

TEXAS PEANUT VARIETY TRIALS | 2020



**Texas A&M AgriLife
Research and
Extension Service**



TEXAS PEANUT VARIETY TRIAL | 2020

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2020 HIGHLIGHT

Variety selection is the most important decision made during the year. Unlike herbicide or fungicide decisions that can be adjusted during the season to address specific conditions and pests, variety selection is made only once, and variety selection dictates the management of a field for the entire season. Several factors influence variety selection decisions and should be based on specific pest resistant characteristics to minimize the pest pressure during the season, as well as maturity characteristics. Maturity is also important variety characteristic for maximizing yield potential based on the environment. The 2020 planted acres were 190,000 acres as compared to 165,000 acres in 2019. Texas contributed 8 % of total US peanut production in 2020. According to the USDA National Agricultural Statistics Service, the 2020 average yield was 2,800 lb/ac in TX. Slow germination was observed due to the cold and dry conditions in some fields in the West Texas and Rolling Plains. Severe drought and hot summer temperature severely impacted Texas peanut production. Many west Texas fields only received trace amount of in-season precipitation. Furthermore, the early frost on October 26-27 further decreased yield potential. There were observations of pod rot, early and late leaf spots, and Aspergillus crown rot. However, overall disease pressure was below average due to the dry condition in 2020.

Weather information for peanut production region in Texas

Table 1. Heat unit (DD₅₆ and ceiling at 95F) for peanut production region in Texas during 2018-2020.

Data were obtained from NOAA (<https://www.noaa.gov/>)

	May	Jun	Jul	Aug	Sep	Oct	May- Sep	Date of the first killing frost
Memphis								
2020	476	720	848	812	455	237	3309	10/24
2019	344	613	777	808	699	181	3240	10/12
2018	636	727	808	756	546	171	3472	10/15
Seminole								
2020	515	637	823	792	451	282	3218	10/27
2019	387	575	628	801	626	233	3016	10/27
2018	630	747	772	722	460	215	3330	10/16
Stephenville								
2020	597	749	878	864	541	346	3628	10/26
2019	536	719	841	891	770	351	3756	10/31
2018	688	835	894	846	633	333	3895	11/12
San Antonio								
2020	654	747	884	862	659	512	3805	12/1
2019	713	810	909	955	891	508	4276	11/1
2018	791	891	915	922	792	513	4309	11/13

Table 2. Monthly precipitation (inch) for the peanut production region in Texas during 2018-2020. Data were obtained from NOAA.

	Apr	May	Jun	Jul	Aug	Sep	Apr-Sep
Memphis							
2020	0.3	1.2	3.6	0.8	2.8	1.5	10.2
2019	3.0	4.7	2.8	3.6	1.5	2.2	17.8
2018	0.6	4.5	3.7	1.2	1.6	4.1	15.8
Seminole							
2020	0.00	0.03	0.02	0.62	0.34	0.92	1.9
2019	4.4	1.3	2.6	1.9	0.0	3.4	13.6
2018	0.0	0.6	1.9	3.3	2.3	3.5	11.7
Stephenville							
2020	0.5	2.2	2.9	2.0	0.6	7.9	16.1
2019	6.2	7.8	3.1	1.6	1.8	0.1	20.6
2018	0.3	2.8	0.2	2.0	2.9	6.3	14.3
San Antonio							
2020	1.6	6.5	1.8	1.3	0.5	2.5	14.2
2019	2.7	2.9	8.1	0.3	0.0	0.7	14.7
2018	1.1	1.8	0.6	2.5	2.3	10.4	18.6

2020 Peanut Variety Trial Summary

	West Texas	Rolling Plains 1	Rolling Plains 2	Central Texas	South Texas
County	Lubbock	Wilbarger	Collingsworth	Comanche	Frio
Planting	5/7/2020	5/19/2020	5/6/2020	5/5/2020	6/4/2020
Digging	10/20/2020	10/9/2020	10/6/2020	9/29/2020	10/26/2020
Harvesting	10/24/2020	10/14/2020	10/12/2020	10/6/2020	11/2/2020
DAP	166	143	153	147	144
DD56	3349	3171	3261	3511	3578
Freeze	10/27/2020	10/26/2020	10/24/2020	10/26/2020	-
Precipitation May-Sep	1.9	16.1	9.9	15.6	12.6
Average yield					
Runner	3105	4395	-*	8015	4709
Spanish	2590	3659	-	7173	4075
Virginia	2638	4216	-	7571	5375
Valencia	2185	2631	-	6098	4440

*Data are not reported due to deer damage

West Texas **Lubbock County**
Cooperator **TAMU**
Planted on **5/7/2020**
Dug on **10/20/2020** **166** **DAP**
Harvested on **10/24/2020**
Disease **Low disease pressure**
First killing frost **10/26/2020**

ELK: Extra large kernels
 DK: Damaged kernels
 OK: Other kernels
 TSMK: Total Sound Mature Kernels

Lubbock		2019	2020	TSMK	ELK	DK	OK
RUNNER	Release	Yield	Yield	%	%	%	%
Lariat	OK	-	3772	60.6	-	3.08	7.75
NemaTAM II	TAMU	6999	3720	67.2	-	2.57	3.54
IPG 4944	IPG	7093	3711	65	-	4.17	4.53
TxLRu0303	TAMU	-	3406	64.2	-	3.96	3.9
TxRu70	TAMU	6585	3398	64.4	-	3.57	3.6
IPG 914	IPG	6970	3372	66.2	-	3.09	3.95
IPG 08-1-0016	IPG	5757	3337	65.2	-	3.89	2.6
GA09B	GA	7151	3241	66.3	-	3.46	4.07
GA16HO	GA	-	3110	64.6	-	3.4	4.38
AG18	TAMU	6861	2962	65	-	2.71	4.03
TxLRu0509	TAMU	-	2535	62.1	-	3.14	5.7
IPG 16-1-2154	IPG	-	2405	60.7	-	3.65	5.86
IPG QR-14	IPG	6331	2317	62.7	-	4.81	3
Tamrun OL18L	TAMU	-	2187	63.5	-	3.38	4.71
Means		6564*	3105	64.1	-	3.49	4.40
CV		10	29	4.5	-	6.16	31.65
P0.1		0.0772	NS	NS	-	NS	0.0159

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Lubbock		2019	2020	TSMK	ELK	DK	OK
SPANISH	Release	Yield	Yield	%	%	%	%
IPG 3628	IPG	6461	3189	69.4	-	2.09	2.85
ACI 236	IPG	4596	2352	71.1	-	2.02	2.77
OLe	OK	5067	2230	64.6	-	2.73	3.04
Means		5546*	2590	68.4	-	2.28	2.89
CV		7	20	4.1	-	31.13	25.62
P0.1		0.0002	NS	0.0029	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Lubbock		2019	2020	TSMK	ELK	DK	OK
VIRGINIA	Release	Yield	Yield	%	%	%	%
ACI 442	ACI	6425	4051	62.1	32	1.81	5.32
IPG 464	IPG	5881	3154	47.3	26	2.29	17.05
IPG 16-2-1733	IPG	-	2770	47.3	16	2.38	10.83
TxL090105-18	TAMU	6846	2622	58.7	37	1.08	7.90
TxL090106-05	TAMU	6556	2596	53.9	32	2.28	10.53
TxL090105-15	TAMU	6193	2465	58.3	32	2.54	7.83
TxL090105-07	TAMU	7028	2239	57	30	2.15	8.81
NC17	NC	-	2204	48.6	26	1.71	17.37
TxL090105-38	TAMU	6919	2152	55.8	26	2.10	9.93
Contender	OK	-	2126	56.4	33	2.26	9.43
Means		6332*	2638	54.5	29.0	2.06	10.50
CV		11	35	8.4	9.4	30.45	33.33
P0.1		0.0882	NS	NS	0.0138	NS	0.0089

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Lubbock		2019	2020	TSMK	ELK	DK	OK
VALENCIA	Release	Yield	Yield	%	%	%	%
NMSU-7	NMS	-	3842	62.3	-	2.16	3.33
IPG 274	IPG	5401	3319	71.1	-	2.16	1.81
IPG 1288	IPG	6411	2736	67.9	-	2.68	2.81
NuMex-01	NMS	-	2457	62.7	-	2.73	2.97
NMSU-8	NMS	-	2213	61.1	-	2.7	3.34
NMSU-9	NMS	-	2143	63.9	-	2.7	3.34
NMSU-5	NMS	3550	2143	58.9	-	3.22	4.26
NMSU-3	NMS	-	2126	60.1	-	3.15	3.76
NMSU-10	NMS	-	2091	59.3	-	4.27	2.9
TxL054529-48	TAMU	1641	2012	60.5	-	3.37	2.44
NMSU-4	NMS	3419	1995	61.5	-	3.37	3.29
NMSU-2	NMS	3521	1951	59.6	-	3.41	3.78
Valencia C	NMS	-	1734	60.5	-	2.54	2.89
NMSU-1	NMS	3456	1568	55.6	-	2.98	3.34
NMSU-6	NMS	5104	1342	55.3	-	4.88	3.26
TamVal OL14	TAMU	3078	1289	61.1	-	2.85	3.35
Means		3902*	2185	61.3	-	3.07	3.18
CV		15	45	4.6	-	24.96	50.01
P0.1		<.0001	NS	<.0001	-	0.0152	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Rolling Plains **Wilbarger County**
Cooperator **TAMU**
Planted on **5/19/2020**
Dug on **10/9/2020** **143** **DAP**
Harvested on **10/14/2019**
Disease: **Minor leaf spot and very little pod rot**
First killing frost **10/26/2020**

ELK: Extra large kernels
 DK: Damaged kernels
 OK: Other kernels
 TSMK: Total Sound Mature Kernels

Wilbarger		2019	2020	TSMK	ELK	DK	OK
RUNNER	Release	Yield	Yield	%	%	%	%
TxLRu0303	TAMU	-	5297	56.4	-	0.21	9.85
TxLRu0509	TAMU	-	4861	42.8	-	0.07	13.15
GA16HO	GA	-	4739	54.4	-	0.07	9.02
GA09B	GA	3550	4705	62.4	-	0.01	7.14
NemaTAM II	TAMU	3271	4700	58.8	-	0.07	6.84
AG-18	TAMU	3260	4491	56.5	-	0.06	10.26
TxRu70	TAMU	-	4465	54.0	-	0.18	10.58
Lariat	OK	3492	4343	61.8	-	0.03	8.41
IPG 914	IPG	2425	4130	58.4	-	0.04	8.72
Tamrun OL18L	TAMU	-	3833	45.1	-	0.58	13.50
IPG QR-14	IPG	3122	3820	47.6	-	0.07	16.00
IPG 4944	IPG	2788	3354	43.5	-	0.07	24.91
Means		3024*	4395	53.5	-	0.12	11.53
CV		19	23	17.3	-	182.23	46.89
P0.1		0.4604	NS	NS	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Wilbarger		2019	2020	TSMK	ELK	DK	OK
SPANISH	Release	Yield	Yield	%	%	%	%
IPG 3628	IPG	3314	4164	52.3	-	0.10	12.90
ACI 236	IPG	2396	3642	53.3	-	0.10	14.60
OLe	OK	2058	3171	51.7	-	0.20	8.90
Means		2260*	3659	52.4	-	0.13	12.13
CV		31	5	8.6	-	63.96	25.54
P0.1		0.0253	0.0095	NS	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Wilbarger		2019	2020	TSMK	ELK	DK	OK
VIRGINIA	Release	Yield	Yield	%	%	%	%
IPG 464	IPG	3066	4905	48.8	73.8	0.48	6.78
Contender	OK	2810	4770	48.3	61.9	0.17	9.09
NC17	NC	-	4103	51.8	68	0.2	7.06
ACI 442	ACI	2552	3084	41	42.4	0.06	12.04
Means		2759*	4216	47.5	61.5	0.23	8.74
CV		17	24	3.9	36.2	55.33	30.02
P0.1		0.0401	NS	NS	NS	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Wilbarger		2019	2020	TSMK	ELK	DK	OK
VALENCIA	Release	Yield	Yield	%	%	%	%
IPG 274	IPG	2532	4857	56.4	-	0.35	9.45
IPG 1288	IPG	1935	4583	55.7	-	1.60	10.50
NMSU-8	NMS	-	2940	47.8	-	0.42	11.56
NMSU-7	NMS	-	2892	48.2	-	0.62	11.03
TxL054529-48	TAMU	-	2627	47.4	-	0.31	11.16
TamVal OL14	TAMU	-	2614	48.7	-	0.16	11.29
NMSU-1	NMS	-	2500	43.8	-	1.14	14.21
NuMex-01	NMS	-	2500	44.1	-	1.10	13.81
NMSU-9	NMS	-	2487	46.8	-	0.76	10.27
NMSU-3	NMS	-	2457	43.9	-	0.28	11.49
Valencia C	NMS	-	2313	46.4	-	0.32	12.53
NMSU-4	NMS	-	2217	40.6	-	0.73	14.38
NMSU-10	NMS	-	2091	49.6	-	0.49	9.65
NMSU-2	NMS	-	1917	42.2	-	0.40	15.41
NMSU-5	NMS	-	1886	42.1	-	0.86	12.83
NMSU-6	NMS	-	1220	45.2	-	0.26	11.43
Means		2233*	2631	46.8	-	0.61	11.94
CV		20	33	13.14	-	125.55	28.92
P0.1		0.2281	0.0022	NS	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Central Texas **Comanche County**
Cooperator **Mark Allison**
Planted on **5/5/2020**
Dug on **9/29/2020** **147** **DAP**
Harvested on **10/6/2020**
Disease: **Minor leaf spot and very little pod rot**

ELK: Extra large kernels
 DK: Damaged kernels
 OK: Other kernels
 TSMK: Total Sound Mature Kernels

Comanche		2019	2020	TSMK	ELK	DK	OK
RUNNER	Release	Yield	Yield	%	%	%	%
GA16HO	GA	-	8546	70.4	-	0.11	4.39
Lariart	OK	8478	8174	70.1	-	0.05	5.39
GA09B	GA	7385	8114	71.4	-	0.08	4.11
AG18	TAMU	7845	7697	69.6	-	0.04	5.84
IPG QR-14	IPG	7417	7544	70.6	-	0.17	5.08
Means		7900*	8015	70.4	-	0.09	4.962
CV		9	15	2.1	-	174	22
P0.1		NS	NS	NS	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Comanche		2019	2020	TSMK	ELK	DK	OK
SPANISH	Release	Yield	Yield	%	%	%	%
OLe	OK	6461	7228	66.0	-	0.15	3.63
ACI 236	IPG	-	7117	70.0	-	0.00	5.91
Means		6556*	7173	68.0	-	0.075	4.77
CV		12	20.8	2	-	244	5
P0.1		0.0125	NS	0.1091	-	NS	0.0064

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Comanche		2019	2020	TSMK	ELK	DK	OK
VIRGINIA	Release	Yield	Yield	%	%	%	%
ACI 464	IPG	-	8028	69.0		0.59	1.97
ACI 442	ACI	-	8014	65.0		0.33	4.33
Contender	OK	7530	6672	69.0		0.15	3.61
Means		6839*	7571	67.7	-	0.36	3.30
CV		16	20.8	2	-	105	23
P0.1		0.2199	NS	0.0313	-	NS	0.0419

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

Comanche		2019	2020	TSMK	ELK	DK	OK
VALENCIA	Release	Yield	Yield	%	%	%	%
TamVal OL14	TAMU	-	6672	67.0	-	0.11	4.16
Valencia C	NMS	-	5524	66.0	-	0	5.12
Means		-	6098	67.0	-	0.11	4.16
CV		-	5.85	3	-	243	3
P0.1		-	0.0588	NS	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average

South Texas **Frio County**
Cooperator **Grayson Wilmeth**
Planted on **6/4/2020**
Dug on **10/26/2020** **144** **DAP**
Harvested on **11/2/2020**
Disease: **Leaf spot**

ELK: Extra large kernels
 DK: Damaged kernels
 OK: Other kernels
 TSMK: Total Sound Mature Kernels

STX		2019	2020	TSMK	ELK	DK	OK
RUNNER	Release	Yield	Yield	%	%	%	%
GA09B	GA	7151	5716	69.0	-	0.36	3.95
AG18	TAMU	6999	5474	70.5	-	0.00	2.99
TamrunOL18L	TAMU	-	5289	69.3	-	0.28	2.92
IPG 4944	IPG	7093	5046	69.3	-	0.24	3.88
TxRu70	TAMU	6585	4842	67.7	-	0.56	3.71
IPG 914	IPG	6970	4831	67.9	-	0.00	4.40
NemaTAM II	TAMU	6999	4580	68.7	-	0.17	3.51
Lariat	TAMU	-	4268	69.4	-	0.00	3.27
GA16HO	GA	-	4186	69.0	-	0.61	3.16
IPG QR-14	IPG	6331	4162	68.6	-	0.11	5.45
TxLRu0303	TAMU	-	4115	70.7	-	0.00	3.15
TxLRu0509	TAMU	-	3998	68.4	-	0.13	3.76
Means		6564*	4709	69.0	-	0.21	3.68
CV		10	25	3	-	199	9
P0.1		0.0772	NS	NS	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average at Frio County trial

STX		2019	2020	TSMK	ELK	DK	OK
SPANISH	Release	Yield	Yield	%	%	%	%
OLe	OK	5067	4075	70.8	-	0.4	1.6
Means		5546*	4075	-	-	-	-
CV		7	-	-	-	-	-
P0.1		0.0002	-	-	-	-	-

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average at Frio County trial

STX		2019	2020	TSMK	ELK	DK	OK
VIRGINIA	Release	Yield	Yield	%	%	%	%
NC17	NC/OK	-	6406	69.6		0.39	3.65
TxL090105-18	TAMU	6846	5495	67.1		0.39	3.39
TxL090106-05	TAMU	6556	5284	72.4		0.00	4.31
TxL090105-38	TAMU	6919	5189	68.4		0.31	4.52
Contender	OK	-	4501	68.1		0.21	4.23
Means		6332*	5375	69.1		0.26	4.02
CV		11	24	6		102	28
P0.1		0.0882	NS	NS		NS	NS

Highlighted values are significantly same as the highest value at P<0.1

*2019 Trial average at Frio County trial

STX		2019	2020	TSMK	ELK	DK	OK
VALENCIA	Release	Yield	Yield	%	%	%	%
NuMex-01	NMS	-	5140	68.6	-	0.96	3.12
NMSU-2	NMS	-	5044	69.9	-	0.00	3.53
ValenciaC	NMS	-	4547	69.0	-	0.12	4.17
NMSU-1	NMS	-	4338	67.4	-	0.24	3.44
TamVal OL14	TAMU	-	3902	70.6	-	0.43	3.67
NMSU-3	NMS	-	3669	70.8	-	0.20	3.33
Means		-	4440	69.4	-	0.33	3.54
CV		-	18	1	-	139	34
P0.1		-	NS	NS	-	NS	NS

Highlighted values are significantly same as the highest value at P<0.1

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<http://varietytesting.tamu.edu/peanuts/>



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