

TEXAS PEANUT VARIETY TRIALS | 2023



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TEXAS PEANUT VARIETY TRIAL | 2023

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2023 HIGHLIGHT

According to the USDA National Agricultural Statistics Service, the 2023 average yield was 2,600 lb/ac in TX. The 2023 planted acres were 191,182 acres (FSA report, 2024; Table 1). The 2023 season started with winter drought, where west TX received only 0.5 inches of rain from January to April. May and June rainfalls lessened the drought conditions and helped establish peanut stands. Unlike the past two years, temperatures in May were favorable for optimum stand establishment for peanuts in 2023. Three digits temperatures were observed in the second week of June. This was the beginning of a very hot and dry summer for the 2023 crop season. Above 100F temperature continued through September, which enhanced evapotranspiration. We have lost as much as 3 inches of water per week in August due to the high temperature. In mid-September, temperatures finally started to cool off, and water loss through evapotranspiration started to decrease. However, irrigation had to be running to improve the pod development and peanut grades. Texas went through hot and dry conditions for the past two consecutive years. Although 2023 received more precipitation than in 2022, it was still not enough to maintain healthy growth of peanuts without adequate amount of irrigation.

Table 1. Sum of planted acres and failed acres by peanut market type in 2023 (FSA, January 12, 2024)

Market type	Sum of planted acres	Sum of failed acres
Runner	46942	3614
Virginia	44021	8487
Spanish	64171	15065
Valencia	36048	2154
Total	191182	29320

Weather information for peanut production region in Texas

Table 2. Heat unit (DD56 and ceiling at 95F) for peanut production region in Texas during 2018-2023. Data were obtained from NOAA (<https://www.noaa.gov/>)

	May	Jun	Jul	Aug	Sep	May- Sep
Memphis						
2023	432	618	805	835	631	3320
2022	498	655	872	776	618	3418
2021	338	651	743	750	655	3137
2020	476	720	848	812	455	3311
2019	344	613	777	808	699	3241
2018	636	727	808	756	546	3473
5 yr average	458	673	810	780	595	3316
Seminole						
2023	511	612	791	808	749	3471
2022	610	713	840	755	590	3507
2021	424	664	680	691	579	3038
2020	515	637	823	792	451	3218
2019	387	575	628	801	626	3017
2018	630	747	772	722	460	3331
5 yr average	513	667	749	752	541	3222
Stephenville						
2023	531	776.5	903	947.5	746	3904
2022	678	834	935	878	565	3890
2021	434	729	809	834	711	3517
2020	597	749	878	864	541	3629
2019	536	719	841	891	770	3757
2018	688	835	894	846	633	3896
5 yr average	587	773	871	863	644	3738
San Antonio						
2023	653	848	940	934	876	4250
2022	858	863	920.5	903	808	4352.5
2021	669	524	864	920	815	3792
2020	654	747	884	862	659	3806
2019	713	810	909	955	891	4278
2018	791	891	915	922	792	4311
5 yr average	737	767	899	912	793	4108

Table 2. Monthly precipitation (inch) for the peanut production region in Texas during 2018-2023. Data were obtained from NOAA.

	Apr	May	Jun	Jul	Aug	Sep	Apr-Sep
Seminole							
2023	0.00	1.07	2.24	1.17	0.67	2.19	7.34
2022	0.32	0.35	1.39	0.10	0.94	0.05	3.15
2021	1.86	2.73	3.76	2.24	2.97	0.48	14.04
2020	0.00	0.03	0.02	0.62	0.34	0.92	1.93
2019	4.35	1.29	2.55	1.91	0.04	3.42	13.56
2018	0.00	0.63	1.91	3.32	2.30	3.50	11.66
5 yr average	1.31	1.09	1.99	1.21	0.99	1.41	8.00
San Antonio							
2023	3.93	5.00	2.15	0.15	0.19	0.93	12.35
2022	0.26	1.73	0.00	0.00	1.92	0.53	4.44
2021	1.89	5.00	5.01	5.08	4.63	1.00	22.61
2020	1.58	6.50	1.78	1.33	0.51	2.45	14.15
2019	2.73	2.92	8.11	0.28	0.02	0.68	14.74
2018	1.08	1.81	0.60	2.45	2.30	10.39	18.63
5 yr average	2.08	4.23	3.41	1.37	1.45	1.12	13.66
Stephenville							
2023	1.53	2.53	2.20	0.63	0.00	4.83	11.72
2022	0.17	2.43	2.10	0.58	0.42	0.77	6.47
2021	3.86	8.65	4.58	2.31	1.86	0.07	21.33
2020	0.51	2.17	2.86	2.00	0.60	7.92	16.06
2019	6.18	7.83	3.08	1.64	1.76	0.12	20.61
2018	0.25	2.81	0.19	1.95	2.89	6.25	14.34
5 yr average	2.45	4.72	2.96	1.43	0.93	2.74	15.24
Memphis							
2023	1.01	5.17	1.35	1.23	0.30	1.92	10.98
2022	0.24	2.51	0.65	0.00	2.97	0.17	6.54
2021	0.42	4.20	6.28	4.15	1.96	0.56	17.57
2020	0.34	1.24	3.57	0.80	2.79	1.47	10.20
2019	3.03	4.68	2.78	3.64	1.47	2.15	17.75
2018	0.57	4.52	3.71	1.24	1.63	4.12	15.79
5 yr average	1.01	3.56	2.93	1.96	1.90	1.25	12.61

Table 3. Yield performance (lb/ac) of Runner, Spanish, Virginia, and Valencia type varieties in Texas. Experimental lines are italicized. Varieties were listed in alphabetical order.

	WTX			RP1			RP2			STX			CTX		
	2023	2-Yr	3-Yr	2023	2-Yr	3-Yr	2023	2-Yr	3-Yr	2023	2-Yr	3-Yr	2023	2-Yr	3-Yr
RUNNER															
<i>31-08-05-03</i>	-	-	-	-	-	-	-	-	-	4985	-	-	5143	-	-
AG18	5262	4225	3784	4321	3810	4484	4400	3912	4214	4749	4562	4964	5487	6442	5833
<i>31-08-05-03</i>	6168	-	-	4583	-	-	3433	-	-	-	-	-	-	-	-
GA09B	6630	5118	4795	4238	4180	4445	2831	2849	3150	5014	4564	4761	5855	6984	5650
GA16HO	2927	3132	2709	5110	4414	4299	3145	2927	3302	5450	4356	4491	6059	6809	5608
IPG 2309	5210	-	-	3232	-	-	3119	-	-	-	-	-	-	-	-
IPG 517	6700	-	-	4940	-	-	3694	-	-	-	-	-	-	-	-
NemaTAM II	6107	4805	4074	7109	5922	5653	3345	3587	3888	5446	4717	4844	5916	6795	5829
<i>Tx137967</i>	-	-	-	-	-	-	-	-	-	5344	-	-	-	-	-
<i>Tx144370</i>	6325	5131	4222	5423	5003	4594	3398	4284	4211	6523	5565	5228	6227	6612	5909
<i>TxL100212-03-03</i>	6682	-	-	5301	4474	4257	3894	4206	4175	5921	5187	5560	6071	-	-
Means	5779	4482	3917	4917	4634	4622	3473	3628	3823	5429	4825	4975	5823	6728	5766
SPANISH															
AT 9899	4957	3968	3650	4757	4617	-	3119	3086	-	5216	4723	-	4694	5696	5027
IPG 3628	3868	3550	3682	4069	4725	5168	2361	3193	3765	-	-	-	-	-	-
Schubert	3855	3276	-	4530	4681	-	1995	-	-	-	-	-	-	-	-
SPan17	5114	4182	4243	4635	4290	4836	2300	3125	3808	4676	4298	3705	5529	6203	5302
TP210656-2-1	4848	-	-	5131	-	-	4687	-	-	-	-	-	-	-	-
Means	4528	3744	3858	4624	4578	5002	2892	3135	3787	4946	4511	3705	5112	5950	5165
VIRGINIA															
ACI 442	6020	5253	4760	5375	5019	5315	4103	4585	4368	-	-	-	5492	6147	5719
IPG 19-2-1115	5332	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Walton	2326	-	-	4809	-	-	4060	-	-	-	-	-	-	-	-
Means	4559	5253	4760	5092	5019	5315	4082	4585	4368	-	-	-	5492	6147	5719
VALENCIA															
IPG 1288	4312	4696	4609	3755	3822	4085	3929	4417	3970	-	-	-	-	-	-
Means	4312	4696	4609	3755	3822	4085	3918	4417	3970	-	-	-	-	-	-

*WTX, TRP1, TRP2, CTX, and STX are west TX in Lubbock, TX Rolling Plains in Haskell, TX Rolling Plains in Collingsworth, Central TX in Comanche, and South TX in Frio County, respectively.

**Highlighted values within a market-type and a year are significantly same as the highest values at $p < 0.1$.

2023 state-wide peanut variety trial

Central Texas Comanche
 Cooperator Todd Denman
 Planted on 5/16/2023
 Dug on 10/6/2023
 Harvested on 10/12/2023
 Disease: Low disease pressure

TSMK: Total Sound Mature Kernels
 DK: Damaged kernels
 OK: Other kernels

143 DAP

The trial was dug a little early

Comanche		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
RUNNER	Release	Yield	Yield	Yield	%	%	%
<i>Tx144370</i>	TAMU	6227	6612	5909	72	0.3	3.2
TxL100212-03-03	TAMU	6071	-	-	70	0.1	3.4
GA16HO	GA	6059	6809	5608	73	0.1	2.1
NemaTAMII	TAMU	5916	6795	5829	70	0.3	3.1
GA09B	GA	5855	6984	5650	70	0.2	3.6
AG18	TAMU	5487	6442	5833	67	0.1	5.1
31-08-05-03	TAMU	5143	-	-	67	0	5.1
Means		5823	6728	5766	70	0.16	3.7
CV		18	8	7	3	98	26
P0.1		NS	NS	NS	0.0162	NS	0.0136

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

Comanche		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
SPANISH	Release	Yield	Yield	Yield	%	%	%
Span17	ACI	5529	6203	5302	71	0.1	2.7
AT9899	AgraTech	4694	5696	5027	67	0	3.8
Means		5112	5950	5165	69	0.05	3.25
CV		26	9	10	2	141	14
P0.1		NS	NS	NS	0.0226	NS	0.042

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

Comanche		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
VIRGINIA	Release	Yield	Yield	Yield	%	%	%
ACI 442	ACI	5492	6147	5719	64	0.1	3.1
Means		5492	6147	5719	64	0.1	3.1
CV		-	-	-	-	-	-
P0.1		-	-	-	-	-	-

2023 state-wide peanut variety trial

Rolling Plains
Cooperator
Planted on
Dug on
Harvested on
Disease:

Collingsworth
Rex Henard
5/15/2023
10/11/2023 **149 DAP**
10/19/2023
Low disease pressure

DK: Damaged kernels
 OK: Other kernels
 TSMK: Total Sound Mature Kernels

Collingsworth		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
RUNNER	Release	Yield	Yield	Yield	%	%	%
AG-18	TAMU	4400	3912	4214	71	0.2	3.3
<i>TxL100212-03-03</i>	TAMU	3894	4206	4175	74	0	2.2
IPG 517	IPG	3694	-	-	73	0.1	1.7
31-08-05-03	TAMU	3433	-	-	74	0.1	2.3
<i>Tx144370</i>	TAMU	3398	4284	4211	73	0.1	2.3
NemaTAM II	TAMU	3345	3587	3888	74	0.1	1.9
GA16HO	GA	3145	2927	3302	75	0	1.2
IPG 2309	IPG	3119	-	-	72	0	2.5
GA09B	GA	2831	2849	3150	74	0	1.6
Means		3473	3628	3823	73.3	0.1	2.1
CV		16	22.6	12.6	1.8	154.0	29.0
P0.1		0.109	NS	0.0565	0.0623	NS	0.026

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

Collingsworth		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
SPANISH	Release	Yield	Yield	Yield	%	%	%
TP210656-2-1	TAMU	4687	-	-	76	0.1	1.3
AT 9899	AgraTech	3119	3086	-	73	0.2	2.3
IPG 3628	IPG	2361	3193	3765	72	0.5	2.5
SPan17	ACI	2300	3125	3808	70	1.3	3.3
Schubert	TAMU	1995	-	-	71	0.4	2.3
Means		2892	3135	3787	72.4	0.5	2.34
CV		28	16	14	4.03	138	44
P0.1		0.0188	NS	NS	NS	NS	NS

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

*2-yr and 3-yr average yields were calculated from 2023, 2021, and 2019.

Collingsworth		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
VIRGINIA	Release	Yield	Yield	Yield	%	%	%
ACI 442	ACI	4103	4585	4368	68	0	2.6
Walton	VT	4060	-	-	71	0	1.4
Means		4082	4585	4368	70	0	2
CV		39	-	-	3	-	25
P0.1		NS	-	-	NS	-	0.0597

Collingsworth		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
VALENCIA	Release	Yield	Yield	Yield	%	%	%
IPG 1288	IPG	3929	4417	3970	76	0	1.2
Means		3918	4417	3970	-	-	-
CV		-	-	-	-	-	-
P0.1		-	-	-	-	-	-

2023 state-wide peanut variety trial

Rolling Plains
Cooperator
Planted on
Dug on
Harvested on
Disease:

Haskell
Larry Short
5/9/2023
10/30/2023
11/6/2023
Below average pressure due to the drought condition. History of nematode infestation.

174 DAP

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

Haskell		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
RUNNER	Release	Yield	Yield	Yield	%	%	%
NemaTAM II	TAMU	7109	5922	5653	73	0.2	1.3
Tx144370	TAMU	5423	5003	4594	75	0.1	1.1
TxL100212-03-03	TAMU	5301	4474	4257	73	0.6	0.8
GA16HO	GA	5110	4414	4299	73	0.3	1.0
IPG 517	IPG	4940	-	-	73	0.1	0.9
31-08-05-03	TAMU	4583	-	-	74	0.5	1.0
AG-18	TAMU	4321	3810	4484	73	0.7	1.0
GA09B	GA	4238	4180	4445	72	0.8	1.9
IPG 2369	IPG	3232	-	-	71	0.9	1.8
Means		4917	4634	4622	73	0.5	1.2
CV		24	20	14	2	71	37
P0.1		0.0606	NS	NS	NS	NS	0.0555

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

Haskell		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
SPANISH	Release	Yield	Yield	Yield	%	%	%
TP210656-2-1	TAMU	5131	-	-	75	0.1	1.1
AT 9899	AgraTech	4757	4617	-	69	0.4	1.6
SPan17	ACI	4635	4290	4836	73	0.7	0.6
Schubert	TAMU	4530	4681	-	64	0.4	1.1
IPG 3628	IPG	4069	4725	5168	72	0.4	0.8
Means		4624	4578	5002	71	0.4	1.0
CV		20	12	8	2	48	42
P0.1		NS	NS	NS	<.0001	0.0437	NS

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

Haskell		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
VIRGINIA	Release	Yield	Yield	Yield	%	%	%
ACI 442	IPG	5375	5019	5315	69	0.1	1.1
Walton	VT	4809	-	-	72	0.1	0.8
Means		5092	5019	5315	71	0.1	0.9
CV		8.6	-	-	1	115	55
P0.1		NS	-	-	0.0063	NS	NS

Haskell		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
VALENCIA	Release	Yield	Yield	Yield	%	%	%
IPG 1288	IPG	3755	3822	4085	75	0.47	0.47
Means		3755	3822	4085	-	-	-
CV		-	-	-	-	-	-
P0.1		-	-	-	-	-	-

2023 state-wide peanut variety trial

South Texas	Frio		ELK: Extra large kernels
Cooperator	Grayson Wilmeth		DK: Damaged kernels
Planted on	6/12/2023		OK: Other kernels
Dug on	11/1/2023	142 DAP	TSMK: Total Sound Mature Kernels
Harvested on	11/8/2023		
Disease:	Minor leaf spot		

STX		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
RUNNER	Release	Yield	Yield	Yield	%	%	%
Tx144370	TAMU	6523	5565	5228	73.1	0.2	2.7
TxL10212-03-03	TAMU	5921	5187	5560	74.8	0.1	2.2
Georgia 16HO	GA	5450	4356	4491	74.6	0.1	2.7
NemaTam II	TAMU	5446	4717	4844	73.9	0.2	2
Tx137967	TAMU	5344	-	-	71.9	0.1	3.4
Georgia 09B	GA	5014	4564	4761	73.1	0.1	2.6
31-08-05-03	TAMU	4985	-	-	74.1	0.2	2.3
AG18	TAMU	4749	4562	4964	74.6	0.2	2.5
Means*		5429	4825	4975	73.8	0.15	2.6
CV		12	11	9	2	143	29
P0.1		0.0735	NS	NS	NS	NS	NS

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

STX		2023	2-Yr Avg	3-Yr-Avg	TSMK	DK	OK
SPANISH	Release	Yield	Yield	Yield	%	%	%
AT 9899	AgraTech	5216	4723	-	70	0	3.7
SPan17	ACI	4676	4298	3705	73	0	3.4
Means*		4946	4511	3705	71	0	3.6
CV		5	4	-	2	-	10
P0.1		0.0644	0.0471	-	0.0233	-	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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