

2022 OKLAHOMA PEANUT VARIETY TRIALS

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Overview

- The performance of runner varied, but averages across locations in 2022 indicated that cultivar Lariat was the top entry in value per acre.
- The small-seeded runner-type cultivars AT98-99 and Span17 were the leaders in value per acre among the Spanish trial entries.
- Significant differences were noted in Virginia entry yields across locations and years. Cultivars Contender and Comrade were consistently top performers for value per acre among those currently grown.

Peanut production in Oklahoma is generally located in three geographical regions across the state: southwestern, west central and far west. Each region differs from the others in environmental and biological stressors that affect crop production, so the same peanut cultivar will likely perform differently in each growing region. Therefore, the Oklahoma Peanut Variety Trials are conducted in each region annually and are designed to test the performance of commonly grown cultivars and potential cultivar releases against each other. The 2022 growing season was unusually hot with temperatures above 100 F for much of July without any rainfall or relief. Consequently, much of the peanut crop in the state slowed in development, resulting in an obvious split crop and delayed maturing. Results of these annual trials can serve as a guide for producers when choosing a cultivar to plant.

Variety Trial Methods

All entries (cultivars and advanced breeding lines) in the Oklahoma Peanut Variety Trials were high-oleic with the exception of the Virginia-type cultivar Jupiter. The following entries were included in all locations in 2022:

- 16 runner-types: cultivars ACI080, ACI476, ACI3321 and Lariat, and breeding lines ARSOK R90-12, ARSOK R91-2, ARSOK R92-13, ARSOK R93-1, ARSOK R93-10, ARSOK 95-1, ARSOK R96-7, ARSOK R96-8, ARSOK R106-1L, ARSOK R106-9L, ARSOK R107-2L and ARSOK R109-1L
- 12 Spanish-types: cultivars AT98-99, OLé, Tamnut OL06, Schubert and Span17, and breeding lines ARSOK S88-2, ARSOK S96-5, ARSOK S104-2E, ARSOK S104-3E, ARSOK S105-2E, ARSOK S105-3E and ARSOK S105-4E

 12 Virginia types: cultivars Comrade, Contender and Jupiter, and breeding lines ARSOK V-98, ARSOK V99, ARSOK V100-1, ARSOK V100-2, ARSOK V101-1, ARSOK V103-1, ARSOK V103-3, ARSOK V103-4 and ARSOK V103-5.

All variety trials were conducted under an extensive pest management program. The objective was to prevent as much outside influence from pest pressures (weeds, disease and insects) on yield and grade as possible. The interaction between variety and location was significant, so the results were separated by location. Averages across locations and years were included to give producers a better estimate of line performance. Since the varieties and advanced lines responses differed by location, growers may find the data for the county closest to their location to be the most useful in selecting a variety or varieties to grow. All test plots were planted using two 36-inch rows that were 15 feet long. Plots were seeded at a rate of 5 seeds/row foot (139,392 seeds/A). Trials were conducted using randomized, complete block design with four replications. The entire plot was dug and then thrashed two to three days later. Peanuts were placed in a dryer until moisture reached 10%. Percent total sound mature kernels (% TSMK) were determined on a 200-gram sample from each plot.

Analysis of variance procedures were used to assess the effect of variety on the multiple response variables. SAS Version 9.4 (PROC MIXED) was used to conduct the analysis. A randomized complete block design was used, and block is specified as a random effect in the model. Post-hoc comparisons using Tukey adjustments are reported when the overall variety effect is significant in the analysis of variance. Two means reported with the same letter are not significantly different at the 0.05 level.

Means for all observations were calculated for each entry and for the overall trial. If a given variety out-yields another variety by as much or more than the standard error value, then we are 95% sure the yield difference is real, with only a 5% probability the difference is due to chance alone. Results reported here should be representative of what might occur throughout the state but would be most applicable under environmental management conditions similar to those of the trials. The relative yields of all peanut varieties are affected by crop management and environmental factors, including soil type, summer conditions, soil moisture, disease and insects.

Value/acre was determined by converting estimated plot yields to tons/acre and using the 2022 contract price values for each market-type (\$675 for runner types; \$700 for Spanish and Virgina types). No adjustments were made for damaged kernels or concealed damage. Virginia \$/A values may be underestimated as grade is not as large a factor for in-shell peanuts and the extra-large kernels (ELK) bonus was not added in the final value/annual figure. Calculations of \$/A are based on yield and grade only and do not include possible input costs. The following formula was used: \$/A = yield (tons/A)*contract price (\$/ton)*grade.

2022 Caddo County Variety Trial

Location: Fort Cobb, Oklahoma Date Planted: May 3, 2022 Date Dug: Oct. 17, 2022 Date Threshed: Oct. 20, 2022

The trial was planted on May 3, 2022. A conventional till seedbed was used and managed for foliar and soil-borne disease throughout the season. Average yield for the runner test was 5,677 lbs/A and average grade was 64% TSMK (Table 1). In general, grades were lower than normal, most likely due to the extremely hot summer. Entries ACI080, ACI476, Lariat and several breeding lines had higher yields compared to other genotypes tested. Despite the extreme heat experienced in the 2022 growing season, yields were higher for most entries than in recent past years.

Among the Spanish entries tested, the average yield and grade were 5,012 lbs/A and 62% TSMK, respectively. In Caddo County, statistical differences among entries were reported for yield, with Span17 and AT98-99 (small-seeded runner types) topping the trial at 6,359 and 5,652 lbs./A, respectively. The true Spanish-type cultivar OLé yielded 5,231 lbs/A with a grade of 65% TSMK. Overall grades were lower, averaging only 62% TSMK.

Entries in the Virginia test averaged 5,974 lbs/A with an average grade of 62% TSMK. Statistical differences were reported for yield and grade. Comrade was the top yielder at 6,549 lbs/A, but it was statistically indistinguishable from Contender at 6,252 lbs./A. Breeding lines ARSOK V100-2 and ARSOK V101-1 topped the experimental line yields at 6,291 and 6,031 lbs/A, respectively. Grades were lower than in past years as in the runner and Spanish trials.

Table 5 contains Caddo County yield and grade data averaged across 2021-2022 for the Caddo and Custer County trials only. No trial was conducted in Tillman County in 2021. Average yield among runner entries for the two-year period was 5,359 lbs/A, and the average grade was 67% TSMK. Significant differences in yield were reported for runner entries over the two-year period. For Spanish entries, significant differences in yield were also reported over the two years. As expected, the small-seeded runner cultivars AT98-99 and Span17 were the top yielders, averaging 5,358 and 5,680 lbs/A. Cultivars OLé and Schubert averaged 4,801 and 4,672 lbs/A. The average yield for Virginia entries in 2021-2022 was 5,165 lbs/A, and statistical differences in yield were seen among entries. The top yielding cultivars were Contender, Jupiter and Comrade at 5,796, 5,595, and 5,439 lbs/A. Several breeding lines were not statistically different from the best performing cultivars with respect to yield, grade and seed size.

2022 Custer County Variety Trial

Location: Thomas (Les Crall Farms) Date Planted: May 10, 2022 Date Dug: Oct. 14, 2022 Date Threshed: Oct. 17, 2022

The trial was planted on May 10, 2022, into a conventional till seedbed and managed for weeds as well as foliar and soil-borne diseases throughout the season. Yields and grades for the Custer County trial were lower than in previous years. The average yield for the runner test (Table 2) was 3,608 lbs/A with an average grade of 64% TSMK. Statistical differences for yield and grade were reported, but the top yielding cultivar was Lariat at 4,472 lbs/A. Seed sizes were also diminished compared to previous years, most likely due to the extreme heat and drought experienced during the growing season.

Similar effects were seen in the Custer County Spanish trial. Among Spanish entries, smallseeded runner cultivar Span17 was the top yielder at 4,086 lbs/A. The trial averaged 2,907 lbs/A and 64% TSMK.

Virginia entries averaged 3,810 lbs/A and a grade of 61% TSMK, which was much lower than in previous years. Slight significant differences in yield were noted among entries. Cultivar Comrade and breeding line ARSOK V101-1 had the highest yields at 4,511 and 4,464 lbs/A.

Table 6 contains 2021-2022 two-year averages in Custer County. Statistical differences were seen among runner entries for yield with the average yield being 4,667 lbs/A. and the average grade being 68% TSMK. Among runner entries, cultivar Lariat was the highest in average yield at 5,293 lbs/A. Breeding line ARSOK R96-8 had the lowest average yield over the two-year period at 3,937 lbs/A.

Significant differences were seen among Spanish over the two-year period where the average yield was 3,736 lbs/A and average grade was 65% TSMK. As is expected by small-seeded runner type plants, yields were highest for cultivars AT98-99 and Span17, which averaged 4,784 and 4,648 lbs/A. Cultivar Tamnut OL06 had the lowest average yield at 3,125 lb/A.

Statistical differences were also reported for Virginia-type entries in 2021-2022 for average yield, which was 4,503 lbs/A for the trial period. Differences in grade were also among entries, averaging 64% TSMK. Cultivars Jupiter, Comrade and Contender were the top yielders at 501, 4,812, and 4,738 lbs/A. The top-yielding breeding line was ARSOK V101-1 at 5,192 lbs/A.

2022 Tillman County Variety Trial

Location: Davidson (Joe D. White Farms) Date Planted: May 13, 2022 Date Dug: Oct. 21, 2022 Date Threshed: Oct. 26, 2022

The trial was planted on May 13, 2022, into a conventional till seedbed and managed for foliar and soil-borne diseases throughout the season. Table 3 shows the 2022 yield and grade data from Tillman County. Overall, yields were exceptionally high considering the stress of the growing season. Statistical differences were seen among entries. Average yield and grade for the runner test was 6,956 lbs/A and 72% TSMK. ACI476 had the highest yield among cultivars tested in the trial at 8,572 lbs/A, while ARSOK R95-1 was the best yielder among breeding lines at 7,479 lbs/A.

Spanish entry performance was also well above normal in Tillman County for 2022 with the average yield being 6,384 lbs/A and an average grade of 70% TSMK. Cultivar AT98-99 was the highest in yield at 7,285 lbs/A and a grade of 73% TMSK. Among the breeding lines, ARSOK S104-3E and ARSOK S105-3E were highest in yield, both at approximately 6,527 lbs/A and a grade of 68% TMSK.

Average yield and grade in the Virginia-type test were extremely above average at 6,539 lbs/A and 71% TSMK. The top yielder was breeding line ARSOK V101-1 at 7,878 lbs/A and a grade of 69% TSMK. Breeding line ARSOK V98 was the poorest performer in this trial but still averaged 5,428 lbs/A and a grade of 70% TSMK. Since no trial was held in Tillman County in 2021, a two-year average comparison is not available.

Performance Across Locations

Table 4 includes Oklahoma Variety Trials yield and grade data averaged across locations for 2022. Statistical differences for yield were reported for all market types. Among the runnertypes tested, cultivars ACI476 and Lariat had the highest yields at 5,092 and 5,880 lbs/A. Yields were similar when compared to years past despite the extreme weather experienced in 2022. Average grades dipped slightly compared to years past (66% TSMK in 2022 compared to 69% in 2021). The top average yielding Spanish entry across locations was Span17 at 5,830 lbs/A. Cultivars Tamnut OL06 and Schubert performed poorest with average yields of 4,205 and 4,231 lbs/A. Across locations, the Virginia-type cultivars performed similarly. The top breeding line was ARSOK V101-1, which averaged 6,214 lbs/A.

Table 7 shows results from the Oklahoma Peanut Variety Trials averaged across locations (Caddo and Custer counties) for over two years (2021-2022). Averaged over years and across locations, the runner cultivars tested were not significantly different. The mean yield for runner-type entries was 4,969 lbs/A. For all runner-type breeding lines tested, yields ranged from 4,359 lbs/A (ARSOK R93-10) to 5,274 lbs/A (ARSOK R109-1L). Among the Spanish entries, the mean yield was 4,128 lbs/A with the small-seeded runner-types AT98-99 and Span17 yielding the highest at 5,071 and 5,164 lbs/A. The poorest average yield for Spanish entries was that for Tamnut OL06 at 3,601 lbs/A. Significant differences in yield were found among Virginia entries across years and locations with the mean yield being 4,854 lbs/A. Among cultivar entries, no significant differences were observed. Breeding line ARSOK V101-1 had the highest yield of the trial numerically at 5,326 lbs/A.

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Table 1. Yield, grade, average seed weight, seed size distribution and value per acre for entries in the Caddo County (Ft. Cobb) Oklahoma Peanut Variety Trials in 2022. ⁶

	Yield	% of Trial	Grade ²	SdWt/1003	ELK ⁴	MED ^₄	No.1⁴	Value
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Runner ¹								
ACI080	6003b	106	64ab	57e	27i	60a	12ab	1297
ACI476	6052b	107	67a	56e	38gh	52b	9b	1369
ACI3321	5377de	95	65ab	60de	35h	47cd	14a	1180
Lariat	5582cd	102	64ab	76b	41g	51bc	8bc	1206
ARSOK R90-12	5794bc	102	64ab	69c	49ef	44d	6cd	1244
ARSOK R91-2	5671cd	100	65ab	75bc	58cd	35ef	6cd	1244
ARSOK R92-13	5486cd	97	67a	72c	48f	42d	10b	1241
ARSOK R93-1	5812bc	102	67a	61de	62cd	31f	5cd	1314
ARSOK R93-10	5223de	92	65ab	61de	46f	41de	10b	1146
ARSOK R95-1	5115e	90	62ab	58e	53e	38ef	7c	1070
ARSOK R96-7	5689c	100	66ab	64d	57de	34f	9b	1267
ARSOK R96-8	5232de	92	57c	74bc	66b	21g	3d	1007
ARSOK R106-1L	5642cd	99	52d	99a	77a	19g	4d	990
ARSOK R106-9L	5718bc	101	67a	67d	59cd	34f	6cd	1293
ARSOK R107-2L	5829bc	103	63ab	61de	53e	39e	6cd	1239
ARSOK R109-1L	6501a	115	64ab	59e	49ef	42d	7bc	1404
Mean	5677		64	67	51	39	7	
Standard Error	302		2	4	4	4	2	
Spanish ¹								
AT98-99	5652b	113	49d	52bc	69e	11de	6cd	935
OLé	5231c	104	65a-c	54b-d	86a	8f	4e	1148
Schubert	4552de	91	61a-c	48cd	70e	20a	9ab	937
Span17	6359a	127	69a	54b-d	84ab	10d-f	4e	1481
Tamnut OL06	4514de	90	58c	34d	73de	15b	10a	884
ARSOK S88-2	5251c	105	58c	48cd	77b-d	14bc	8bc	1028
ARSOK S96-5	4727de	94	67ab	61a	84ab	9ef	6cd	1069
ARSOK S104-2E	4778d	95	66а-с	51b-d	79bc	12cd	7c	1064
ARSOK S104-3E	4781d	95	65a-c	49cd	76cd	15b	6cd	1049
ARSOK S105-2E	5146c	103	65a-c	51b-d	81b	12cd	7c	1129
ARSOK S105-3E	4429e	88	62a-c	53b	78bc	12cd	7c	927
ARSOK S105-4E	4734de	94	64a-c	58a	82ab	10d-f	6cd	1023
Mean	5012		62	51	78	12	6	
Standard Error	347		7	3	4	2	1	



	Yield	% of Trial	Grade ²	SdWt/1003	ELK ⁴	MED ⁴	No.1⁴	Value ⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Virginia ¹								
Comrade	6549a	113	68a	100a	75ab	21c	3d	1503
Contender	6252ab	108	63bc	82e	70bc	23bc	5bc	1329
Jupiter	5947bc	103	65c	74f	58e	31a	8a	1305
ARSOK V98	5393c	93	64c	88d	63d	30a	6b	1165
ARSOK V99	5514c	95	62c	73	59de	33a	6b	1154
ARSOK V100-1	5379c	93	62c	90d	77a	19d	3d	1126
ARSOK V100-2	6291ab	109	57d	93bc	73ab	20cd	5bc	1210
ARSOK V101-1	6031b	104	57d	79e	71b	24b	3d	1160
ARSOK V103-1	5605c	97	59cd	93c	72b	23bc	4cd	1116
ARSOK V103-3	5860bc	101	61d	91c	70bc	25b	4cd	1206
ARSOK V103-4	5826bc	101	64d	96b	75ab	19d	5bc	1258
ARSOK V103-5	4889d	84	67ab	81e	60de	32a	6b	1106
Mean	5974		62	86	68	25	4	
Standard Error	364		2	3	4	3	1	

¹ Market Type.

² % TSMK = Percent total sound mature kernels.

³ SdWt/100 = Weight of 100 SMK.

⁴ ELK= % Kernels riding a 21.5/64" X 1" slotted screen for Virginia and 21/64" X 3/4" screen for runner and Spanish; MED=% Kernels riding a 18/64" but falling through a 21.5/64" or 21/64" screen; No.1=% Kernels riding a minimum grade screen (16/64" for runner and Spanish and 15/64 for Virginia) but falling through a 18/64"

⁵ Calculated based on peanut market-type contract price 2022 (\$675, runners; \$700, Spanish and Virginia). ELK bonus not added for Virginia types.

⁶ Values within the same column followed by the same letter are not significantly different at P = .05.

Table 2. Yield, grade, average seed weight, seed size distribution and value per acre for entries in the Custer County (Thomas/Les Crall Farms) Oklahoma Peanut Variety Trials in 2022. ⁶

	Yield	% of Trial	Grade ²	SdWt/1003	ELK ^₄	MED ⁴	No.1⁴	Value
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Runner ¹								
AC1080	3560cd	99	64cd	55d	29h	60a	10b	769
ACI476	3872bc	107	71a	54d	37fg	53b	9bc	928
ACI3321	4126b	114	63d	65bc	42e	47c	10b	877
Lariat	4472a	124	67bc	67b	42e	26gh	10b	1011
ARSOK R90-12	3305de	92	61de	64bc	40ef	49bc	14a	680
ARSOK R91-2	3390d	94	62de	64bc	35fg	51bc	9bc	709
ARSOK R92-13	3050e	85	59e	61cd	48d	46c	11b	607
ARSOK R93-1	3752c	104	64cd	67b	48d	40d	11b	810
ARSOK R93-10	3673cd	102	59e	61cd	39f	50bc	14a	731
ARSOK R95-1	4098b	114	68ab	58d	34g	52b	9bc	940
ARSOK R96-7	3814bc	106	60de	64bc	56c	33ef	4d	772
ARSOK R96-8	3179de	88	60de	61cd	71a	24h	9bc	644
ARSOK R106-1L	2271f	63	61de	66b	62b	30fg	6d	468
ARSOK R106-9L	3693cd	102	68ab	88a	46de	41d	12ab	848
ARSOK R107-2L	3883bc	108	68ab	55d	52cd	37de	9bc	891
ARSOK R109-1L	3593cd	100	62de	55d	56c	35e	8b-d	752
Mean	3608		64	63	46	42	9	
Standard Error	338		3	2	4	4	2	
Spanish ¹								
AT98-99	3309b	114	61c	45f	46d	40a	13a	681
OLé	3347b	115	51d	67ab	70a	23ef	5d	757
Schubert	2444ef	84	65b	60b	68ab	26de	7c	536
Span17	4086a	141	61c	45f	65b	28cd	5d	841
Tamnut OL06	2234f	77	68a	42g	58c	32b	9b	513
ARSOK S88-2	2956cd	102	66ab	48e	61bc	30bc	7c	658
ARSOK S96-5	2522ef	87	60c	53c	63b	24ef	9b	511
ARSOK S104-2E	3063bc	105	64b	62a	70a	22f	5d	662
ARSOK S104-3E	3138bc	108	64b	49e	64b	27с-е	7c	678
ARSOK S105-2E	2466ef	85	64b	49e	70a	24ef	6cd	533
ARSOK S105-3E	2665d	92	60c	51d	70a	24ef	5d	540
ARSOK S105-4E	2663de	92	66ab	54c	71a	21f	6cd	593
Mean	2907		64	51	65	26	7	
Standard Error	303		2	1	4	3	1	



	Yield	% of Trial	Grade ²	SdWt/1003	ELK ⁴	MED ⁴	No.1⁴	Value ⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Virginia ¹								
Comrade	4511a	118	66a	95a	77a	18h	4d	1005
Contender	3943b	103	65ab	80b	65c	28e-g	5cd	865
Jupiter	3618b-d	95	57e	77bc	51e	44a	4d	696
ARSOK V98	3633b-d	95	62c	61e	54e	35b	10a	760
ARSOK V99	3497d	92	64a-c	82b	60d	34b	5cd	755
ARSOK V100-1	3597cd	94	62c	69d	67bc	26g	6bc	753
ARSOK V100-2	3776b-d	99	63bc	74cd	66bc	27fg	7b	803
ARSOK V101-1	4464a	117	61cd	82b	63cd	31cd	4d	919
ARSOK V103-1	3524d	92	63bc	73cd	59d	34b	6bc	749
ARSOK V103-3	3875bc	102	57e	74cd	65c	29d-f	5cd	745
ARSOK V103-4	3935bc	103	58e	77bc	69b	27fg	4d	770
ARSOK V103-5	3346d	88	59de	81b	59d	33bc	7b	666
Mean	3810		61	77	63	30	5	
Standard Error	337		2	5	3	2	1	

¹ Market Type.

² % TSMK = Percent total sound mature kernels.

³ SdWt/100 = Weight of 100 SMK.

⁴ ELK= % Kernels riding a 21.5/64" X 1" slotted screen for Virginia and 21/64" X 3/4" screen for runner and Spanish; MED=% Kernels riding a 18/64" but falling through a 21.5/64" or 21/64" screen; No.1=% Kernels riding a minimum grade screen (16/64" for runner and Spanish and 15/64 for Virginia) but falling through a 18/64"

⁵ Calculated based on peanut market-type contract price 2022 (\$675, runners; \$700, Spanish and Virginia). ELK bonus not added for Virginia types.

⁶ Values within the same column followed by the same letter are not significantly different at P = .05.

Table 3. Yield, grade, average seed weight, seed size distribution and value per acre for entries in the Tillman County (Davidson, Joe D. White Farms) Oklahoma Peanut Variety Trials in 2022. ⁶

	Yield	% of Trial	Grade ²	SdWt/100 ³	ELK ⁴	MED ⁴	No.1⁴	Value ⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Runner ¹								
ACI080	7139c	103	72ab	60f	32h	59a	8b	1735
ACI476	8572a	123	52c	56g	41g	53b	4bc	1504
ACI3321	5825f	84	74a	67de	56de	32f	11a	1455
Lariat	7586b	109	72ab	65e	52e	47c	1c	1843
ARSOK R90-12	6318de	91	76a	70d	54e	41d	2bc	1621
ARSOK R91-2	7041cd	101	75a	73cdc	59d	36ef	3bc	1782
ARSOK R92-13	5887f	85	74a	77b	69b	27g	2bc	1470
ARSOK R93-1	6702d	96	73ab	71cd	61cd	33f	5b	1651
ARSOK R93-10	7428bc	107	76a	66e	56de	38de	4bc	1905
ARSOK R95-1	7479bc	108	74a	73cd	47f	49c	3bc	1968
ARSOK R96-7	6539d	94	74a	72cd	73b	23h	3bc	1633
ARSOK R96-8	6703cd	96	68b	75ab	84a	15i	2bc	1538
ARSOK R106-1L	7302bc	105	72ab	102a	52e	11j	3bc	1774
ARSOK R106-9L	7294bc	105	73ab	74bc	64c	35ef	1c	1797
ARSOK R107-2L	7431bc	107	74a	66e	57de	30fg	4bc	1856
ARSOK R109-1L	6052ef	87	74a	68de	54e	37e	5b	1511
Mean	6956		72	71	57	35	3	
Standard Error	410		5	3	4	3	3	
Spanish ¹								
AT98-99	7285a	114	73ab	51cd	73e	18b	8b	1861
OLé	7253a	114	70c	55b	84c	11d	3f	1777
Schubert	5698d	89	67d	50d	66f	23a	10a	1336
Span17	7045a	110	72b	54b	86bc	8ef	4ef	1775
Tamnut OL06	5866cd	92	70c	43g	71e	21ab	6cd	1437
ARSOK S88-2	5895cd	92	70c	45f	71e	19b	8b	1444
ARSOK S96-5	6380bc	100	74a	63a	93a	4g	1g	1652
ARSOK S104-2E	6139cd	96	70c	52c	81d	14c	4ef	1504
ARSOK S104-3E	6526b	102	68d	48e	81d	12cd	6cd	1553
ARSOK S105-2E	6139cd	96	70c	47e	83cd	11d	5de	1504
ARSOK S105-3E	6527b	102	68d	51cd	87b	8ef	3f	1553
ARSOK S105-4E	5855cd	92	71b	50d	87b	7f	5de	1455
Mean	6384		70	51	80	13	5	
Standard Error	375		1	1	2	2	1	



	Yield	% of Trial	Grade ²	SdWt/1003	ELK ^₄	MED ⁴	No.1⁴	Value ⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Virginia ¹								
Comrade	7039c	108	74a	109a	89a	10e	1c	1823
Contender	6831c	104	74a	84d	70c	21bc	4b	1769
Jupiter	7417b	113	68d	78e	59d	33a	8a	1765
ARSOK V98	5428f	83	70c	96bc	82b	16cd	1c	1330
ARSOK V99	6435d	98	72b	91c	85ab	12de	2bc	1622
ARSOK V100-1	6206de	95	70c	89cd	82b	13de	3bc	1520
ARSOK V100-2	6285de	96	73ab	100b	84ab	14с-е	1c	1606
ARSOK V101-1	7878a	120	69cd	82de	85ab	18c	1c	1903
ARSOK V103-1	6082e	93	73ab	90c	80b	18c	1c	1554
ARSOK V103-3	6239de	95	69cd	88cd	80b	16cd	2bc	1507
ARSOK V103-4	6218de	95	68d	93c	80b	18c	1c	1480
ARSOK V103-5	6404de	98	70c	84d	72c	25b	2bc	1569
Mean	6539		71	90	79	17	2	
Standard Error	348		1	5	5	4	2	

¹ Market Type.

² % TSMK = Percent total sound mature kernels.

³ SdWt/100 = Weight of 100 SMK.

⁴ ELK= % Kernels riding a 21.5/64" X 1" slotted screen for Virginia and 21/64" X 3/4" screen for runner and Spanish; MED=% Kernels riding a 18/64" but falling through a 21.5/64" or 21/64" screen; No.1=% Kernels riding a minimum grade screen (16/64" for runner and Spanish and 15/64 for Virginia) but falling through a 18/64"

⁵ Calculated based on peanut market-type contract price 2022 (\$675, runners; \$700, Spanish and Virginia). ELK bonus not added for Virginia types.

⁶ Values within the same column followed by the same letter are not significantly different at P = .05.

Table 4. Yield, grade, average seed weight, seed size distribution and value per acre for entries averaged across all locations tested in the Oklahoma Peanut Variety Trials in 2022. ⁶

	Yield	% of Trial	Grade ²	SdWt/1003	ELK ⁴	MED ⁴	No.1⁴	Value
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Runner ¹								
AC1080	5567b	102	67ab	57f	29e	60a	10a	1259
ACI476	6165a	113	63bc	55f	64b	31c	4c	1311
ACI3321	5109bc	94	67ab	64cd	44d	44b	10a	1155
Lariat	5880ab	108	67ab	69c	45d	41bc	7b	1330
ARSOK R90-12	5238bc	96	67ab	67cd	48d	45b	6b	1184
ARSOK R91-2	5568b	102	67ab	69c	50d	41bc	6b	1259
ARSOK R92-13	4808c	88	67ab	72b	55cd	38b	8ab	1087
ARSOK R93-1	5422b	100	68ab	67cd	57c	35c	7b	1244
ARSOK R93-10	5475b	101	65ab	62e	47d	43b	7b	1201
ARSOK R95-1	5564b	102	69a	65cd	44d	46b	8ab	1296
ARSOK R96-7	5347b	98	66ab	66cd	62bc	30cd	8ab	1191
ARSOK R96-8	5038bc	93	62bc	72b	73a	20d	7b	1054
ARSOK R106-1L	5236bc	96	61c	96a	75a	20d	3c	1078
ARSOK R106-9L	5568b	102	69a	66cd	52cd	38b	6b	1297
ARSOK R107-2L	5714ab	105	68ab	61e	56cd	35c	8ab	1311
ARSOK R109-1L	5382b	99	67ab	63e	54cd	38b	6b	1217
Mean	5442		66	67	53	37	7	
Standard Error	535		3	2	6	10	2	
Spanish ¹								
AT98-99	5414a	114	61b	50cd	63d	23a	9a	1156
OLé	5277b	111	67a	53bc	80a	14cd	4c	1237
Schubert	4231c	89	65ab	53bc	68c	23a	9a	963
Span17	5830a	122	67a	51c	78a	15b-d	4c	1367
Tamnut OL06	4205c	88	65ab	40e	67c	23a	8a	957
ARSOK S88-2	4700c	99	64b	47e	70bc	21ab	8a	1053
ARSOK S96-5	4543c	95	67a	59a	80a	12d	6b	1065
ARSOK S104-2E	4623c	97	66ab	52c	77a	15b-d	6b	1068
ARSOK S104-3E	4815c	101	65ab	49d	73b	18b	6b	1095
ARSOK S105-2E	4583c	96	66ab	49d	78a	16b-d	6b	1059
ARSOK S105-3E	4540c	95	63b	51c	78a	15b-d	5bc	1001
ARSOK S105-4E	4417c	93	67a	54b	80a	13cd	6b	1036
Mean	4764		65	51	74	17	6	
Standard Error	544		2	1	3	3	1	



	Yield	% of Trial	Grade ²	SdWt/1003	ELK ^₄	MED ⁴	No.1 ⁴	Value ⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Virginia ¹								
Comrade	6003ab	112	69a	102a	80a	16e	2e	1450
Contender	5675ab	106	67ab	82d	68cd	24cd	5bc	1331
Jupiter	5661b	105	63bc	76e	56e	36a	7a	1248
ARSOK V98	4818c	90	65b	87c	66d	27b	6ab	1096
ARSOK V99	5149c	96	67ab	82d	68cd	26c	4cd	1207
ARSOK V100-1	5061c	94	65b	80de	75b	19de	3de	1151
ARSOK V100-2	5451bc	101	67ab	92b	74b	20d	4cd	1278
ARSOK V101-1	6124a	114	64bc	77e	75b	24cd	3de	1372
ARSOK V103-1	5070c	94	64bc	86cd	70c	25c	4cd	1136
ARSOK V103-3	5324bc	99	61c	87c	72bc	23cd	4cd	1137
ARSOK V103-4	5326bc	99	62c	87c	74b	21d	4cd	1156
ARSOK V103-5	4880c	91	63bc	80de	64d	30ab	5bc	1076
Mean	5379		65	78	65	24	4	
Standard Error	453		2	4	3	3	1	

¹ Market Type.

² % TSMK = Percent total sound mature kernels.

³ SdWt/100 = Weight of 100 SMK.

⁴ ELK= % Kernels riding a 21.5/64" X 1" slotted screen for Virginia and 21/64" X 3/4" screen for runner and Spanish; MED=% Kernels riding a 18/64" but falling through a 21.5/64" or 21/64" screen; No.1=% Kernels riding a minimum grade screen (16/64" for runner and Spanish and 15/64 for Virginia) but falling through a 18/64"

⁵ Calculated based on peanut market-type contract price 2022 (\$675, runners; \$700, Spanish and Virginia). ELK bonus not added for Virginia types.

⁶ Values within the same column followed by the same letter are not significantly different at P = .05.

Table 5. Yield, grade, average seed weight, seed size distribution and value per acre for entries averaged across years in the Caddo County (Ft. Cobb) Oklahoma Peanut Variety Trials in 2021-2022. ⁶

	Yield	% of Trial	Grade ²	SdWt/100 ³	ELK ^₄	MED ^₄	No.1⁴	Value
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Runner ¹								
ACI080	5341bc	100	69ab	60f	27h	48a	9a	1244
ACI476	5712ab	107	66b	58f	33g	39b	7ab	1272
ACI3321	5471bc	102	69ab	68de	40f	32c	9a	1274
Lariat	5348bc	100	69ab	75c	44e	33bc	6bc	1245
ARSOK R90-12	5301bc	99	67b	74c	46e	31c	5bc	1199
ARSOK R91-2	5522b	103	69ab	79b	55c	24d	4cd	1286
ARSOK R92-13	5414bc	101	65b	78bc	49de	26cd	6bc	1188
ARSOK R93-1	5511b	103	71a	77bc	59b	21d	4cd	1321
ARSOK R93-10	5089cd	95	67b	67de	47de	28cd	6bc	1151
ARSOK R95-1	5211c	97	68ab	66e	48de	30cd	5bc	1196
ARSOK R96-7	5191c	97	71a	72cd	57bc	22d	5bc	1244
ARSOK R96-8	4898d	91	64b	79b	60b	13e	2d	1058
ARSOK R106-1L	5233c	98	60c	106a	66a	11e	5bc	1060
ARSOK R106-9L	5287bc	99	70ab	70d	53cd	24d	5bc	1249
ARSOK R107-2L	5447bc	102	69ab	65e	50d	29cd	5bc	1286
ARSOK R109-1L	5783a	108	69ab	67de	46e	30cd	5bc	1347
Mean	5359		67	72	49	28	6	
Standard Error	260		3	3	3	6	2	
Spanish ¹								
AT98-99	5358a	119	59c	54c	68ab	16cd	5bc	1106
OLé	4801bc	107	67ab	57b	68ab	10e	3c	1126
Schubert	4672bc	104	64bc	50d	47c	26a	9a	1047
Span17	5680a	127	70a	56bc	68ab	13d	4c	1392
Tamnut OL06	4177cd	93	62c	40e	50c	22b	9a	906
ARSOK S88-2	4723bc	105	63bc	50d	60b	16cd	6b	1041
ARSOK S96-5	4315c	96	66b	63a	70a	7f	4c	997
ARSOK S104-2E	4131cd	92	67ab	52cd	63ab	14d	6b	969
ARSOK S104-3E	3907d	87	65bc	50d	60b	17c	4c	889
ARSOK S105-2E	4177cd	93	66b	50d	61b	15cd	6b	965
ARSOK S105-3E	3957d	88	65bc	53c	63ab	13d	5bc	900
ARSOK S105-4E	3915d	87	65bc	54c	63ab	13d	5bc	891
Mean	4484		65	52	62	15	6	
Standard Error	337		3	2	8	2	1	



	Yield	% of Trial	Grade ²	SdWt/100 ³	ELK ⁴	MED ⁴	No.1 ^₄	Value ⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Virginia ¹								
Comrade	5439ab	105	70a	108a	65ab	15bc	2c	1333
Contender	5796a	112	68ab	86d	62b	18bc	4ab	1379
Jupiter	5595ab	108	67b	82d	53c	24a	5a	1312
ARSOK V98	4608c	89	67b	92c	56c	23ab	4ab	1081
ARSOK V99	4999b	97	69ab	83d	57c	22ab	4ab	1207
ARSOK V100-1	5085b	98	67b	98b	68a	14c	2c	1192
ARSOK V100-2	5226b	101	67b	102b	64ab	14c	3bc	1225
ARSOK V101-1	5459ab	106	68AB	85D	64ab	19b	2c	1299
ARSOK V103-1	5236b	101	63c	100b	65ab	16bc	3bc	1155
ARSOK V103-4	5317b	87	64c	104ab	66ab	13c	3bc	1006
ARSOK V103-5	4493c	94	65bc	90cd	56c	22ab	4ab	1110
Mean	5165		67	94	61	18	3	
Standard Error	357		2	4	4	4	1	

¹ Market Type.

² % TSMK = Percent total sound mature kernels.

³ SdWt/100 = Weight of 100 SMK.

⁴ ELK= % Kernels riding a 21.5/64" X 1" slotted screen for Virginia and 21/64" X 3/4" screen for runner and Spanish; MED=% Kernels riding a 18/64" but falling through a 21.5/64" or 21/64" screen; No.1=% Kernels riding a minimum grade screen (16/64" for runner and Spanish and 15/64 for Virginia) but falling through a 18/64"

⁵ Calculated based on peanut market-type contract price 2022 (\$675, runners; \$700, Spanish and Virginia). ELK bonus not added for Virginia types.

⁶ Values within the same column followed by the same letter are not significantly different at P = .05.

Table 6. Yield, grade, average seed weight, seed size distribution and value per acre for entries averaged across years in the Custer County (Weatherford/Thomas, Les Crall Farms) Oklahoma Peanut Variety Trials in 2021-2022. ⁶

	Yield	% of Trial	Grade ²	SdWt/100 ³	ELK ^₄	MED ⁴	No .1⁴	Value
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Runner ¹								
ACI080	5047ab	108	69ab	60g	27h	48a	9a	1175
ACI476	5178ab	111	66b	59g	33g	39b	7ab	1153
ACI3321	5289a	113	68ab	68de	40f	32c	10a	1214
Lariat	5293a	113	69ab	75bc	44e	34bc	6b	1233
ARSOK R90-12	4056c	87	67b	74c	46e	31c	5bc	917
ARSOK R91-2	4276	92	70ab	79b	55c	24d	5bc	1010
ARSOK R92-13	4082c	87	65b	78b	49de	27cd	5bc	895
ARSOK R93-1	4893ab	105	71a	77bc	59b	21d	5bc	1172
ARSOK R93-10	4829ab	103	67b	68de	47de	29cd	6b	1092
ARSOK R95-1	4913ab	105	68ab	67de	48de	30cd	4c	1128
ARSOK R96-7	4359bc	93	71a	72c	57bc	22d	6b	1045
ARSOK R96-8	3937c	84	65b	79b	60b	13e	5bc	864
ARSOK R106-1L	4039c	87	60c	106a	66a	12e	5bc	818
ARSOK R106-9L	4726b	101	71a	70d	53c	24d	6b	1132
ARSOK R107-2L	4990ab	107	69ab	66e	50d	29cd	5bc	1162
ARSOK R109-1L	4766ab	102	69ab	67de	46e	30cd	5bc	1110
Mean	4667		68	73	49	28	6	
Standard Error	542		3	3	3	6	2	
Spanish ¹								
AT98-99	4784a	128	64b	49c	44c	30a	9a	820
OLé	3739bc	100	68a	54b	61a	18c	4d	707
Schubert	3617bc	97	64b	53bc	47c	27a	8ab	671
Span17	4648a	124	64b	50c	54b	23b	5cd	813
Tamnut OL06	3125c	84	66ab	45bc	43c	30a	9a	492
ARSOK S88-2	3502bc	94	68a	49c	49bc	27a	7b	601
ARSOK S96-5	3793b	102	64b	57a	60a	15d	6bc	757
ARSOK S104-2E	3612bc	97	66ab	52bc	57ab	20bc	5cd	657
ARSOK S104-3E	3666bc	98	61c	49c	49bc	23b	6bc	629
ARSOK S105-2E	3290c	88	66ab	50c	56ab	21bc	5cd	576
ARSOK S105-3E	3290c	88	65b	51c	59ab	19c	4d	587
ARSOK S105-4E	3768bc	101	66ab	52bc	57ab	19c	5cd	686
Mean	3736		65	51	53	23	6	
Standard Error	493		2	2	6	3	1	



	Yield	% of Trial	Grade ²	SdWt/1003	ELK ^₄	MED ⁴	No.1 ⁴	Value ⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Virginia ¹								
Comrade	4812ab	107	66ab	97a	60a	16c	4	1112
Contender	4738b	105	66ab	82cd	55ab	22b	4	1094
Jupiter	5011ab	111	63bc	85bc	49b	30a	3	1105
ARSOK V98	4083c	91	64b	82cd	48b	26ab	7	915
ARSOK V99	4216c	94	67a	77d	56ab	23b	4	989
ARSOK V100-1	4412bc	98	64b	84c	58a	18bc	4	988
ARSOK V100-2	4356bc	97	62bc	90b	55ab	18bc	4	945
ARSOK V101-1	5192a	115	65ab	72d	51b	26ab	4	1181
ARSOK V103-1	4472bc	99	66ab	81cd	51b	27ab	4	1033
ARSOK V103-4	4347bc	97	62bc	85bc	58a	21b	3	943
ARSOK V103-5	3899c	87	61c	84c	51b	22b	4	832
Mean	4503		64	84	54	23	4	
Standard Error	395		2	5	5	4	1	

¹ Market Type.

² % TSMK = Percent total sound mature kernels.

³ SdWt/100 = Weight of 100 SMK.

⁴ ELK= % Kernels riding a 21.5/64" X 1" slotted screen for Virginia and 21/64" X 3/4" screen for runner and Spanish; MED=% Kernels riding a 18/64" but falling through a 21.5/64" or 21/64" screen; No.1=% Kernels riding a minimum grade screen (16/64" for runner and Spanish and 15/64 for Virginia) but falling through a 18/64"

⁵ Calculated based on peanut market-type contract price 2022 (\$675, runners; \$700, Spanish and Virginia). ELK bonus not added for Virginia types.

⁶ Values within the same column followed by the same letter are not significantly different at P = .05.

Table 7. Yield, grade, average seed weight, seed size distribution and value per acre for entries averaged across locations (Caddo and Custer Counties) and years in the Oklahoma Peanut Variety Trials in 2021-2022. ⁶

	Yield	% of Trial	Grade ²	SdWt/100 ³	ELK ⁴	MED ⁴	No .1⁴	Value⁵
	(lb/A)	Average	(%TSMK)	(g)	(%)	(%)	(%)	(\$/A)
Runner ¹								
ACI080	5194ab	105	67b	59g	27g	46a	9a	1174
ACI476	5445a	110	66bc	57g	31g	39b	7bc	1213
ACI3321	5380ab	108	64c	66e	36f	34c	9a	1162
Lariat	5320ab	107	69ab	71c	42e	29d	7bc	1239
ARSOK R90-12	4578c	92	66bc	73c	44de	32cd	6cd	1020
ARSOK R91-2	4899bc	99	68ab	74bc	46d	30cd	7bc	1124
ARSOK R92-13	4748bc	96	66bc	76b	49cd	29d	6cd	1058
ARSOK R93-1	5202ab	105	66bc	71c	52c	25de	6cd	1159
ARSOK R93-10	4359c	88	68ab	65e	45de	31cd	7bc	1000
ARSOK R95-1	5062b	102	66bc	67de	43de	33cd	7bc	1128
ARSOK R96-7	4775bc	96	70a	69d	56b	22e	6cd	1128
ARSOK R96-8	4418c	89	63c	76b	60a	14g	3e	939
ARSOK R106-1L	4636c	93	61d	100a	59a	16f	5d	954
ARSOK R106-9L	5006b	101	70a	66e	49cd	27d	7bc	1183
ARSOK R107-2L	5219ab	105	67b	62f	45de	29d	6cd	1180
ARSOK R109-1L	5274ab	106	66bc	67de	46d	29d	5d	1175
Mean	4969		66	69	46	29	6	
Standard Error	323		2	2	3	4	1	
Spanish ¹								
AT98-99	5071a	123	61c	51d	50c	23b	7b	1083
OLé	4270b	103	68a	56b	65a	15d	4c	1016
Schubert	4145bc	100	64b	52cd	47c	27a	8ab	928
Span17	5164a	125	67ab	53c	61ab	18cd	4c	1211
Tamnut OL06	3601c	87	64b	42f	46c	26a	9a	807
ARSOK S88-2	4112bc	100	66ab	49e	55bc	21bc	7b	950
ARSOK S96-5	4054bc	98	66ab	60a	65a	11e	5c	936
ARSOK S104-2E	3872c	94	66ab	52cd	60ab	17d	5c	894
ARSOK S104-3E	3786c	92	63bc	50de	54bc	20c	5c	835
ARSOK S105-2E	3734c	90	66ab	49e	59b	18cd	5c	863
ARSOK S105-3E	3862c	94	65b	52cd	61ab	16d	5c	879
ARSOK S105-4E	3874c	94	66ab	53c	60ab	23b	6bc	895
Mean	4128		65	52	57	20	6	
Standard Error	317		2	1	5	2	1	



	Yield (lb/A)	% of Trial Average	Grade ² (%TSMK)	SdWt/100 ³ (g)	ELK⁴ (%)	MED⁴ (%)	No.1⁴ (%)	Value⁵ (\$/A)
Virginia ¹								
Comrade	5126ab	106	68a	103a	63a	16c	3b	1220
Contender	5267a	109	67ab	84d	59b	20bc	4ab	1235
Jupiter	5303a	109	65b	84d	51c	26a	4ab	1206
ARSOK V98	4346c	90	65b	87cd	52c	25ab	5a	989
ARSOK V99	4608b	95	68a	84d	57bc	23ab	4ab	1097
ARSOK V100-1	4748b	98	66b	88cd	63a	16c	3b	1097
ARSOK V100-2	4791b	99	65b	97b	60ab	16c	4ab	1090
ARSOK V101-1	5326a	100	67ab	80d	57bc	23ab	3b	1249
ARSOK V103-1	4855b	100	65b	90c	58b	22b	4ab	1105
ARSOK V103-4	4832b	100	63c	94bc	62ab	17c	3b	1065
ARSOK V103-5	4196c	86	63c	87cd	54c	23ab	4	925
Mean	4854		66	89	59	21	4	
Standard Error	279		1	4	3	3	1	

¹ Market Type.

 $^{\rm 2}$ % TSMK = Percent total sound mature kernels.

³ SdWt/100 = Weight of 100 SMK.

⁴ ELK= % Kernels riding a 21.5/64" X 1" slotted screen for Virginia and 21/64" X 3/4" screen for runner and Spanish; MED=% Kernels riding a 18/64" but falling through a 21.5/64" or 21/64" screen; No.1=% Kernels riding a minimum grade screen (16/64" for runner and Spanish and 15/64 for Virginia) but falling through a 18/64"

⁵ Calculated based on peanut market-type contract price 2022 (\$675, runners; \$700, Spanish and Virginia). ELK bonus not added for Virginia types.

⁶ Values within the same column followed by the same letter are not significantly different at P = .05.