9	6370.0	66.6	750
TIFNV-HG	4089.7	-	-	64.7	610
Georgia-06G	4083.9	5658.9	6229.3	69.6	680
UF11x27-1-14-1-1	4077.1	5457.2	-	64.6	870
UF 11x23	4061.2	-	-	68.2	720
TUFRunner™ '297'	3993.1	5500.2	6472.1	67.5	610
FloRun™ 'T61'	3865.4	5242.3	-	65.7	770
DGX 0913	3704.1	-	-	69.6	750
Georgia-20VHO	3703.4	5152.8	5811.7	66.9	740
AU-NPL-17	3697.0	5296.5	6367.1	63.9	710
TIFNV-H/OL	3638.1	4918.8	5894.6	64.5	680
FloRun™ '52N'	3632.0	-	-	71.9	780
Georgia-12Y	3630.6	5114.3	5939.6	64.0	800
Georgia-18RU	3526.7	5352.2	6328.5	70.6	640
Georgia-16HO	3504.7	5945.6	6796.0	64.1	670
14X29-1-S-1-1	3404.5	-	-	67.3	910
TUFRunner™ '511'	3398.9	5853.4	6425.5	67.5	810
Georgia-21GR	3337.7	-	-	70.7	750
DGX 0718	3272.3	-	-	68.7	700
Georgia-09B	3194.0	5002.5	5605.0	65.9	760
IPG 517	2803.1	-	-	64.9	740
Georgia-14N	2622.8	4311.9	4485.0	65.3	730
Mean	3629.4				
CV	11.8				
LSD	604				
R ²	65				
Error DF	66				

Rainfall Summary (inches)

May	0.00	September	0.43
June.....	3.82	October.....	0.26
July	2.93	Total.....	7.61
August.....	0.17		

MAFES DELTA BRANCH, STONEVILLE

Table 7. Yield, average seed size, and grade of peanut varieties at the MAFES Delta Branch, Stoneville.

Variety	2023 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
	<i>lbs/A</i>	<i>lbs/A</i>	<i>lbs/A</i>	<i>%</i>	<i>no./lb</i>
TUFRunner™ '511'	5473.8	4891.5	5725.1	75.1	790
15X038-1-1-SSD-3	5377.7	5295.6	-	72.8	670
UF11x27-1-14-1-1	5287.9	5344.9	-	74.3	800
Georgia-06G	5274.6	5001.7	6038.0	72.3	620
UF 11x23	5203.1	-	-	72.9	710
Georgia-12Y	5024.1	5155.8	6027.1	72.4	690
DGX 0913	4970.7	-	-	74.4	610
Georgia-20VHO	4949.5	5081.2	5956.3	74.2	700
FloRun™ '331'	4936.6	4942.8	5938.7	72.7	650
TIFNV-HG	4936.6	-	-	73.0	640
DGX 0718	4908.4	-	-	73.2	630
FloRun™ '52N'	4899.0	-	-	75.7	690
Georgia-16HO	4871.5	4888.6	5845.8	72.6	650
FloRun™ 'T61'	4847.0	4522.7	-	71.7	690
TUFRunner™ '297'	4733.7	4602.8	5624.1	75.6	600
Georgia-21GR	4720.0	-	-	76.0	740
Georgia-09B	4709.9	4628.2	5880.4	74.3	690
AU-NPL-17	4607.0	4263.3	5241.0	72.5	650
Georgia-18RU	4344.2	4698.9	5871.9	72.0	760
IPG 517	4323.2	-	-	71.6	720
14X29-1-S-1-1	4040.7	-	-	72.6	720
TIFNV-H/OL	3950.5	3907.6	4945.9	72.5	660
Georgia-14N	3401.4	3600.8	5021.1	73.6	820
Mean	4773.5				
CV	13.3				
LSD	900				
R ²	56				
Error DF	66				

Rainfall Summary (inches)

May	0.00	September	0.92
June	2.38	October	0.42
July	3.85	Total	10.43
August	2.86		

MAFES NORTHEAST MISSISSIPPI BRANCH, VERONA

Table 7. Yield, average seed size, and grade of peanut varieties at the Northeast Mississippi Branch, Verona.

Variety	2023 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
	<i>lbs/A</i>	<i>lbs/A</i>	<i>lbs/A</i>	<i>%</i>	<i>no./lb</i>
15X038-1-1-SSD-3	5237.7	5101.7	-	73.1	600
FloRun™ '331'	5225.4	5388.0	5860.1	73.4	690
14X29-1-S-1-1	5123.6	-	-	74.8	720
Georgia-16HO	5082.2	4667.3	5285.4	74.2	670
UF11x27-1-14-1-1	4751.8	4374.3	-	69.9	650
TIFNV-H/OL	4673.9	4480.5	5105.2	69.7	640
TIFNV-HG	4648.3	-	-	72.3	500
Georgia-20VHO	4443.8	4597.0	4490.5	76.5	610
Georgia-21GR	4178.2	-	-	76.3	610
Georgia-09B	4128.0	4147.4	4750.7	73.2	670
TUFRunner™ '511'	4125.2	4123.5	5200.8	74.9	680
FloRun™ 'T61'	4090.8	4421.8	-	71.3	620
FloRun™ '52N'	4054.1	-	-	72.9	660
DGX 0913	4008.7	-	-	72.5	650
Georgia-06G	3993.3	4016.3	4860.2	74.1	600
UF 11x23	3890.0	-	-	72.4	700
TUFRunner™ '297'	3874.5	4113.8	5136.3	74.3	640
Georgia-18RU	3803.8	3953.8	4837.2	76.5	630
Georgia-12Y	3474.2	3950.7	4512.9	69.5	710
Georgia-14N	3448.6	3587.7	3840.2	73.8	700
IPG 517	3350.4	-	-	62.5	640
DGX 0718	3340.8	-	-	66.8	660
AU-NPL-17	2907.2	3356.8	4588.2	69.1	710
Mean	4167.6				
CV	19.9				
LSD	1175				
R ²	50				
Error DF	66				

Rainfall Summary (inches)

May	0.05	September	1.67
June.....	3.19	October.....	0.25
July	3.18	Total.....	11.92
August.....	3.58		





MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

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Scott Willard, Director

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