

# MISSISSIPPI PEANUT

## VARIETY TRIALS, 2020

Information Bulletin 555 • January 2021



## MISSISSIPPI'S OFFICIAL VARIETY TRIALS



**MISSISSIPPI STATE UNIVERSITY™**  
MS AGRICULTURAL AND  
FORESTRY EXPERIMENT STATION



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# Mississippi Peanut Variety Trials, 2020

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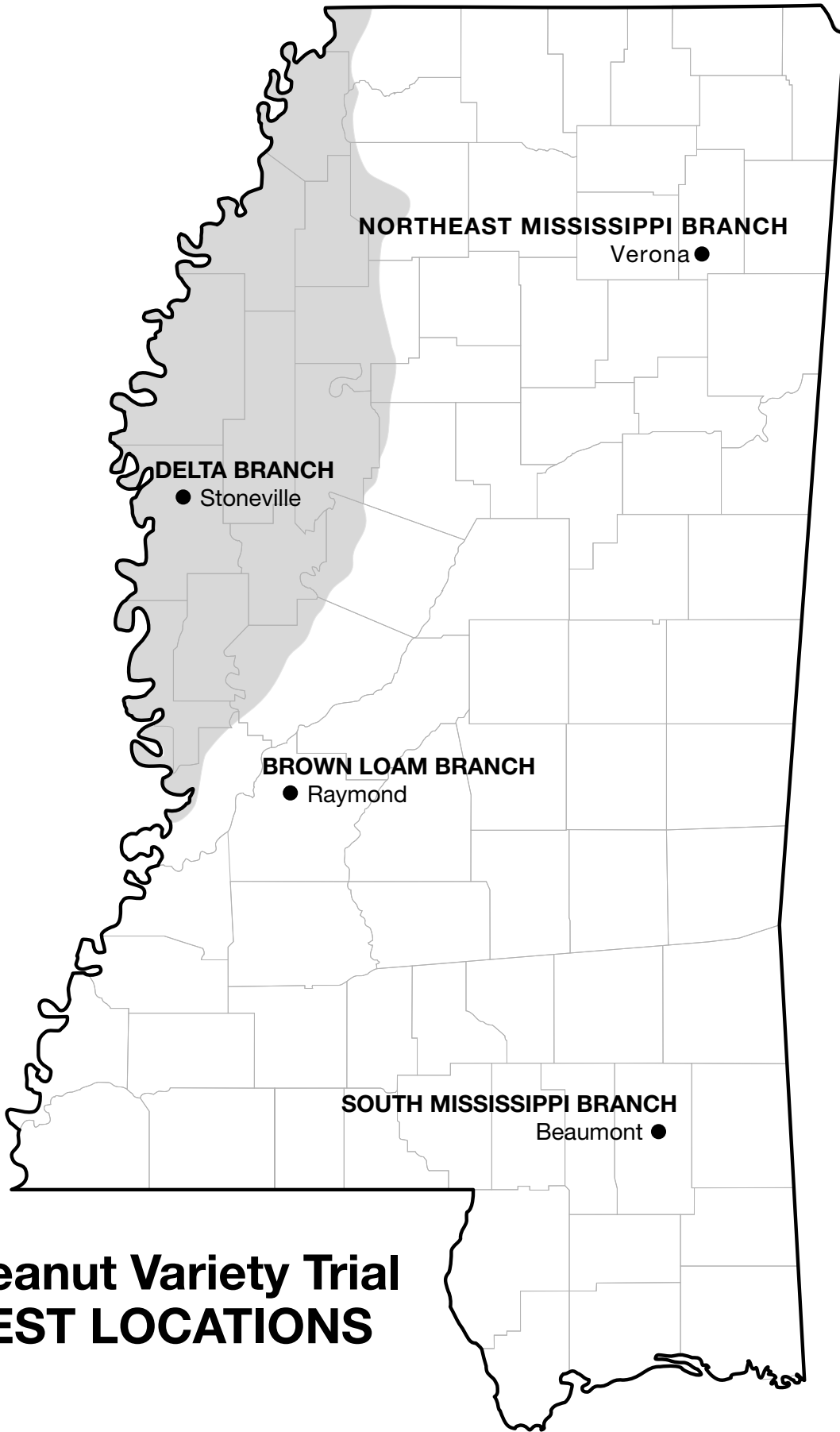
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Find variety trial information online at [mafes.msstate.edu/variety-trials](http://mafes.msstate.edu/variety-trials).





**Peanut Variety Trial  
TEST LOCATIONS**



# Mississippi Peanut Variety Trials, 2020

## PROCEDURES

Peanut variety trials were conducted at four locations in Mississippi in 2020. 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. 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. 2020 Mississippi Peanut Official Variety Trial yield and grade summary.**

Variety	Beaumont		Raymond		Stoneville		Verona		Overall average	
	Yield	TSMK	Yield	TSMK	Yield	TSMK	Yield	TSMK	Yield	TSMK
	<i>lb/A</i>	%	<i>lb/A</i>	%	<i>lb/A</i>	%	<i>lb/A</i>	%	<i>lb/A</i>	%
TUFRunner™ '511'	6194.2	77.3	6099.6	74.7	7096.7	70.6	4928.5	69.8	6079.8	73.1
AU-NPL-17	6735.8	74.1	5512.0	70.3	6627.8	73.0	4763.6	68.3	5909.8	71.4
FloRun™ '331'	6349.3	74.2	6716.7	73.9	7611.2	69.9	5328.4	65.9	6501.4	71.0
Georgia-06G	5791.6	77.4	4627.0	70.7	6687.0	72.8	5046.1	69.5	5537.9	72.6
Georgia-09B	5724.2	77.6	3625.8	71.0	7676.3	72.7	4759.2	69.1	5446.4	72.6
Georgia-12Y	6300.6	72.1	5908.1	72.0	7012.2	73.0	4940.0	64.7	6040.2	70.4
Georgia-14N	5431.3	75.2	3619.7	69.0	5251.9	75.1	3927.3	62.8	4557.5	70.5
Georgia-16HO	7150.7	77.2	5840.4	72.4	7881.3	70.7	5613.2	69.2	6621.4	72.4
Georgia-18RU	5543.8	77.8	5271.6	72.7	7332.0	73.1	5207.9	65.9	5838.8	72.4
IPG 914	5192.4	73.2	4633.5	74.9	6256.4	71.2	3978.7	65.9	5015.2	71.3
QR-14	4206.6	74.9	3929.3	73.3	6347.4	72.1	4456.2	63.6	4734.8	71.0
TIF-NV-HIGH O/L	6271.1	76.5	5250.4	74.6	6293.8	72.2	4364.5	63.3	5544.9	71.7
TUFRunner™ '297'	6320.2	76.9	5806.6	75.4	7107.8	72.1	5368.9	69.5	6150.9	73.5
Mean	5939.4	75.7	5141.6	72.7	6860.1	72.2	4821.7	66.7	5690.7	71.8
CV %	12.7		13.3		6.8		10.1			
LSD	1080.0		981.0		667.0		698.0			
$R^2$	54		71		74		58			
Error DF	39		39		39		39			



**Table 2. Two-year (2019 and 2020) yield summary of peanut variety trials in Mississippi.**

Variety	Beaumont	Raymond	Stoneville	Verona	Overall avg.
	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>
AU-NPL-17	6466.5	4278.5	4498.5	4830.2	5018.4
FloRun™ '331'	5927.9	5124.9	5169.9	5707.3	5482.5
Georgia-06G	5724.8	4010.2	5128.0	5355.1	5054.5
Georgia-09B	5667.5	3294.6	4656.8	5209.6	4707.1
Georgia-12Y	6349.5	4669.7	5457.6	5302.2	5444.7
Georgia-14N	5252.8	3165.8	3524.2	4513.3	4114.0
Georgia-16HO	6706.2	4858.9	4732.6	5971.9	5567.4
Georgia-18RU	5619.9	4411.0	4352.1	5775.7	5039.7
IPG 914	4971.7	3617.8	5275.3	4867.7	4683.1
QR-14	4361.8	3192.7	5418.8	5616.2	4647.4
TIF-NV-HIGH O/L	5969.2	4378.6	4258.9	5180.4	4946.8
TUFRunner™ '297'	6400.6	4784.3	4525.4	5611.8	5330.5
Overall mean	5784.9	4148.9	4749.8	5328.5	5003.0

**Table 3. Three-year (2018, 2019, and 2020) yield summary of peanut variety trials in Mississippi.**

Variety	Beaumont	Raymond	Stoneville	Verona	Overall avg.
	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>
AU-NPL-17	6158.6	5087.5	5242.3	5098.6	5396.8
FloRun™ '331'	5737.6	5777.4	5829.8	5991.5	5834.1
Georgia-06G	5804.8	4819.2	5998.2	5670.0	5573.1
Georgia-09B	5171.3	4446.8	5008.5	5387.1	5003.4
Georgia-12Y	5903.1	5480.2	6084.3	5400.5	5717.0
Georgia-14N	4870.3	4048.2	4123.8	4396.2	4359.6
Georgia-16HO	6246.7	5490.8	5732.1	6080.7	5887.6
IPG 914	4994.0	4497.1	5647.5	5145.8	5071.1
QR-14	4056.1	3852.5	5282.9	5127.1	4579.7
TIF-NV-HIGH O/L	5558.5	5094.9	4670.9	5479.8	5201.0
TUFRunner™ '297'	6053.0	5157.4	5296.2	5779.4	5571.5
Overall mean	5504.9	4886.5	5356.1	5414.2	5290.4

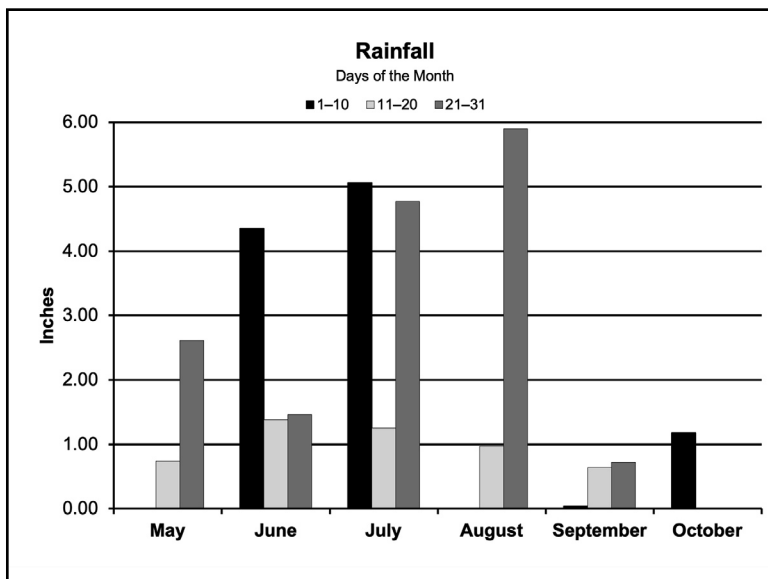
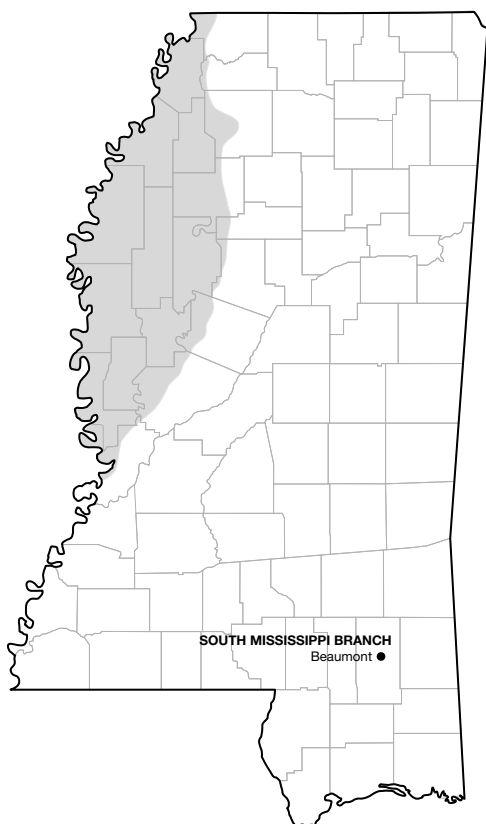
# MAFES SOUTH MISSISSIPPI BRANCH, BEAUMONT

## Crop Summary

The peanut plots were planted into a seedbed that had been hipped earlier in the spring. The rows were dug down with a harrow just prior to planting. Good soil moisture was present at planting for germination. All plots

quickly emerged to a good stand. Timely rainfall throughout the season allowed for good soil moisture throughout. Digging and harvest of the plots was completed in a timely manner without weather delays.

Planting date .....May 14  
 Digging date .....October 13  
 Harvest date .....October 19  
 Soil type .....Lucedale fine sandy loam  
 Soil pH .....6.2  
 Soil fertility .....P= M, K= M  
 Previous crop .....Wheat  
 Fertilizer .....Preplant — 13-13-13 @ 200 lb/A  
 Herbicides .....Preemergence — Dual II Magnum @ 24 oz, Valor @ 2 oz/A, and Gramoxone @ 32 oz/A on May 14  
 Postemergence — Select Max @ 16 oz/A and Cadre @ 5 oz/A on July 6  
 Fungicides/Insecticides ...Convoy @ 32 oz on July 6; Manzinga @ 32 oz/A on July 15; Manzinga @ 32 oz/A on July 31; Manzinga @ 32 oz/A on August 14; Muscle @ 32 oz and Miravis @ 3.4 oz on August 28; Convoy @ 32 oz and Manzinga @ 32 oz on September 9



## Rainfall Summary

	Inches
May	.335
June	.719
July	.1108
August	.687
September	.140
October	.118
<b>Total</b>	<b>.3107</b>

**Table 4. Yield, average seed size, and grade of peanut varieties at the MAFES South Mississippi Branch, Beaumont.**

Variety	2020 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	<i>%</i>	<i>no./lb</i>
Georgia-16HO	7150.7	6706.2	6246.7	77.2	570
AU-NPL-17	6735.8	6466.5	6158.6	74.1	590
FloRun™ '331'	6349.3	5927.9	5737.6	74.2	610
TUFRunner™ '297'	6320.2	6400.6	6053.0	76.9	500
Georgia-12Y	6300.6	6349.5	5903.1	72.1	700
TIF-NV-HIGH O/L	6271.1	5969.2	5558.5	76.5	540
TUFRunner™ '511'	6194.2	—	—	77.3	590
Georgia-06G	5791.6	5724.8	5804.8	77.4	530
Georgia-09B	5724.2	5667.5	5171.3	77.6	560
Georgia-18RU	5543.8	5619.9	—	77.8	620
Georgia-14N	5431.3	5252.8	4870.3	75.2	620
IPG 914	5192.4	4971.7	4994.0	73.2	620
QR-14	4206.6	4361.8	4056.1	74.9	710
Mean	5939.4				
CV %	12.7				
LSD	1080.0				
R <sup>2</sup>	54				
Error DF	39				

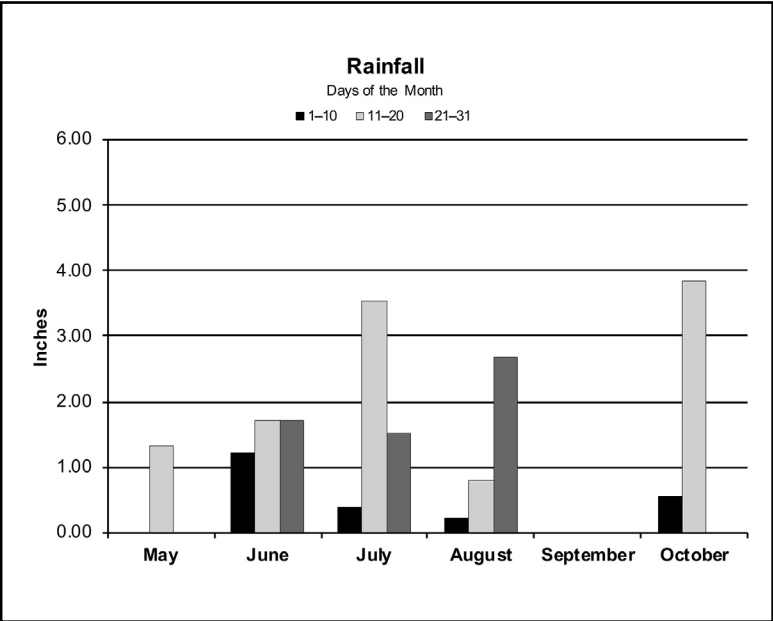
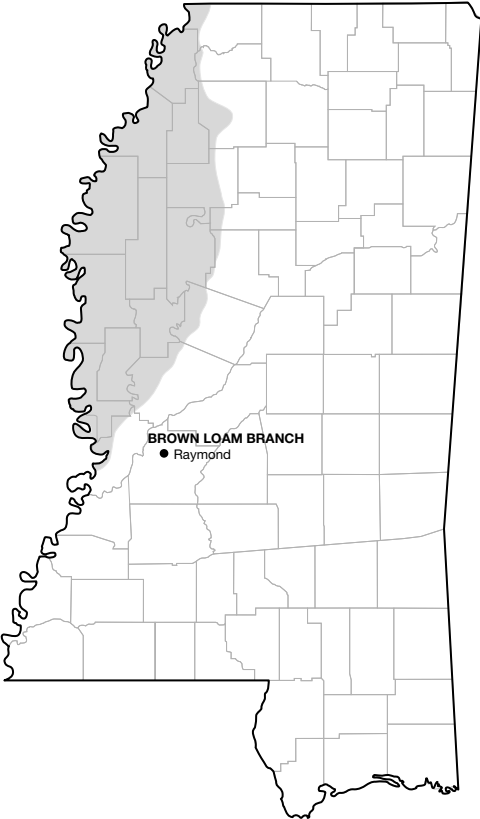
# MAFES BROWN LOAM BRANCH, RAYMOND

## Crop Summary

The peanut plots were planted into a 76-inch seedbed that had been prepared the previous fall. The beds were drug down just prior to planting to ensure a smooth seedbed and provide good soil moisture to allow for ideal conditions for germination and emergence. 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 with difficulties.

**Planting date** .....May 11  
**Digging date** .....October 13  
**Harvest date** .....October 23  
**Soil type** .....Loring silt loam  
**Soil pH** .....6.0  
**Soil fertility** .....P= M, K= M  
**Previous crop** .....Corn  
**Fertilizer** .....Preplant – 0-20-20 @ 250 lb/A  
**Herbicides** .....Preemergence – Dual II Magnum @ 32 oz, Valor @ 2 oz/A, and Gramoxone @ 32 oz/A on May 11  
   Postemergence – Dual II Magnum @ 24 oz/A, Select Max @ 16 oz/A, and Cadre @ 5 oz/A on June 15; Select Max @ 16 oz/A and Ultra Blazer @ 24 oz/A on June 29; Select Max @ 16 oz/A and Ultra Blazer @ 20 oz/A on July 14  
**Fungicides/Insecticides** ...Convoy @ 32 oz on June 29; Manzanga @ 32 oz/A on July 14; Miravis @ 3.4 oz and Convoy @ 32 oz on August 3; Echo @ 9.5 oz and Muscle @ 32 oz on September 3



### Rainfall Summary

	Inches
May .....	1.33
June .....	4.64
July .....	5.45
August .....	3.70
September .....	0.00
October .....	4.41
<b>Total</b> .....	<b>19.53</b>



**Table 5. Yield, average size, and grade of peanut varieties at the MAFES Brown Loam Branch, Raymond.**

Variety	2020 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	%	<i>no./lb</i>
FloRun™ '331'	6716.7	5124.9	5777.4	73.9	620
TUFRunner™ '511'	6099.6	—	—	74.7	510
Georgia-12Y	5908.1	4669.7	5480.2	72.0	750
Georgia-16HO	5840.4	4858.9	5490.8	72.4	650
TUFRunner™ '297'	5806.6	4784.3	5157.4	75.4	530
AU-NPL-17	5512.0	4278.5	5087.5	70.3	600
Georgia-18RU	5271.6	4411.0	—	72.7	670
TIF-NV-HIGH O/L	5250.4	4378.6	5094.9	74.6	620
IPG 914	4633.5	3617.8	4497.1	74.9	670
Georgia-06G	4627.0	4010.2	4819.2	70.7	590
QR-14	3929.3	3192.7	3852.5	73.3	740
Georgia-09B	3625.8	3294.6	4446.8	71.0	680
Georgia-14N	3619.7	3165.8	4048.2	69.0	740
Mean	5141.6				
CV %	13.3				
LSD	981.0				
R <sup>2</sup>	71				
Error DF	39				

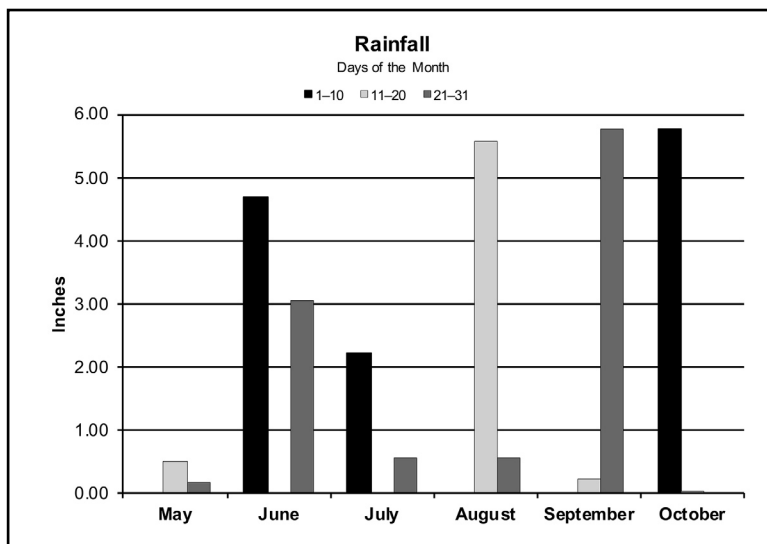
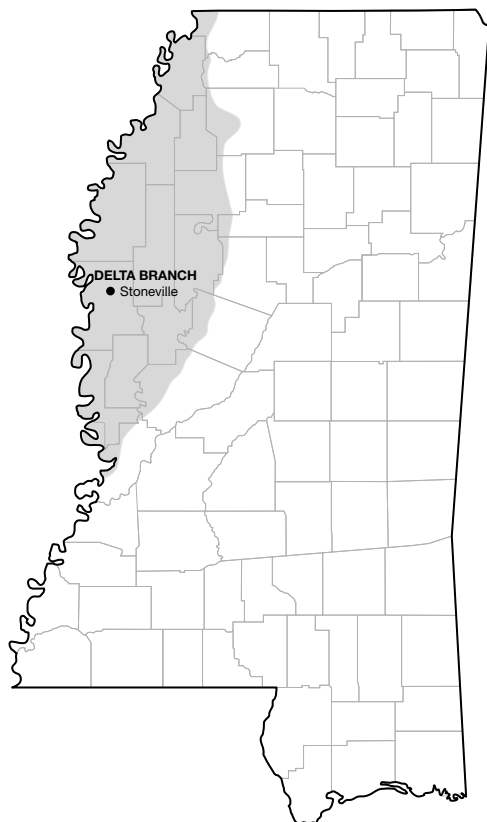
# MAFES DELTA BRANCH, STONEVILLE

## Crop Summary

All plots were planted in mid-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. Timely rains during the summer allowed for ample soil

moisture throughout the growing season. The plots were dug in early October, but harvest was delayed due to over 5 inches of rain that fell because of a hurricane. Harvest was completed in mid-October without difficulties, and good yields were observed at this location.

Planting date .....May 13  
Digging date .....October 2  
Harvest date .....October 16  
Soil type .....Bosket very fine sandy loam  
Soil pH .....6.5  
Soil fertility .....P= H, K= H  
Previous crop .....Cotton  
Herbicides .....Preemergence — Prowl @ 3 pt/A and Strongarm @ 0.25 oz/A on May 13  
Postemergence — Zidua @ 2 oz/A on June 19  
Fungicides/Insecticides ...Provost Opti @ 8 oz/A on July 17; Fontellis @ 24 oz/A on August 31



## Rainfall Summary

	Inches
May	0.69
June	7.75
July	2.79
August	6.13
September	5.99
October	5.81
Total	29.16

**Table 6. Yield, average seed size, and grade of peanut varieties at the MAFES Delta Branch, Stoneville.**

Variety	2020 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	%	<i>no./lb</i>
Georgia-16HO	7881.3	4732.6	5732.1	70.7	750
Georgia-09B	7676.3	4656.8	5008.5	72.7	700
FloRun™ '331'	7611.2	5169.9	5829.8	69.9	720
Georgia-18RU	7332.0	4352.1	—	73.1	650
TUFRunner™ '297'	7107.8	4525.4	5296.2	72.1	620
TUFRunner™ '511'	7096.7	—	—	70.6	630
Georgia-12Y	7012.2	5457.6	6084.3	73.0	720
Georgia-06G	6687.0	5128.0	5998.2	72.8	640
AU-NPL-17	6627.8	4498.5	5242.3	73.0	660
QR-14	6347.4	5418.8	5282.9	72.1	750
TIF-NV-HIGH O/L	6293.8	4258.9	4670.9	72.2	640
IPG 914	6256.4	5275.3	5647.5	71.2	640
Georgia-14N	5251.9	3524.2	4123.8	75.1	700
Mean	6860.1				
CV %	6.8				
LSD	667.0				
R <sup>2</sup>	74				
Error DF	39				

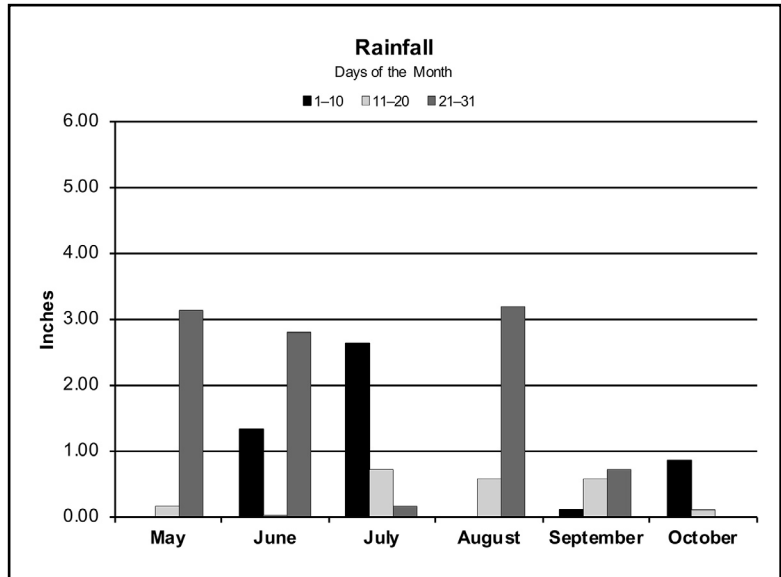
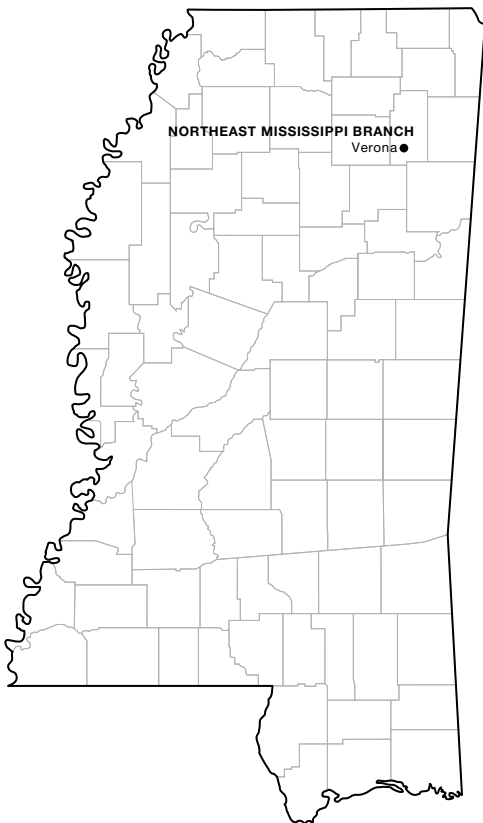
# NORTHEAST MISSISSIPPI BRANCH, VERONA

## Crop Summary

The plots were planted into a wide (76-inch) seedbed that had been hipped and rolled soon before planting. Soil moisture at planting was favorable for germination and seedling emergence. All plots quickly emerged to a good stand. This location experienced a 5- to 6-week period

without rainfall during the latter part of the summer. This period of drought probably reduced the maximum yield potential for varieties at this location. Digging and harvest were completed in a timely manner. Yields were respectable at this location considering the lack of rainfall.

- Planting date .....May 12
- Digging date .....October 14
- Harvest date .....October 22
- Soil type .....Leeper fine sandy loam
- Soil pH .....6.4
- Soil fertility .....P= M, K= M
- Previous crop .....Fallow
- Herbicides .....Preemergence — Dual II Magnum @ 24 oz, Valor @ 2 oz/A, and Gramoxone @ 32 oz/A on May 12  
Postemergence — Select Max @ 16 oz/A, Dual II Magnum @ 16 oz/A, and Ultra Blazer @ 20 oz/A on June 12; Select Max @ 16 oz/A and Ultra Blazer @ 18 oz/A on June 30; Select Max @ 14 oz/A on July 21
- Fungicides/Insecticides ...Convoy @ 32 oz on June 30; Miravis @ 3.4 oz/A and Muscle @ 32 oz/A on July 21; Miravis @ 3.4 oz/A and Convoy @ 32 oz/A on August 18; Echo @ 9.5 oz/A and Muscle @ 32 oz/A on September 4



### Rainfall Summary

	Inches
May	.328
June	.416
July	.352
August	.375
September	.139
October	.093
<b>Total</b>	<b>.1703</b>



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

Variety	2020 yield	2-year avg.	3-year avg.	TSMK	Seed avg.
	<i>lb/A</i>	<i>lb/A</i>	<i>lb/A</i>	%	<i>no./lb</i>
Georgia-16HO	5613.2	5971.9	6080.7	69.2	720
TUFRunner™ '297'	5368.9	5611.8	5779.4	69.5	640
FloRun™ '331'	5328.4	5707.3	5991.5	65.9	690
Georgia-18RU	5207.9	5775.7	—	65.9	790
Georgia-06G	5046.1	5355.1	5670.0	69.5	710
Georgia-12Y	4940.0	5302.2	5400.5	64.7	750
TUFRunner™ '511'	4928.5	—	—	69.8	650
AU-NPL-17	4763.6	4830.2	5098.6	68.3	600
Georgia-09B	4759.2	5209.6	5387.1	69.1	720
QR-14	4456.2	5616.2	5127.1	63.6	850
TIF-NV-HIGH O/L	4364.5	5180.4	5479.8	63.3	740
IPG 914	3978.7	4867.7	5145.8	65.9	770
Georgia-14N	3927.3	4513.3	4396.2	62.8	800
Mean	4821.7				
CV %	10.1				
LSD	698.0				
R <sup>2</sup>	58				
Error DF	39				







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**Reuben Moore, Interim Director**

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