

MISSISSIPPI PEANUT VARIETY TRIALS, 2022

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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, 2022

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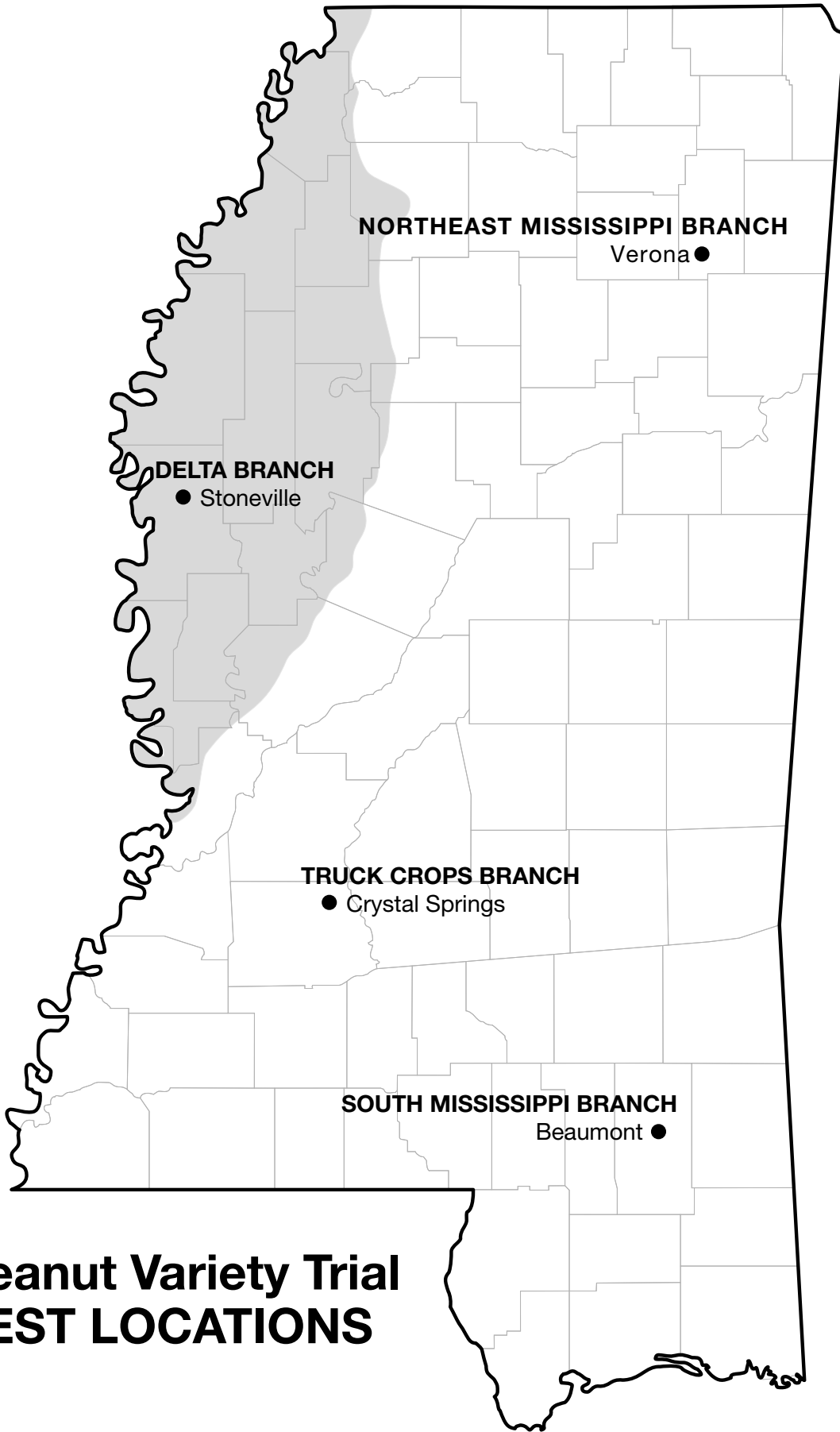
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Find variety trial information online at mafes.msstate.edu/variety-trials.



**Peanut Variety Trial
TEST LOCATIONS**

Mississippi Peanut Variety Trials, 2022

PROCEDURES

Peanut variety trials were conducted at four locations in Mississippi in 2022. 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 rel-

ative 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 rela-

tive 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. 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.

Table 1. 2022 peanut variety trial location summary.

Location	Soil type	Planting date	Digging date	Harvest date	Row spacing
Beaumont, Coastal R&E Center	McLaurin sandy loam	5/31	10/18	10/26	38" twin drill
Crystal Springs, Central MS R&E Center	Providence silt loam	5/16	10/13	10/19	38" twin drill
Stoneville, Delta R&E Center	Bosket very fine sandy loam	5/11	10/11	10/21	38" twin drill
Verona, North MS R&E Center	Leeper fine sandy loam	5/17	10/13	10/24	38" twin drill

Table 2. 2022 Mississippi Peanut Official Variety Trial average number of seed per pound.

Variety	Beaumont	Crystal Springs	Stoneville	Verona	Overall avg.
AU-NPL-17	560	680	680	700	655
FloRun™ '331'	720	740	790	670	730
FloRun™ 'T61'	730	770	710	620	708
Georgia-06G	550	740	700	630	655
Georgia-09B	680	670	720	700	693
Georgia-12Y	770	800	780	700	763
Georgia-14N	660	820	820	740	760
Georgia-16HO	630	690	710	650	670
Georgia-18RU	630	690	750	670	685
Georgia-19HP	510	500	580	500	523
Georgia-20VHO	680	680	750	660	693
IPG 914	680	740	720	690	708
TIFNV-High O/L	560	670	720	610	640
TUFRunner™ '297'	680	650	710	580	655
TUFRunner™ '511'	570	680	670	600	630
UF-11x27	710	830	800	760	775
UF-15x38	690	800	740	740	743
Location average	648	715	726	660	687

Table 3. 2022 Mississippi Peanut Official Variety Trial yield and grade summary.

Variety	Beaumont		Crystal Springs		Stoneville		Verona		Overall average	
	Yield	TSMK	Yield	TSMK	Yield	TSMK	Yield	TSMK	Yield	TSMK
AU-NPL-17	<i>lb/A</i>	%	<i>lb/A</i>	%	<i>lb/A</i>	%	<i>lb/A</i>	%	<i>lb/A</i>	%
FloRun™ '331'	3899.0	71.7	6896.0	69.8	3919.6	68.9	3806.5	71.4	4630.3	70.5
FloRun™ 'T61'	3117.4	70.3	7285.9	63.1	4949.0	70.0	5550.7	72.3	5225.8	68.9
Georgia-06G	2958.6	69.9	6619.1	66.3	4198.4	70.0	4752.8	72.7	4632.2	69.7
Georgia-09B	3480.5	72.1	7233.9	68.9	4728.8	70.9	4039.3	73.2	4870.6	71.2
Georgia-12Y	2472.0	71.6	6811.0	68.2	4546.5	71.9	4166.9	72.1	4499.1	70.9
Georgia-14N	3328.9	67.4	6598.0	65.3	5287.4	68.8	4427.2	71.3	4910.4	68.2
Georgia-16HO	3355.7	73.6	6000.9	67.0	3800.3	70.2	3726.7	74.3	4220.9	71.3
Georgia-18RU	3736.5	71.7	8386.4	62.1	4905.7	69.3	4252.4	74.1	5320.2	69.3
Georgia-19HP	3960.3	74.7	7177.8	69.4	5053.6	73.5	4103.7	74.4	5073.8	73.0
Georgia-20VHO	3286.4	71.5	6034.8	72.2	4260.4	73.2	4077.3	75.2	4414.7	73.0
IPG 914	3450.8	74.0	6602.2	66.0	5212.9	73.7	4750.2	75.5	5004.0	72.3
TIFNV-High O/L	3090.5	70.1	6153.3	63.0	4258.8	68.8	4258.1	71.3	4440.2	68.3
TUFRunner™ '297'	3093.8	72.6	6199.6	67.3	3864.8	70.4	4287.1	74.7	4361.3	71.3
TUFRunner™ '511'	3519.0	70.1	7007.2	71.9	4471.9	72.7	4353.1	74.8	4837.8	72.4
UF-11x27	3295.4	70.4	8307.8	66.5	4309.2	72.7	4121.8	72.8	5008.6	70.6
UF-15x38	3481.9	70.1	6837.3	65.3	5402.0	71.3	3996.7	71.8	4929.5	69.6
UF-15x38	4046.6	69.3	8610.9	62.5	5213.5	70.3	4965.7	72.4	5709.2	68.6
Mean	3386.7	71.2	6986.0	66.8	4610.8	71.0	4331.5	73.2	4828.7	70.5
CV	15.4		9.9		12.3		8.9			
LSD	742		984		805		550			
R ²	41		62		52		63			
Error DF	51		51		51		51			

Table 4. Two-year (2021 and 2022) yield summary of peanut variety trials in Mississippi.

Variety	Beaumont	Crystal Springs	Stoneville	Verona	Overall avg.
AU-NPL-17	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>
FloRun™ '331'	5398	7702	5558	5429	6022
Georgia-06G	5848	7497	6440	6177	6491
Georgia-09B	5365	7302	6420	5294	6095
Georgia-12Y	4904	6810	6466	5062	5811
Georgia-14N	5693	7094	6529	5032	6087
Georgia-16HO	5487	5416	5831	4036	5193
Georgia-18RU	5494	8442	6333	5387	6414
Georgia-20VHO	5241	7729	6636	5354	6240
IPG 914	5140	6866	6460	4514	5745
TIFNV-High O/L	4759	6036	5963	4115	5218
TUFRunner™ '297'	5019	7023	5444	5321	5702
TUFRunner™ '511'	5264	7712	6069	5767	6203
TUFRunner™ '511'	5057	7939	5851	5739	6146
Mean	5282	7198	6154	5171	5951

Table 5. Three-year (2020, 2021, and 2022) yield summary of peanut variety trials in Mississippi.

Variety	Beaumont	Crystal Springs	Stoneville	Verona	Overall avg.
AU-NPL-17	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>
FloRun™ '331'	5844	6972	5915	5207	5984
Georgia-06G	6015	7237	6830	5894	6494
Georgia-09B	5507	6410	6509	5211	5909
Georgia-12Y	5178	5749	6869	4961	5689
Georgia-14N	5896	6699	6690	5002	6071
Georgia-16HO	5469	4817	5638	4000	4981
Georgia-18RU	6046	7575	6849	5462	6483
Georgia-20VHO	5342	6910	6868	5305	6106
IPG 914	4904	5569	6061	4069	5151
TIFNV-High O/L	5436	6432	5727	5002	5649
TUFRunner™ '297'	5616	7077	6415	5634	6186
TUFRunner™ '511'	5436	7326	6266	5469	6124
Mean	5557	6564	6386	5101	5902

Table 6. Yield, average seed size, and grade of peanut varieties at the MAFES South Mississippi Branch, Beaumont.

Variety	2022 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
UF-15x38	<i>lb/A</i> 4047	<i>lb/A</i> —	<i>lb/A</i> —	% 69.3	<i>no./lb</i> 690
Georgia-18RU	3960	5241	5342	74.7	630
AU-NPL-17	3899	5398	5844	71.7	560
Georgia-16HO	3736	5494	6046	71.7	630
TUFRunner™ '297'	3519	5264	5616	70.1	680
UF-11x27	3482	—	—	70.1	710
Georgia-06G	3480	5365	5507	72.1	550
Georgia-20VHO	3451	5140	—	74.0	680
Georgia-14N	3356	5487	5469	73.6	660
Georgia-12Y	3329	5693	5896	67.4	770
TUFRunner™ '511'	3295	5057	5436	70.4	570
Georgia-19HP	3286	—	—	71.5	510
FloRun™ '331'	3117	5848	6015	70.3	720
TIFNV-High O/L	3094	5019	5436	72.6	560
IPG 914	3091	4759	4904	70.1	680
FloRun™ 'T61'	2959	—	—	69.9	730
Georgia-09B	2472	4904	5178	71.6	680
Mean	3387				
CV	15				
LSD	742				
R ²	41				
Error DF	51				

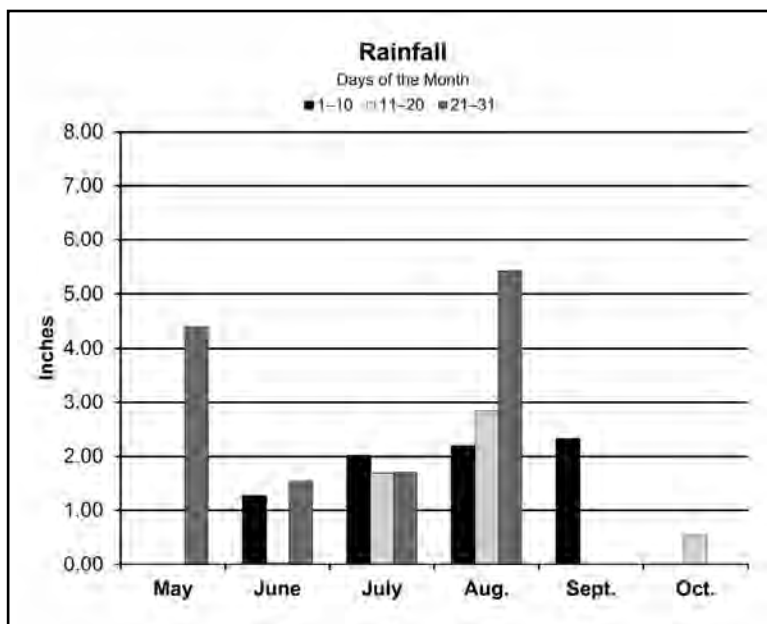
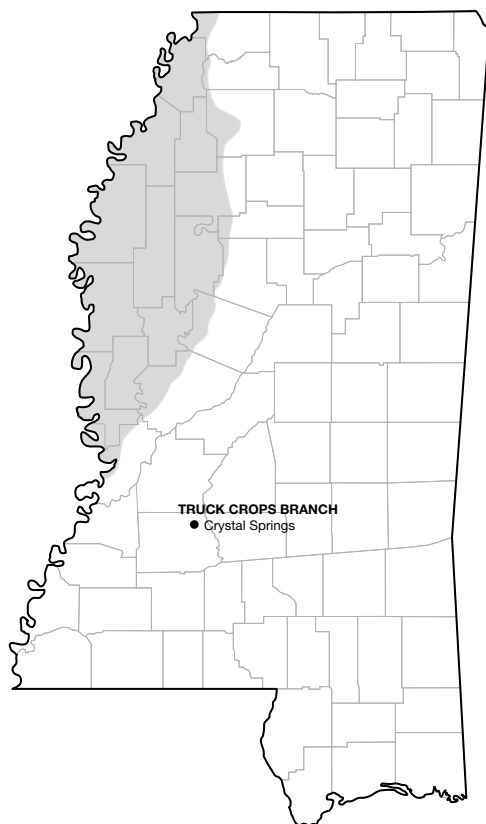
MAFES TRUCK CROPS BRANCH, CRYSTAL SPRINGS

Crop Summary

The peanut plots were planted flat into a well-prepared seedbed that had been disked and harrowed just prior to planting. Soil moisture at planting was favorable for germination, and all plots quickly emerged to a good

stand. Timely rains fell throughout the season to allow for good soil moisture. The digging and harvest process were completed in a timely manner without difficulties. Very good yields were recorded at this location.

Planting dateMay 16
Digging dateOctober 13
Harvest dateOctober 19
Soil typeProvidence silt loam
Soil pH6.2
Soil fertilityP=M, K=M
Previous cropGrass/Pasture
FertilizerPreplant — 0-20-20 @ 200 lb/A
HerbicidePreemergence — Dual II Magnum @ 32 oz, Valor @ 2 oz/A, and Gramoxone @ 32 oz/A on May 16
 Postemergence — Select Max @ 16 oz/A, Cadre @ 5 oz/A, and Zidua @ 2 oz/A on June 17; Select Max @ 16 oz/A and Ultra Blazer @ 24 oz/A on July 15; Assure II @ 10 oz/A August 4
Fungicide/Insecticide ...Muscle @ 32 oz on June 17; Bravo @ 32 oz/A on July 15; Miravis @ 3.4 oz/A on August 4



Rainfall Summary

	Inches
May.....	4.39
June.....	2.85
July.....	5.41
August.....	10.46
September.....	2.32
October.....	0.53
Total.....	25.96

Table 7. Yield, average size, and grade of peanut varieties at the MAFES Truck Crops Branch, Crystal Springs.

Variety	2022 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
UF-15x38	<i>lb/A</i> 8611	<i>lb/A</i> —	<i>lb/A</i> —	% 62.5	<i>no./lb</i> 800
Georgia-16HO	8386	8442	7575	62.1	690
TUFRunner™ '511'	8308	7939	7326	66.5	680
FloRun™ '331'	7286	7497	7237	63.1	740
Georgia-06G	7234	7302	6410	68.9	740
Georgia-18RU	7178	7729	6910	69.4	690
TUFRunner™ '297'	7007	7712	7077	71.9	650
AU-NPL-17	6896	7702	6972	69.8	680
UF-11x27	6837	—	—	65.3	830
Georgia-09B	6811	6810	5749	68.2	670
FloRun™ 'T61'	6619	—	—	66.3	770
Georgia-20VHO	6602	6866	—	66.0	680
Georgia-12Y	6598	7094	6699	65.3	800
TIFNV-High O/L	6200	7023	6432	67.3	670
IPG 914	6153	6036	5569	63.0	740
Georgia-19HP	6035	—	—	72.2	500
Georgia-14N	6001	5416	4817	67.0	820
Mean	6986				
CV	10				
LSD	984				
R ²	62				
Error DF	51				

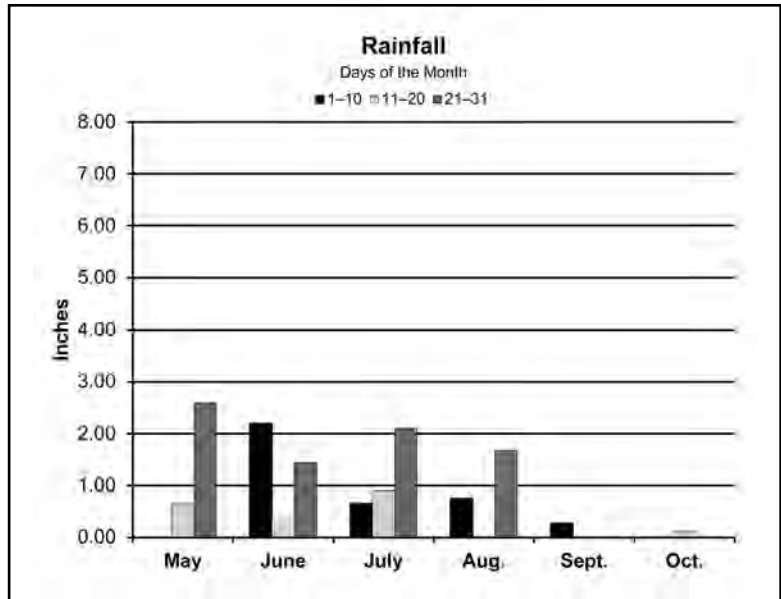
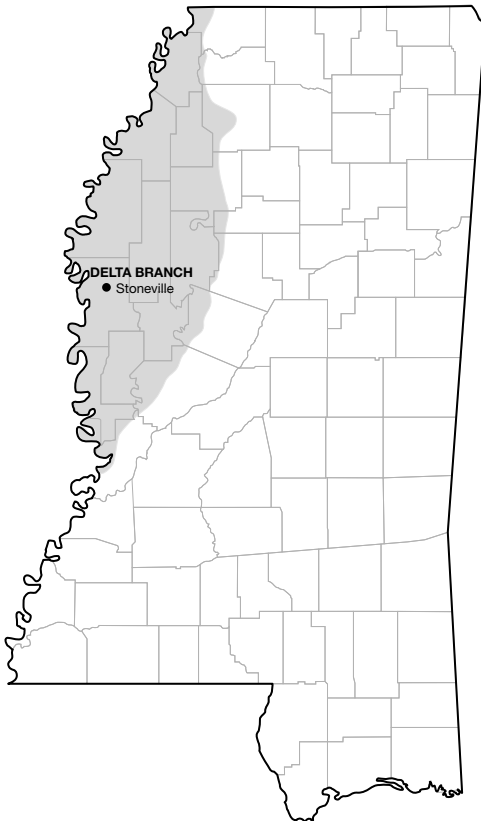
MAFES DELTA BRANCH, STONEVILLE

Crop Summary

All plots were planted in early May into a field that had the rows do-alled just prior to planting. Conditions at planting were very favorable for germination and emergence. All plots quickly emerged to a good stand. Temperatures were high, and rainfall was scarce during the summer; however, furrow irrigation allowed for ample soil moisture throughout the growing season.

This location was very dry when the plots were ready to dig, so one last, brief furrow irrigation was used to flush the plots, which resulted in softening the soil enough to allow for efficient digging in early October. Harvest was completed approximately 10 days after digging in late October. Weather was very favorable during harvest, and all plots were harvested without difficulties.

- Planting dateMay 11**
- Digging dateOctober 11**
- Harvest dateOctober 21**
- Soil typeBosket very fine sandy loam**
- Soil pH6.5**
- Soil fertilityP=H, K=H**
- Previous cropCotton**
- HerbicidePreemergence – Prowl @ 3 pt/A, Valor @ 3 oz/A, and Strongarm @ 0.25 oz/A on May 11**
Postemergence – SelectMax @ 12 oz/A + 1% COC on July 5; Zidua @ 2 oz/A on July 6



Rainfall Summary

	Inches
May	3.25
June	4.01
July	3.65
August	2.43
September	0.27
October	0.11
Total	13.72

Table 8. Yield, average seed size, and grade of peanut varieties at the MAFES Delta Branch, Stoneville.

Variety	2022 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
UF-11x27	<i>lb/A</i> 5402	<i>lb/A</i> —	<i>lb/A</i> —	% 71.3	<i>no./lb</i> 800
Georgia-12Y	5287	6529	6690	68.8	780
UF-15x38	5214	—	—	70.3	740
Georgia-20VHO	5213	6460	—	73.7	750
Georgia-18RU	5054	6636	6868	73.5	750
FloRun™ '331'	4949	6440	6830	70.0	790
Georgia-16HO	4906	6333	6849	69.3	710
Georgia-06G	4729	6420	6509	70.9	700
Georgia-09B	4547	6466	6869	71.9	720
TUFRunner™ '297'	4472	6069	6415	72.7	710
TUFRunner™ '511'	4309	5851	6266	72.7	670
Georgia-19HP	4260	—	—	73.2	580
IPG 914	4259	5963	6061	68.8	720
FloRun™ 'T61'	4198	—	—	70.0	710
AU-NPL-17	3920	5558	5915	68.9	680
TIFNV-High O/L	3865	5444	5727	70.4	720
Georgia-14N	3800	5831	5638	70.2	820
Mean	4611				
CV	12				
LSD	805				
R ²	52				
Error DF	51				

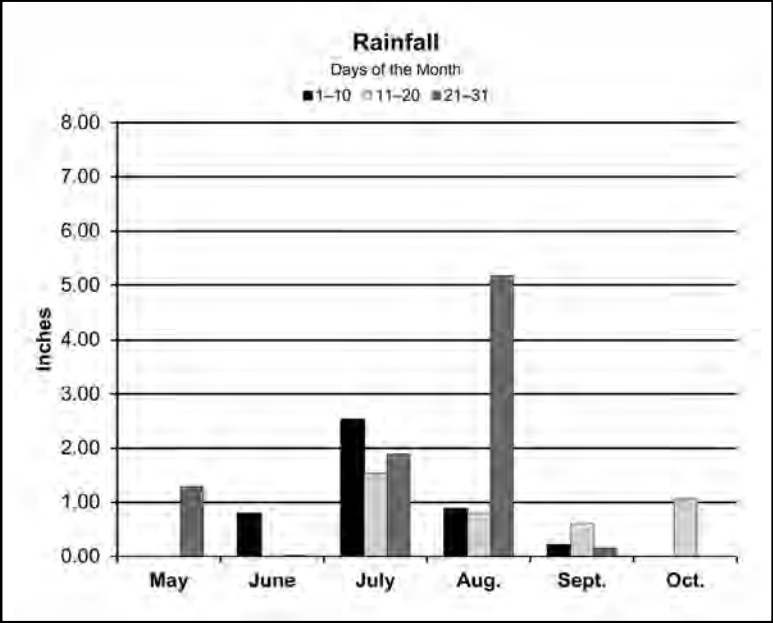
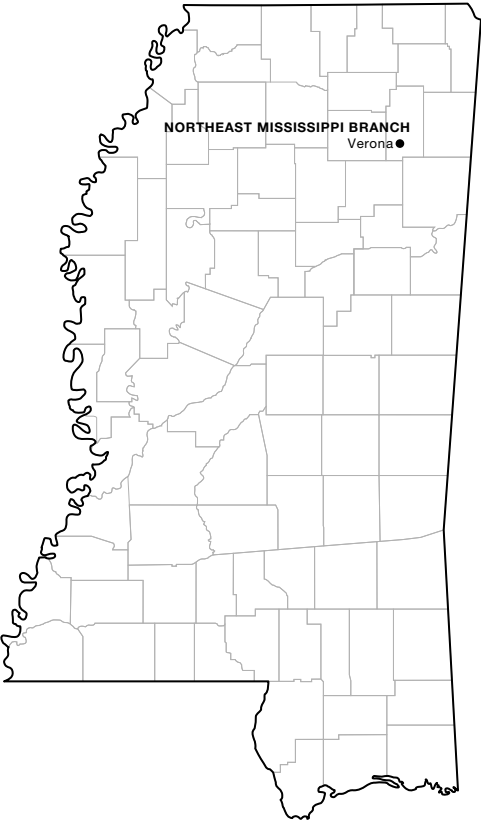
MAFES NORTHEAST MISSISSIPPI BRANCH, VERONA

Crop Summary

The plots were planted into a wide (76-inch) seedbed that had been hipped and rolled the previous fall. Soil moisture at planting was favorable for germination and seedling emergence. All plots quickly emerged to a good stand. This location experienced several long

periods of hot, dry weather throughout the growing season. Although rainfall was short during the growing season, there was sufficient moisture to allow for respectable yields. Digging and harvest were completed in a timely manner without difficulties.

- Planting date**May 12
- Digging date**October 13
- Harvest date**October 24
- Soil type**Leeper fine sandy loam
- Soil pH**6.4
- Soil fertility**P=M, K=M
- Previous crop**Corn
- Herbicide**Preemergence — Dual II Magnum @ 24 oz, Valor @ 2 oz/A, and Liberty @ 32 oz/A on May 12
- Postemergence** — Select Max @ 16 oz/A, Ultra Blazer @ 20 oz/A, and Zidua @ 2 oz/A on June 7; Select Max @ 14 oz/A on June 16; Cadre @ 5 oz/A, Select Max @ 14 oz/A, and Ultra Blazer @ 20 oz/A on July 7; Select Max @ 12 oz/A on July 21
- Fungicide/Insecticide** ..Manzinga @ 32 oz/A on July 7; Provost @ 11 oz/A on July 21; Miravis @ 3.4 oz/A on August 18



Rainfall Summary

	Inches
May.....	1.29
June.....	0.82
July.....	5.95
August.....	6.86
September.....	0.97
October.....	1.06
Total.....	16.95

Table 9. Yield, average seed size, and grade of peanut varieties at the MAFES Northeast Mississippi Branch, Verona.

Variety	2022 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
FloRun™ '331'	<i>lb/A</i> 5551	<i>lb/A</i> 6177	<i>lb/A</i> 5894	% 72.3	<i>no./lb</i> 670
UF-15x38	4966	—	—	72.4	740
FloRun™ 'T61'	4753	—	—	72.7	620
Georgia-20VHO	4750	4514	—	75.5	660
Georgia-12Y	4427	5032	5002	71.3	700
TUFRunner™ '297'	4353	5767	5634	74.8	580
TIFNV-High O/L	4287	5321	5002	74.7	610
IPG 914	4258	4115	4069	71.3	690
Georgia-16HO	4252	5387	5462	74.1	650
Georgia-09B	4167	5062	4961	72.1	700
TUFRunner™ '511'	4122	5739	5469	72.8	600
Georgia-18RU	4104	5354	5305	74.4	670
Georgia-19HP	4077	—	—	75.2	500
Georgia-06G	4039	5294	5211	73.2	630
UF-11x27	3997	—	—	71.8	760
AU-NPL-17	3807	5429	5207	71.4	700
Georgia-14N	3727	4036	4000	74.3	740
Mean	4332				
CV	9				
LSD	550				
R ²	63				
Error DF	51				





MS AGRICULTURAL AND
FORESTRY EXPERIMENT STATION

The mission of the Mississippi Agricultural and Forestry Experiment Station and the College of Agriculture and Life Sciences is to advance agriculture and natural resources through teaching and learning, research and discovery, service and engagement which will enhance economic prosperity and environmental stewardship, to build stronger communities and improve the health and well-being of families, and to serve people of the state, the region and the world.

Scott Willard, Director

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