2022 PARTNERS IN PROGRESS PEANUT REPORT

OSU | AG RESEARCH

OKLAHOMA PEANUT COMMISSION

2022 Partners in Progress Report

By Ron Sholar, Executive Director Oklahoma Peanut Commission

Enhancing peanut production profitability through research and outreach

Oklahoma peanut growers are proud to play an important role in producing the safe, abundant, and relatively inexpensive food supply enjoyed by consumers here at home and around the world. Through skill, commitment, and resourcefulness, farmers reliably produce and deliver their crops even as they face persistent challenges from weather and markets over which they have no control.

In the last several decades, United States agricultural productivity has shown amazing growth. There are a number of reasons for this but none more important than the availability of science-based information provided through the partnership among producers, the land-grant university system, and U.S. Department of Agriculture - Agricultural Research Service.

Peanut producers rely on the results of research programs to help create sustainability in their complex and multifaceted farming operations. For producers to meet their goals, agricultural research isn't just valuable; it's vital. Agricultural research is not a cost – it's an investment. Producers gain by implementing practices that increase production or lower costs. Equally important, consumers also benefit from an abundance of food at reasonable prices.

Oklahoma State University and USDA-ARS research programs continue to provide essential knowledge for peanut producers during very challenging times. Recent peanut variety releases by USDA-ARS at the Peanut Improvement Center in Stillwater have been welcomed by producers and the industry. Due to high yielding ability, outstanding quality, and disease resistance, recently released varieties are positively impacting the Oklahoma peanut industry and the state's agricultural economy. OSU and USDA-ARS research programs are providing growers with much needed answers for yield robbing disease and weed problems.

The true value of these research programs is shown by steady, consistent improvements in on-farm production. During the 1990s, Oklahoma peanut yields averaged 2,280 lbs/ac. During the succeeding decade (2001-2010) farmer yields improved dramatically, averaging almost 3,000 lbs/ac. Improvements in production have continued and between 2011 and 2021, farmer yields averaged 3,567 lbs/ac.

The 2020 crop averaged 4,119 lbs/ac, which was a state record at the time. However, that high-water mark was quickly surpassed by the 2021 crop, which averaged 4,356 lbs/ac, an all-time high for the state. Season-long dry weather conditions negatively impacted 2022 yields, but growers were still able to average more than 3,000 lbs/ac with many individual producers exceeding this number.

OSU and USDA-ARS research programs produce results that are of immediate benefit to growers, who make direct investments in this research with funding provided through the National Peanut Board (NPB) and the Oklahoma Peanut Commission. The NPB is a grower-funded national research, promotion, and education checkoff program with growers from 10 states submitting funds and in turn, receiving research and promotion funds back in those states.

As part of an ongoing partnership, in FY22 the Oklahoma Peanut Commission teamed with OSU and USDA-ARS to submit a research proposal to the NPB. NPB responded by providing $20,000 in research funding for this effort. The funded research project was titled Peanut Management in Oklahoma. Results of this research project are of great interest to Oklahoma producers and are presented in this report.

U.S. peanut consumption is at an all-time high and now stands at almost 8 pounds per capita on an annual basis. For Oklahoma to benefit from this and additional good news from the industry, growers must continue to have access to research-based results and recommendations as they make production decisions. The OPC will continue to team with OSU and USDA-ARS, which will provide critical assistance and with NPB, which will deliver essential resources. All partners have a strong commitment to a robust peanut industry in the state and Oklahoma's peanut growers are very appreciative of that fact.

Oklahoma's peanut producers and the Oklahoma Peanut Commission are proud of their long and productive history with OSU, USDA-ARS, and NPB and look forward to the future and the shared benefits of continuing this partnership.

Ron Sholar
Executive Director
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DISEASE EVALUATIONS AND AGRONOMIC TRAITS OF ADVANCED PEANUT BREEDING LINES IN 2022

By Rebecca S. Bennett and Kelly D. Chamberlin, USDA-ARS

2022 Progress Made Possible Through Oklahoma Peanut Commission and National Peanut Board Support

- A total of 43 breeding lines and reference cultivars were evaluated at the Caddo Research Station for agronomic characteristics and soilborne diseases (Sclerotinia blight and pod rot).
- The 16-entry runner trial included Lariat, FloRun '107', Southwest Runner, ACI 080, ACI 476, ACI 3321, IPG 914 and nine breeding lines from the United States Department of Agriculture-Agricultural Research Service. The 15-entry Spanish/Valencia trial tested six USDA-ARS Spanish breeding lines, four New Mexico State University Valencia breeding lines and the cultivars OLé, IPG 3628, Schubert, Span 17 and Valencia C. The Virginia trial evaluated 12 entries: Jupiter, ACI 351, Contender, Comrade, and two breeding lines from North Carolina State University and six from USDA-ARS.
- All plots were planted in June to ensure green foliage was present in case conditions were favorable for Sclerotinia blight in late September to October. Plots were planted on June 6 and dug 148 days after planting (Oct. 31). The season was marked by unusually high average temperatures for July (5 degrees above 15-year mean) and below-average rainfall from July to September. The 2022 disease trial had a total of 3,203F degree days.
- Numerically, the top two runner entries for revenue were Lariat ($1,270 per acre) and ARSOK R109-1 ($1,241 per acre) at a contract price of $675 per ton. Average seed grade varied among entries from 72 to 61%. Moderately high levels of Sclerotinia blight were observed in mid-October, and the most resistant entries included Southwest Runner (10%), ARSOK R96-8 (18%) and Lariat (25%). Little pod rot was observed.
- OLé and ARS Spanish breeding lines S105-2E, S105-4E and S96-5 had the highest numerical crop value and yields when priced at $700 per ton (>$1,150 and >4,875 lbs. per acre). As in past years, Valencia entries generally yielded less than most Spanish entries. High levels of Sclerotinia blight were observed in the small-seeded runners Span 17 and IPG 3628 (54 and 80%, respectively). Little Sclerotinia blight (<12%) was present on the Valencia and true Spanish entries.
- All Virginia entries yielded above 4,300 lbs. per acre except ACI 351, but average seed grade was relatively low, ranging from 61 to 67%. Numerically, entries with the three highest crop values were ARSOK V98, Comrade and ARSOK V99 (>$1,090 per acre). Sclerotinia blight was highest in ACI 351, Jupiter and Comrade (>58%) and lowest in ARSOK V99 (6%). Little pod rot was observed. The entries differed significantly in pod size distribution, and Comrade had the largest percentage of super jumbo pods by weight.

- Little pod rot was present in the Virginia pod rot nursery, and high levels of root-knot nematodes were present in the disease trial field.

A major goal of the ARS peanut research program in Stillwater is to develop and release high-oleic peanut cultivars for the Southwest with improved yield, disease resistance and seed characteristics. In 2022, we evaluated commercial and advanced breeding lines of runner, Spanish/Valencia and Virginia peanuts in small plots at Oklahoma State University's Caddo Research Station in Fort Cobb. The objectives of these field studies were: 1) to compare advanced breeding lines to commercially available cultivars for resistance to Sclerotinia blight and agronomic characteristics, such as yield and seed qualities and 2) to evaluate a selection of Virginia entries for pod rot resistance in fields where soilborne levels of the pathogens causing peanut pod rot were promoted by planting susceptible genotypes the previous year.

Methods and Field Conditions for Evaluating Advanced Breeding Lines and Cultivars

A total of 44 breeding lines and reference cultivars (16 runner, 15 Spanish/Valencia and 12 Virginia market types) were evaluated. Runner and Virginia peanut market types were each grown and evaluated separately, but Spanish and Valencia entries were combined in the same field and analyzed together. All advanced breeding lines were high oleic. Each entry was planted at a density of five seeds/ft in plots consisting of two 15-foot-long rows with 36-inch-wide beds. A randomized complete block design was used by dividing the field into four sections (blocks) to account for potential disease gradients and environmental variables. All plots were planted approximately one month later than normal (June 6) to ensure green foliage was available for late-season epidemics of Sclerotinia blight. All plots were inverted on Oct. 31, 148 days after planting and threshed on Nov. 2-3. The pod rot nursery was planted on June 27 to reduce the number of volunteers, and plots were dug on Oct. 26.

Additional water was applied to all plots 19 times (total 10.85”) between June 17 and Oct. 14 using a center pivot system. Each row in the two-row plots was inoculated with 0.5g of *Sclerotinia minor* sclerotia on Sept. 7. Fields were managed for weeds, foliar diseases and southern blight (caused by *Athelia rolfsii*) following Extension recommendations but were not managed for Sclerotinia blight, pod rot or nematodes. Entries were evaluated for Sclerotinia and southern blights on Sept. 30 and on Oct. 12 and 14. Disease incidence was measured by counting the number of 6-inch sections within each plot that had symptoms of Sclerotinia blight and southern blight. On Oct. 18, approximately 10 soil cores were collected near the taproots from three plots planted to Jupiter for nematode counts. All plots were examined for pod rot on the same day the plants were inverted.

Peanut grades were determined following USDA-Agricultural Marketing Service guidelines using two 200-gram samples from each plot. Two 500-gram samples per plot were used to determine pod sizes in the Virginia entries. Yield was adjusted by factoring in the area lost by plots in the path of the center pivot wheels. Data were analyzed using one-way ANOVA in PROC GLIMMIX of SAS (ver. 9.4). The Type I error rate for pairwise comparisons of breeding lines and cultivars was controlled at $\alpha = 0.05$ using the ADJUST=SIMULATE option.

Summary of 2022 Field Conditions

A total of 3,203-degree day heat units (in Fahrenheit) accumulated for the 2022 disease trial. The season was characterized by unusually high temperatures for July (+5F above average) and below average rainfall from July to September (Table 1). Cooler evening temperatures in September and October facilitated the development of Sclerotinia blight. Little southern blight and pod rot were observed. The nematology lab at Oklahoma State University found 276 root-knot nematodes per 100 cc soil in the soil cores, levels considered to be well above recommended thresholds (Nathan Walker, pers. communication). Little pod rot was observed in the Virginia pod rot nursery, so ratings were not taken.

Performance of the Runner Market-Type Entries

Sixteen runner peanut entries were evaluated (Table 2):

- High-oleic cultivars Lariat, ACI 080, ACI 476, ACI 3321 and IPG 914
- The Sclerotinia blight-susceptible and resistant cultivars FloRun '107' and Southwest Runner, respectively, for reference
- Nine breeding lines from ARS-Stillwater

Statistical differences were found among runner entries for crop value, yield and all-shelling characteristics (Table 2). Numerically, the top two runner entries for crop value or revenue – a combined measure of yield and seed grade – and yield were Lariat ($1,270 per acre; 5,324 lbs. per acre) and ARSOK R109-1 ($1,241 per acre; 5,215 lbs. per acre) at a contract rate of $675 per ton. Average seed grade among entries was 68%, and six entries produced seed grades of 70% or higher: Lariat, ACI 080 and ARSOK lines R109-1, R106-9, R107-2 and R93-1. High levels of Sclerotinia blight were observed in the susceptible control FloRun '107' (88%) and in all ACI cultivars, IPG 914 and multiple breeding lines (≥50%). The most Sclerotinia-resistant entries were Southwest Runner, ARSOK 96-8 and Lariat (10 to 25%).

Many of the same entries from 2022 were also evaluated in 2021, albeit in a field that consistently produces lower yields (Table 3). Over both years, Lariat produced the highest numerical yield and grade. Conditions in 2021 were unfavorable for Sclerotinia blight, but the most susceptible and resistant entries over both years were the control entries FloRun '107' and Southwest Runner, respectively.

Performance of the Spanish/Valencia Market-Type Entries

Six Spanish breeding lines from ARS-Stillwater and four Valencia lines from New Mexico State University were evaluated in addition to cultivars Valencia C, OLé, Schubert, IPG 3628 and Span 17 (Table 4). The 2022 contract price for Valencia peanuts was $950 per ton (N. Puppala, pers. communication), but all entries were analyzed using the Spanish contract price of $700 per ton to facilitate comparisons between the market types. In 2022, yields and crop values from several Spanish entries numerically exceeded those from the small-seeded runners Span 17 and IPG 3628. Yields in Span 17 and IPG 3628 were likely limited due to being severely affected by

Sclerotinia blight (54 and 80%, respectively). In comparison, relatively little Sclerotinia blight was observed on Spanish and Valencia entries. As in past years, Valencia entries generally yielded less than Spanish entries. While yields in 2021 were markedly less than in 2022, the Spanish/Valencia entries performed similarly over both years (Table 5).

Performance of the Virgina Market-Type Entries

A total of 12 Virginia peanut entries were evaluated in 2022 (Table 6):

- Jupiter and high-oleic cultivars ACI 351, Comrade and Contender
- Two early-maturing breeding lines from North Carolina State University, N15041 and N17045
- Six USDA-ARS breeding lines

The Virginia entries differed statistically in all categories except visibly damaged kernels (Table 6). At a contract price of $675 per ton, six entries (Comrade, Contender and ARSOK lines V98, V99, V103-2 and V101-1) had crop values significantly greater than ACI 351 (>$1,060 vs. $794 per acre). Despite being planted in June, crop yields for six entries exceeded or approached 5,000 pounds per acre. However, seed grades were low, averaging 64%, and Comrade had the highest grade at 67%. Several entries, including Comrade and ACI 351, were as susceptible to Sclerotinia blight as Jupiter (>58%). The most resistant Virginia entry was ARSOK V99 at 6% disease incidence. Significant differences were observed among the Virginia entries for number of pods per ounce for each of the pod size classes (Table 6) in addition to the distribution of pod size classes by weight (Figure 1). Comrade, ACI 351, V103-3, V103-1 and Jupiter had the greatest percentage of super jumbo pods (≥65%).

Over the past two years, ARSOK V99 had the highest average yield (4,332 pounds per acre) and the least amount of Sclerotina blight (7%; Table 7). The two-year seed grade average in Comrade (69%) was significantly greater than in Jupiter (63%). All Virginia entries except ARSOK V99 and V98 appeared moderately or highly susceptible to Sclerotinia blight.

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Table 1. Monthly rainfall and average air temperature from Mesonet for 2022 field season at the Caddo Research Station in Fort Cobb.[1]

	Air Temperature (°F)				Rainfall (Inches)	
Month	**Avg. Max.**	**Avg. Low**	**Daily Mean**	**Departure from 15-Year Average**	**Total**	**Departure from 15-Year Average**
June	91	69	79.9	+1	5.08	+1.01
July[2]	101	73	87.1	+5	1.03	-2.03
August[2]	96	70	82.7	+1	2.25	-0.84
September[2]	91	61	75.7	+2	1.98	-0.83
October	75	48	61.1	0	4.36	+1.29

[1] All plots planted June 6 and dug Oct. 31.
[2] Mesonet temperature data from Chickasha due to extensive incomplete records for Fort Cobb.

Table 2. Crop value, yield, grade, Sclerotinia blight and shelling characteristics in advanced runner breeding lines and commercial cultivars planted at the Caddo Research Station in Fort Cobb on June 6, 2022. [1]

Entry	Revenue ($/A)[2]	Yield (lbs/A)	Grade[3]	SM[4]	100-Seed (g)	VDK (%)[5]	Hull (%)
Lariat	1270a	5324a	71.1a	25.4c-e	60.7d-e	0.5ab	25.4bc
R109-1	1241ab	5215a	70.6a	49.6a-d	59.0fg	0.4b	25.6bc
SW Runner	1140a-c	4925ab	68.2a-c	10.4e	48.6h	0.8ab	29.2a-c
ARSOK R95-1	1116a-c	4852a-c	68.9ab	34.6b-e	64.6b-d	0.5ab	27.3bc
ACI 3321	1091a-d	4731a-c	68.5a-c	56.3a-c	60.3e-g	0.3b	26.2bc
ARSOK R106-9	1086a-d	4525a-c	71.7a	59.2a-c	62.3c-f	0.7ab	24.0c
ARSOK R91-2	1075a-d	4695a-c	68.9ab	35.8b-e	66.7bc	1.0ab	27.0bc
ARSOK R92-13	1065a-d	4695a-c	68.0a-c	45.4b-e	68.0ab	0.6ab	28.5a-c
ARSOK R107-2	1060a-d	4392a-c	72.3a	65.8ab	59.1fg	0.6ab	23.7c
ARSOK R93-1	1034a-d	4421a-c	69.7a	51.7a-d	64.2b-e	1.0ab	26.1bc
ACI 476	1018a-d	4610a-c	66.5a-c	55.0a-d	49.7h	0.4b	30.3a-c
ARSOK R96-8	982b-d	4780a-c	62.2c	17.5de	71.9a	0.7ab	35.7a
ARSOK R93-10	916cd	4114bc	66.9a-c	40.0b-e	57.4g	1.3ab	28.0bc
IPG 914	911cd	4392a-c	62.5bc	61.7a-c	58.2fg	0.6ab	33.0ab
ACI 080	906cd	3787c	70.6a	66.7ab	56.1g	0.9ab	25.2c
FloRun '107'	828s	3775c	66.2a-c	87.9a	59.5e-g	1.6a	28.3a-c

[1] Entries sorted by highest to lowest contract revenue per acre. Runners were dug Oct. 31 (148 days after planting; 3,203 degree days in Fahrenheit). No differences among entries if letters absent in column. Numbers with the same lowercase letter within columns are not significantly different (α = 0.05).
[2] Based on a contract price per ton of $675 for runners. Calculations do not include deductions for excess splits or damaged and other kernels.
[3] Grade = % total sound mature kernels + sound splits.
[4] Incidence of Sclerotinia blight rated on Oct. 12-14.
[5] VDK, visibly damaged kernels.

Table 3. Two-year averages for Sclerotinia blight, yield (pounds per acre) and seed grade in runner advanced breeding lines and commercial cultivars at the Caddo Research Station in Fort Cobb (2021-2022). [1]

	2021-2022			2022			2021		
Entry	**Yield**	**Grade[2]**	**SM[3]**	**Yield**	**Grade**	**SM**	**Yield**	**Grade**	**SM**
Runner				148 DAP/3203 DD[4]			166 DAP/3409 DD		
Lariat	4471a	73.3a	14.6b-d	5324a	71.2a	25.4c-e	3618ab	75.1a	3.8b-e
SW Runner	4392ab	68.5b-d	5.2d	4925a	68.2a-c	10.4e	3860ab	68.9c	0.0e
ARSOK R96-8	4386ab	65.5d	9.2cd	4780ab	62.2c	17.5de	3993a	68.8c	0.9de
ARSOK R109-1	4277a-c	71.2ab	32.7a-c	5215a	70.6a	49.6b-d	3340ab	71.8a-c	15.8a-c
ARSOK R95-1	4162a-c	71.4ab	18.8b-d	4852a	68.9ab	34.6b-e	3473ab	74.0ab	2.9c-e
ACI 476	3987a-d	68.5b-d	30.4a-d	4610ab	66.5a-c	55.0a-d	3364ab	70.6a-c	5.8a-e
ACI 3321	3987a-d	69.9a-c	34.8a-c	4731ab	68.5a-c	56.3a-c	3243ab	71.4a-c	13.4a-d
ARSOK R91-2	3939a-d	71.0ab	20.6b-d	4695ab	68.9ab	35.8b-e	3182ab	73.0a-c	5.4a-e
ARSOK R93-1	3907a-d	71.9ab	31.0a-d	4421ab	69.7a	51.7a-d	3352ab	73.6ab	10.4a-e
ARSOK R106-9	3872a-d	72.7a	34.2a-c	4525ab	71.7a	59.2a-c	3219ab	73.8ab	9.2a-e
ARSOK R92-13	3866a-d	70.3ab	25.2b-d	4695ab	68.0a-c	45.4b-e	3037ab	72.6a-c	5.0a-e
ARSOK R107-2	3745a-d	72.4ab	37.7ab	4392ab	72.3a	65.8ab	3098ab	72.4a-c	9.6a-e
IPG 194	3606b-d	66.1cd	39.8ab	4392ab	62.5bc	61.7a-c	2819b	70.1bc	17.9a
FloRun '107'	3508cd	68.5b-d	52.1a	3775b	66.2a-c	87.9a	3179ab	70.4bc	16.3ab
ACI 080	3352d	71.7ab	38.6ab	3787b	70.6a	66.7ab	2916ab	72.9a-c	10.4a-e

[1] Entries are sorted from highest to lowest two-year average yield. Numbers with the same lowercase letter within columns are not significantly different (α = 0.05). No differences among entries if letters absent in column.
[2] Grade = % total sound mature kernels + sound splits.
[3] SM, % incidence of Sclerotinia blight.
[4] Days after planting (DAP) when dug; peanut degree-day (DD) heat units in Fahrenheit calculated by Mesonet. The 2021 plots were planted May 14 and dug Oct. 26; the 2022 plots were planted June 6 and dug Oct. 31.

Table 4. Crop value, yield, grade Sclerotinia blight and shelling characteristics in advanced Spanish/Valencia breeding lines and commercial cultivars planted at the Caddo Research Station in Fort Cobb on June 6, 2022.[1]

Entry	Revenue ($/A)[2]	Yield (lbs/A)	Grade[3]	SM[4]	100-Seed (g)	VDK (%)[5]	Hull (%)
ARSOK S105-2E	1209a	5231a	66.4	12.5cd	43.6e	0.5	31.6
ARSOK S105-4E	1169a	4913a	67.9	5.4cd	48.9b-e	0.6	30.0
OLé	1159a	4868a	68.5	2.5cd	44.6e	0.7	28.5
ARSOK S96-5	1152a	4876a	66.7	0d	55.4a	0.6	30.9
ARSOK S104-2E	1113a	4586ab	69.6	5.0cd	46.1de	0.3	28.7
ARSOK S105-3E	1099a	4725a	66.1	4.2cd	49.2b-e	0.7	31.9
ARSOK S104-3E	1068ab	4574ab	66.6	10.0cd	45.8de	0.5	30.8
Span 17	1039ab	4538ab	67.0	54.2b	51.0a-d	0.5	29.8
Schubert	989ab	4320a-c	63.5	2.9cd	46.5c-e	1.0	34.0
NM16-42	970ab	4054a-c	68.3	17.9c	47.0b-e	0.9	28.7
NM16-17	896ab	3908a-c	65.3	7.9cd	47.4b-e	1.0	32.2
NM-M2	820ab	3449bc	67.8	3.3cd	49.1b-e	0.7	29.4
IPG 3628	809ab	3400bc	68.2	80.4a	48.6b-e	0.8	28.7
Valencia C	797ab	3545bc	64.0	10.9cd	51.7a-c	0.9	33.6
NM-M7	769b	3303c	66.8	3.3cd	52.0ab	1.1	30.2

[1] Market types were analyzed separately and are ordered by highest to lowest contract revenue per acre. Spanish/Valencia plots were dug on Oct. 31 (148 days after planting; 3,203 degree days in Fahrenheit). No differences among entries if letters absent in column. Numbers with the same lowercase letter within columns are not significantly different ($\alpha = 0.05$).
[2] Based on a contract price per ton of $700 to facilitate comparisons between Spanish and Valencia. Actual 2022 contract price for Valencia was $950/ton. Calculations do not include deductions for excess splits or damaged and other kernels.
[3] Grade = % total sound mature kernels + sound splits.
[4] Incidence of Sclerotinia blight rated on October 12.
[5] Spanish/Valencia screen sizes: ELK, extra-large kernels, 19/64; medium kernels, 17/64; small kernels, 15/64; VDK, visibly damaged kernels.

Table 5. Two-year averages for Sclerotinia blight, yield (pounds per acre) and seed grade in Spanish advanced breeding lines and commercial cultivars at the Caddo Research Station in Fort Cobb (2021-2022).[1]

	2021-2022			2022			2021		
Entry	**Yield**	**Grade[2]**	**SM[3]**	**Yield**	**Grade**	**SM**	**Yield**	**Grade**	**SM**
Spanish				148 DAP/3203 DD[4]			148 DAP/3254 DD		
ARSOK S105-2E	3733a	69.0ab	-	5231a	66.4	12.5cd	2529	70.6a-d	-
OLé	3729a	69.3ab	-	4868a	68.5	2.5cd	2614	70.3a-d	-
ARSOK S96-5	3727a	69.2ab	-	4876a	66.7	0d	2577	71.7a-c	-
ARSOK S105-4E	3715a	69.5ab	-	4913a	67.9	5.4cd	2517	71.0a-d	-
ARSOK S105-3E	3680a	68.3ab	-	4725ab	66.1	4.2cd	2589	70.4a-d	-
Span 17	3572ab	69.2ab	-	4538a-d	67.0	54.2b	2565	72.8ab	-
ARSOK S104-3E	3491ab	69.1ab	-	4574a-c	66.6	10.0cd	2408	71.5a-c	-
S104-2E	3442ab	71.6a	-	4586a-c	69.6	5.0cd	2299	73.6a	-
Schubert	3373ab	65.1b	-	4320a-d	63.5	2.9cd	2436	68.3b-d	-
NM16-42	3255ab	68.5ab	-	4054a-d	68.3	17.9c	2456	68.7b-d	-
NM16-17	3023ab	65.7b	-	3908a-d	65.3	7.9cd	2178	66.8cd	-
Valencia C	2928ab	65.4b	-	3545b-d	64.0	10.9cd	2311	66.8cd	-
IPG 3628	2874ab	70.1ab	-	3400cd	68.2	80.4a	2347	72.1a-c	-
NM-M2	2850b	67.1ab	-	3449cd	67.8	3.3cd	2251	66.3d	-
NM-M7	2735b	66.9ab	-	3303d	66.8	3.3cd	2166	66.9cd	-

[1] Entries are sorted from highest to lowest two-year average yield. Numbers with the same lowercase letter within columns are not significantly different (α = 0.05). No differences among entries if letters absent in column.
[2] Grade = % total sound mature kernels + sound splits.
[3] SM, % incidence of Sclerotinia blight. No Sclerotinia ratings taken in 2021 in the Spanish/Valencia trial due to low levels of disease.
[4] Days after planting (DAP) when dug; peanut degree-day (DD) heat units in Fahrenheit calculated by Mesonet. The 2021 plots were planted May 14 and dug Oct. 8; the 2022 plots were planted June 6 and dug Oct. 31.

Table 6. Crop value, yield, grade, Sclerotinia blight and shelling characteristics in advanced Virginia breeding lines and commercial cultivars planted at the Caddo Research Station in Fort Cobb on June 6, 2022.[1]

Entry	Revenue ($/A)[2]	Yield (lbs/A)	Grade[3]	SM[4]	100-Seed (g)	VDK (%)[5]	Hull (%)	Super Jumbo (no./oz)[2]	Jumbo (no/oz)[2]	Fancy (no.oz)[2]
ARSOK V98	1106a	5106a	64.5b	20.8cd	77.6c-e	1.1	32.8a-c	11.4cd	15.0c-e	19.1ef
Comrade	1096a	4852ab	66.7a	61.7a	97.2a	0.7	31.6c	9.8e	14.8de	21.5b-d
ARSOK V99	1091a	5034a	64.6ab	5.8d	75.2de	1.3	32.3bc	12.9ab	16.6ab	20.5de
Contender	1068a	4937ab	64.6ab	47.1a-c	84.6b-d	1.2	32.5a-c	10.5de	13.6e	18.0f
ARSOK V103-1	1067a	4925ab	63.8ab	25.4b-d	84.9bc	0.7	34.5a-c	11.6c	16.5a-c	22.7a-c
ARSOK V101-1	1061a	4973ab	62.8ab	39.2a-c	68.8e	1.1	35.4a-c	13.5a	16.2a-d	21.2b-e
N17045	1025ab	4743ab	62.9ab	56.3ab	87.5b	1.1	34.6a-c	10.4de	13.8e	20.7c-e
ARSOK V102-5	995ab	4695ab	61.7b	37.1a-d	83.2b-d	1.0	36.1ab	11.3cd	15.7b-d	21.3b-e
Jupiter	990ab	4711ab	61.4b	58.3a	77.2c-e	1.0	36.6a	11.7c	15.5b-d	20.9c-e
ARSOK V103-3	945ab	4501ab	62.3ab	46.3a-c	81.8b-d	1.2	35.1a-c	12.0bc	17.6a	23.8a
N15041	932ab	4368ab	63.8ab	57.5a	78.5b-d	1.1	33.5a-c	11.3cd	14.9de	20.9c-e
ACI 351	794b	3787b	63.3ab	66.3a	87.8ab	0.6	34.1a-c	11.7c	17.1ab	23.4ab

[1] Entries sorted from highest to lowest contract revenue per acre. Plots dug on Oct. 31 (148 days after planting; 3,203 degree days in Fahrenheit). Numbers with the same lowercase letter within columns are not significantly different (α = 0.05). No differences among entries if letters absent in column.
[2] Based on contract price of $675/ton. Calculations do not include deductions for excess splits or damaged and other kernels.
[3] Grade = % total sound mature kernels + sound splits.
[4] Incidence of Sclerotinia blight rated on Oct. 12-14.
[5] VDK, visibly damaged kernels.
[2] Number of pods per ounce for pods riding slotted screens sized for super jumbo (40/64 x 3" slots), jumbo (37/64 x 3"), fancy (32/64 x 3").

Figure 1. Percent pod size distribution by weight among Virginia entries in 2021 and 2022 disease trials. Pods sorted using slotted screens sized for super jumbo (40/64 x 3" slots), jumbo (37/64 x 3") and fancy (32/64 x 3"). Pass-through pods fit through 32/64 x 3" screen.

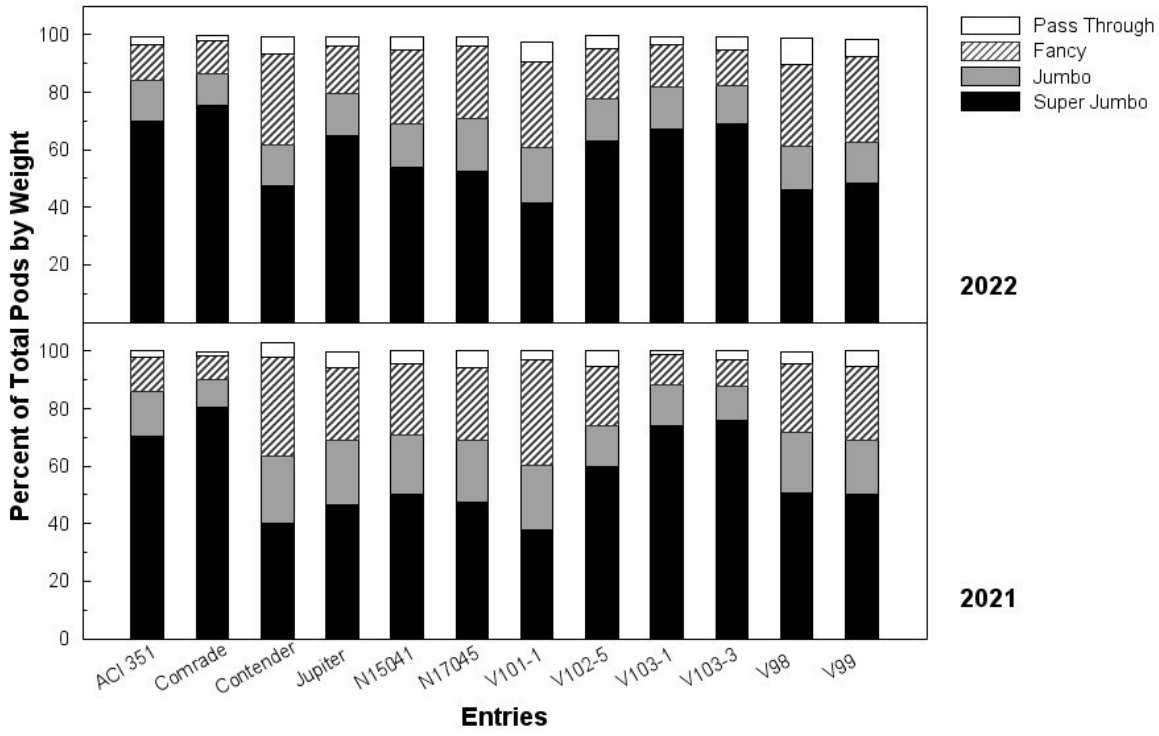

Table 7. Two-year averages for Sclerotinia blight, yield (pounds per acre) and seed grade in Virginia afvanced breeding lines and commercial cultivars at the Caddo Research Station in Fort Cobb (2021-2022). [1]

	2021-2022			2022			2021		
Entry	**Yield**	**Grade[2]**	**SM[3]**	**Yield**	**Grade**	**SM**	**Yield**	**Grade**	**SM**
Virginia				148 DAP/3203 DD[4]			166 DAP/3409 DD		
ARSOK V99	4332a	67.4ab	6.7c	5034a	64.6ab	5.8d	3630a	70.2a-c	7.5b
Contender	4150ab	66.1a-c	27.7a-c	4937ab	64.6ab	47.1a-c	3364ab	67.7a-d	8.3ab
ARSOK	3975a-c	67.5ab	22.9a-c	4925ab	63.8ab	25.4b-d	3025a-c	71.2ab	24.5a
Jupiter	3965a-c	62.9cd	40.6a	4711ab	61.4b	58.3a	3219ab	64.5cd	22.9a
ARSOK V101-1	3939a-c	66.7a-c	26.9a-c	4973ab	62.8ab	39.2a-c	2904a-c	70.5ab	14.6ab
Comrade	3926a-c	69.2a	35.0ab	4852ab	66.7a	61.7a	3001a-c	71.9a	8.3ab
V98	3860a-c	66.6a-c	13.1bc	5106a	64.5ab	20.8cd	2614bc	68.7a-c	5.4b
ARSOK V103-3	3678a-c	64.0b-d	31.5ab	4501ab	62.3ab	46.3a-c	2856a-c	65.7b-d	16.7ab
N17045	3612a-c	64.8b-d	32.5ab	4743ab	62.9ab	56.3ab	2481bc	66.7a-d	8.8ab
ARSOK V102-5	3594a-c	61.7d	22.9a-c	4695ab	61.7b	37.1a-d	2493bc	61.8d	8.8ab
ACI 351	3370bc	65.7a-d	39.2a	3787b	63.3ab	66.3a	2952a-c	68.2a-c	12.1ab
N15041	3273c	66.2a-c	32.7ab	4368ab	63.8ab	57.5a	2178c	68.9a-c	7.9ab

[1] Entries are sorted from highest to lowest two-year average yield. Numbers with the same lowercase letter within columns for each market type are not significantly different (α = 0.05). No differences among entries if letters absent in column.
[2] Grade = % total sound mature kernels + sound splits.
[3] SM, % incidence of Sclerotinia blight.
[4] Days after planting (DAP) when dug; peanut degree-day (DD) heat units in Fahrenheit calculated by Mesonet. The 2021 plots were planted May 14 and dug Oct. 26; the 2022 plots were planted June 6 and dug Oct. 31.

2022 PEANUT PEST MANAGEMENT REPORT

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Peanut weed and disease management trials were conducted at the Oklahoma State University Caddo Research Station near Fort Cobb. Spanish peanut 'Ole' were planted on May 10, 2022, in 36-in rows. Preemergence treatments were applied immediately after planting. The Gramoxone Tolerance, Liberty Tolerance and disease management trials received an overlay of Prowl (1 qt/A) + Valor (2 oz/A) PRE, Cadre (4 fl oz/A) + Butyrac 200 (1 pt/A) + Dyne-Amic (6 fl oz/A) and Select (1 pt/A) + Dyne-Amic (6 fl oz/A) POST. These trials were weed-free, irrigated and maintained throughout the growing season. Trials were visually evaluated for peanut response and weed control or leafspot. Peanut crops were dug, field dried and harvested (10/27/22).

The first trial was established to evaluate the response of peanut to POST applications of Gramoxone alone and in combination with Dual Magnum. Gramoxone was applied at 10.8 (1X) and 21.6 (2X) fl oz/A either alone or in combination with Dual Magnum at 21.3 (1X) and 42.6 (2X) fl oz/A. Applications were made at 14 days after crack (DAC), 28 DAC or both 14 and 28 DAC. All treatments were applied with Induce (non-ionic surfactant) at 0.25% v/v.

Peanut stands were reduced less than 5% from any of the herbicide treatments applied (Table 1). Initial peanut stunting was 15 to 70% from the POST1 (14 DAC) application timing (Table 2). The most severe stunting occurred from the combinations with Dual Magnum and from the 2X rate applications. This stunting generally subsided and was less than 5% by 79 days after planting (DAP). Initial stunting was less severe from the POST2 (28 DAC) ranging from 3 to 8%. Stunting from a POST1 + POST2 applications was 6 to 26% across the various treatment combinations. Similar to the POST1 timing, injury subsided to 5% or less by 79 DAP. Leaf burn (Table 3) and overall visual injury (Table 4) followed a similar trend to the peanut stunting. All treatments yielded over 5,500 lbs/A (weed-free yield = 5,714 lbs/A) with the exception of two applications of Gramoxone + Dual Magnum, both applied at 2X of the labeled rate which yielded 4,617 lbs/A (Table 4).

The second trial was established to evaluate the effects of preplant and preemergence applications of Liberty (glufosinate) on peanut. Liberty was applied on May 10 at 0, 25, 50 and 75 fl oz/A. Peanut crops were planted immediately prior to the Liberty application or 7 days later. No injury or yield effects were observed from any of the Liberty treatments (Table 5).

A trial was established on the Steve King Farm near Eakly to evaluate weed management and peanut response to Anthem Flex combinations. Initial injury (7 days after treatment [DAT]) was between 6 and 10% with all treatments (Table 6). Injury was slightly higher with Anthem Flex compared to Dual Magnum. This is to be expected due to the addition of Aim in the Anthem Flex herbicide. Injury was not visible by 16 DAT with any of the treatments. The only weed in a significant population was volunteer cotton. However, even this population was sporadic across the trial area. It was observed that the addition of Aim to Anthem Flex, equal to a total of 2.0 fl oz/A of Aim, increased volunteer cotton control. This may be a potential option where Enlist cotton was planted, ,and a producer would prefer not to apply Gramoxone.

The next weed management trial evaluated various combinations of Prowl, Pursuit and Valor for preemergence weed management in peanut. All PRE treatments were followed with a POST application of 2,4-DB and a POST application of Select. Initial control of Palmer amaranth (Table 7), Texas panicum (Table 8) and ivyleaf morningglory (Table 9) was at least 90% with all treatments 21-27 DAP. These same species were controlled 100%, 58 DAP with Pursuit (4 fl oz/A) + Valor (3 fl oz/A) together or in combination with Prowl H2O (32 fl oz/A). Peanut injury was less than 10% with all treatments applied (Table 10). Peanut yield was over 5,100 lbs/A with the three-way combination of Prowl H2O + Pursuit + Valor compared to 3,717 lbs/A when no PRE was applied.

The final trial was established to evaluate Lucento based fungicide programs for leafspot. Leafspot was extremely low averaging less than 1 (very few leafspot lesions) on the Florida Leaf Spot Scale the entire growing season. This was true even with the untreated. Due to the low level of leaf spot there were no differences for any of the treatments in level of leafspot or peanut yield (Table 11).

The authors would like to express our gratitude to the Oklahoma Peanut Commission for support of this research. Additionally, we would like to extend our appreciation to the research staff at the Oklahoma State University Caddo Research Station: Bobby Weidenmaier, Brennan Leighton and Harley Houston. We would also like to thank Steve King for allowing us to conduct research on his farm. Without the support of these groups and individuals, along with the producers of Oklahoma, the development and results of this research would not be possible.

Table 1. Gramoxone rates, timings and combinations effects on peanut stand at Fort Cobb, 2022.

			27 DAP	34 DAP	42 DAP	49 DAP	58 DAP	79 DAP
Treatment[a]	**Rate (fl oz/A)**	**Timing**	**% Stand Reduction**					
Gramoxone	10.8	14 DAC	0	4	3	3	0	0
+ Dual Magnum	21.3	14 DAC	0	4	3	3	1	0
Gramoxone	10.8	28 DAC			1	0	0	0
+ Dual Magnum	21.3	28 DAC			1	1	0	0
Gramoxone	21.6	14 DAC	3	4	3	4	4	0
+ Dual Magnum	42.6	14 DAC	3	4	4	4	4	0
Gramoxone	21.6	28 DAC			3	3	0	0
+ Dual Magnum	42.6	28 DAC			4	4	1	0
Gramoxone	10.8	14 + 28 DAC	0	4	3	3	3	0
+ Dual Magnum	21.3	14 + 28 DAC	1	4	4	4	1	0
Gramoxone	21.6	14 + 28 DAC	0	4	4	4	1	0
+ Dual Magnum	42.6	14 + 28 DAC	3	4	4	4	4	0
GM + DM + Basagran	10.8 + 21.3 + 16	28 DAC			4	0	0	0
LSD (P=0.10)			2	NS	NS	3	2	NS
CV (%)			182	65	89	86	144	0
Treatment Prob (F)			0.1091	0.2676	0.4837	0.0373	0.015	1

[a] All treatments applied with Induce (0.25 %v/v); GM - Gramoxone, DM = Dual Magnum, DAC = days after cracking, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant.

Table 2. Gramoxone rates, timings and combinations effects on peanut stunting at Fort Cobb, 2022.

			27 DAP	34 DAP	42 DAP	49 DAP	58 DAP	79 DAP
Treatment[a]	**Rate (fl oz/A)**	**Timing**	**% Stunting**					
Gramoxone	10.8	14 DAC	23	9	6	5	4	1
+ Dual Magnum	21.3	14 DAC	45	13	13	13	4	2
Gramoxone	10.8	28 DAC			3	3	3	1
+ Dual Magnum	21.3	28 DAC			8	4	5	1
Gramoxone	21.6	14 DAC	50	14	14	14	6	3
+ Dual Magnum	42.6	14 DAC	68	24	26	30	10	4
Gramoxone	21.6	28 DAC			5	5	4	1
+ Dual Magnum	42.6	28 DAC			8	10	6	0
Gramoxone	10.8	14 + 28 DAC	16	5	6	9	6	2
+ Dual Magnum	21.3	14 + 28 DAC	40	10	16	15	8	0
Gramoxone	21.6	14 + 28 DAC	38	15	16	21	8	2
+ Dual Magnum	42.6	14 + 28 DAC	58	25	26	46	15	5
GM + DM + Basagran	10.8 + 21.3 + 16	28 DAC			3	3	4	0
LSD (P=0.10)			17	4	7	9	4	1
CV (%)			38	28	51	57	55	76
Treatment Prob (F)			0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

[a] All treatments applied with Induce (0.25 %v/v); GM - Gramoxone, DM = Dual Magnum, DAC = days after cracking, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant.

Table 3. Gramoxone rates, timings and combinations effects on peanut leaf burn (necrosis) at Fort Cobb, 2022.

			27 DAP	34 DAP	42 DAP	49 DAP	58 DAP	79 DAP
Treatment[a]	**Rate (fl oz/A)**	**Timing**	**% Leaf Burn**					
Gramoxone	10.8	14 DAC	28	11	10	4	0	0
+ Dual Magnum	21.3	14 DAC	48	14	11	5	0	0
Gramoxone	10.8	28 DAC			13	9	0	0
+ Dual Magnum	21.3	28 DAC			15	10	0	0
Gramoxone	21.6	14 DAC	45	13	11	6	0	0
+ Dual Magnum	42.6	14 DAC	68	13	10	10	0	0
Gramoxone	21.6	28 DAC			14	8	1	0
+ Dual Magnum	42.6	28 DAC			13	10	0	0
Gramoxone	10.8	14 + 28 DAC	25	11	15	8	0	0
+ Dual Magnum	21.3	14 + 28 DAC	38	11	15	10	0	0
Gramoxone	21.6	14 + 28 DAC	45	11	16	10	1	0
+ Dual Magnum	42.6	14 + 28 DAC	53	11	14	10	0	0
GM + DM + Basagran	10.8 + 21.3 + 16	28 DAC			14	8	0	0
LSD (P=0.10)			16	3	3	4	NS	NS
CV (%)			34	27	22	45	508	0
Treatment Prob (F)			0.0001	0.0001	0.0001	0.0036	0.4697	1

[a] All treatments applied with Induce (0.25 %v/v); GM - Gramoxone, DM = Dual Magnum, DAC = days after cracking, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant.

Table 4. Gramoxone rates, timings and combinations effects on peanut injury and yield at Fort Cobb, 2022.

			27 DAP	34 DAP	42 DAP	49 DAP	58 DAP	79 DAP	Yield
Treatment[a]	**Rate (fl oz/A)**	**Timing**	**% Injury**						**lb/A**
Gramoxone	10.8	14 DAC	28	15	14	8	4	1	5619
+ Dual Magnum	21.3	14 DAC	40	20	19	15	5	2	5794
Gramoxone	10.8	28 DAC			14	9	3	1	5561
+ Dual Magnum	21.3	28 DAC			16	10	5	1	5750
Gramoxone	21.6	14 DAC	45	20	20	23	10	3	5547
+ Dual Magnum	42.6	14 DAC	68	38	40	38	15	4	5663
Gramoxone	21.6	28 DAC			16	9	5	1	5525
+ Dual Magnum	42.6	28 DAC			18	14	8	0	5685
Gramoxone	10.8	14 + 28 DAC	23	13	18	15	10	2	5663
+ Dual Magnum	21.3	14 + 28 DAC	38	14	26	21	9	0	5721
Gramoxone	21.6	14 + 28 DAC	40	18	41	28	9	2	5764
+ Dual Magnum	42.6	14 + 28 DAC	53	31	45	53	20	5	4617
GM + DM + Basagran	10.8 + 21.3 + 16	28 DAC			15	10	5	0	5583
LSD (P=0.10)			17	7	9	11	4	1	524
CV (%)			37	30	34	50	49	76	8
Treatment Prob (F)			0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.087

[a] All treatments applied with Induce (0.25 %v/v); GM - Gramoxone, DM = Dual Magnum, DAC = days after cracking, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant.

Table 5. Liberty rates and timings effects on peanut stand, stunting, injury and yield at Fort Cobb, 2022.

			27 DAP	34 DAP	27 DAP	34 DAP	27 DAp	34 DAP	Yield
Treatment[a]	**Rate (fl oz/A)**	**Timing**	**% Stand Reduction**		**% Stunting**		**% Injury**		**lb/A**
Liberty	0	7 DPP	0	0	0	0	0	0	5735
Liberty	25	7 DPP	0	0	0	0	0	0	5750
Liberty	50	7 DPP	0	0	0	0	0	0	5663
Liberty	75	7 DPP	0	0	0	0	0	0	5692
Liberty	0	PRE	0	0	0	0	0	0	5343
Liberty	25	PRE	0	0	0	0	0	0	5431
Liberty	50	PRE	0	0	0	0	0	0	5467
Liberty	75	PRE	0	0	0	0	0	0	5547
LSD (P=0.10)			NS	NS	NS	NS	NS	NS	NS
CV (%)			0	0	0	0	0	0	5
Treatment Prob (F)			1	1	1	1	1	1	0.2403

[a] DPP = days prior to planting, DAP = days after planting, LSD = least significant difference, CV = coefficient of variation, NS = not significant.

Table 6. Peanut injury and volunteer cotton control with Anthem Flex at Eakly, 2022.

			7 DAT	16 DAT	49 DAT	7 DAT	16 DAT	49 DAT
Treatment[a]	**Rate (fl oz/A)**	**Timing**	**% Injury**			**% Volunteer Cotton**		
Anthem Flex	3.5	POST	10	0	0	56	70	75
Anthem Flex + 2,4-DB	3.0 + 16	POST	10	0	0	38	83	88
Anthem Flex + 2,4-DB	3.5 + 16	POST	9	0	0	60	76	75
Anthem Flex + 2,4-DB	4.0 + 16	POST	10	0	0	26	63	79
Anthem Flex + 2,4-DB + Select	3.5 + 16 + 12	POST	10	0	0	40	76	75
Dual Magnum	22	POST	6	0	0	28	61	79
Dual Magnum + 2,4-DB	22 + 16	POST	8	0	0	60	73	74
Dual Magnum + 2,4-DB + Select	22 + 16 + 12	POST	8	0	0	20	69	74
Anthem Flex + Aim	3.0 + 1.5	POST	10	0	0	90	94	100
LSD (P=0.10)			2	NS	NS	33	33	31
CV (%)			22	0	0	66	41	36
Treatment Prob (F)			0.0001	1	1	0.006	0.0058	0.0015

[a] All treatments applied with Agridex (1 %v/v); DAT = days after POST treatment, LSD = least significant difference, CV = coefficient of variation, NS = not significant

Table 7. Preemergence herbicide combinations Palmer amaranth control at Fort Cobb, 2022.

			21 DAP	27 DAP	34 DAP	42 DAP	58 DAP
Treatment[a]	**Rate (fl oz/A)**	**Timing**			**% Control**		
Prowl H2O	32	PRE	100	99	100	96	98
Pursuit	4	PRE	94	90	86	81	78
Valor EZ	3	PRE	100	100	99	99	99
Prowl + Valor	32 + 3	PRE	100	99	95	96	95
Prowl + Pursuit	32 + 4	PRE	100	100	98	92	93
Pursuit + Valor	4 + 3	PRE	100	100	100	100	100
Prowl + Pursuit + Valor	32 + 4 + 3	PRE	100	100	100	100	100
LSD (P=0.10)			4	7	8	9	11
CV (%)			4	6	7	8	10
Treatment Prob (F)			0.0001	0.0001	0.0001	0.0001	0.0001

[a] DAP = days after planting, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant.

Table 8. Preemergence herbicide combinations Texas panicum control at Fort Cobb, 2022.

			21 DAP	27 DAP	34 DAP	42 DAP	58 DAP
Treatment[a]	**Rate (fl oz/A)**	**Timing**			**% Control**		
Prowl H2O	32	PRE	100	95	98	89	95
Pursuit	4	PRE	94	98	97	90	98
Valor EZ	3	PRE	100	100	99	96	98
Prowl + Valor	32 + 3	PRE	100	96	99	91	98
Prowl + Pursuit	32 + 4	PRE	100	100	100	100	99
Pursuit + Valor	4 + 3	PRE	100	100	100	100	100
Prowl + Pursuit + Valor	32 + 4 + 3	PRE	100	100	100	100	100
LSD (P=0.10)			1	5	4	20	7
CV (%)			1	5	3	21	6
Treatment Prob (F)			0.0001	0.0001	0.0001	0.0001	0.0001

[a] DAP = days after planting, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant.

Table 9. Preemergence herbicide combinations ivyleaf morningglory control at Fort Cobb, 2022.

			21 DAP	27 DAP	34 DAP	42 DAP	58 DAP
Treatment[a]	**Rate (fl oz/A)**	**Timing**			**% Control**		
Prowl H2O	32	PRE	100	100	100	100	100
Pursuit	4	PRE	99	99	94	93	98
Valor EZ	3	PRE	100	100	100	100	100
Prowl + Valor	32 + 3	PRE	100	100	100	100	100
Prowl + Pursuit	32 + 4	PRE	100	100	100	100	100
Pursuit + Valor	4 + 3	PRE	100	100	100	100	100
Prowl + Pursuit + Valor	32 + 4 + 3	PRE	100	100	100	100	100
LSD (P=0.10)			1	1	3	4	2
CV (%)			1	1	3	4	2
Treatment Prob (F)			0.0001	0.0001	0.0001	0.0001	0.0001

[a] DAP = days after planting, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant.

Table 10. Preemergence herbicide combinations effects on peanut injury and yield at Fort Cobb, 2022.

			7 DAP	21 DAP	27 DAP	34 DAP	42 DAP	58 DAP	Yield
Treatment[a]	**Rate (fl oz/A)**	**Timing**	**% Injury**						**lb/A**
Prowl H2O	32	PRE	4	6	5	4	1	0	4516
Pursuit	4	PRE	3	4	4	3	3	3	4646
Valor EZ	3	PRE	4	6	5	4	3	1	4487
Prowl + Valor	32 + 3	PRE	4	5	5	4	1	0	4545
Prowl + Pursuit	32 + 4	PRE	3	3	3	3	1	1	4538
Pursuit + Valor	4 + 3	PRE	6	9	8	4	0	0	4705
Prowl + Pursuit + Valor	32 + 4 + 3	PRE	3	5	5	4	4	3	5169
LSD (P=0.10)			NS	3	NS	NS	NS	NS	NS
CV (%)			75	62	92	113	140	203	16
Treatment Prob (F)			0.3194	0.0124	0.1213	0.7289	0.3866	0.6857	0.3082

[a] All treatments applied with Induce (0.25 %v/v); GM - Gramoxone, DM = Dual Magnum, DAC = days after cracking, LSD = least significant difference, CV = coefficient of variation, DAP = days after planting, NS = not significant; No PRE Yield = 3717 lb/A

Table 11. Peanut leaf spot and yield with Lucento based fungicide programs at Fort Cobb, 2022.

		DAP					
		79	91	112	128	149	Yield
Treatment[a]	Timing	% Injury					lb/A
Untreated		0.0	0.0	0.0	0.3	0.3	4183
Lucento, Bravo, Folicur, Lucento	75, 90, 90, 105	0.0	0.0	0.0	0.0	0.3	5088
Lucento, Headline, Lucento	75, 90, 105	0.0	0.0	0.0	0.3	0.0	4635
Lucento, Abound, Lucento	75, 90, 105	0.0	0.0	0.0	0.0	0.0	4731
Lucento, Fontelis, Lucento	75, 90, 105	0.0	0.0	0.0	0.0	0.5	3949
Bravo, Folicur, Lucento, Bravo, Folicur, Lucento	60, 60, 75, 75, 75 105	0.0	0.0	0.0	0.3	0.3	3991
Bravo, Folicur, Lucento, Headline, Lucento	60, 75, 90, 105	0.0	0.0	0.0	0.3	0.0	4087
Bravo, Folicur, Lucento, Abound, Lucento	60, 60, 75, 90, 105	0.0	0.0	0.0	0.5	0.0	4402
Topsin, Penncozeb, Lucento, Abound, Lucento	60, 60, 75, 90, 105	0.0	0.0	0.0	0.5	0.0	4275
Bravo, Folicur, Abound, Abound	75, 75, 90, 105	0.0	0.0	0.0	0.5	0.3	3648
LSD (P=0.10)		NS	NS	NS	NS	NS	759
CV (%)		0	0	0	187	247	15
Treatment Prob (F)		1.000	1.000	1.000	0.651	0.545	0.109

[a] Treatment rates in fl oz/A: Lucento = 5.5, Bravo Weather Stik = 20, Folicur = 7.2, Headline = 12, Abound Flowable = 18.5, Fontelis = 20, Topisin M WSB = 0.5 lb/A, Penncozeb 75 DF = 1.5 lb/A; DAP = days after planting; Florida Leaf Spot Scale: 0 = No disease, 1 = very few lesions, 10 = plant death

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, small-seeded 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, 2023
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 runner-types 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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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	66a-c	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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/A)
Runner[1]								
ACI080	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	27c-e	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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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	14c-e	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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/A)
Runner[1]								
ACI080	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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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 (lb/A)	% of Trial Average	Grade[2] (%TSMK)	SdWt/100[3] (g)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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)	ELK[4] (%)	MED[4] (%)	No.1[4] (%)	Value[5] ($/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.
[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.

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