APPLICATION FOR RELEASE

APPLICATION FOR RELEASE OF (check one):

☒ **CULTIVAR**	☐ **PARENTAL LINE**
☐ **ASSOCIATE CULTIVAR**	☐ **GENETIC STOCK**
☐ **GERMPLASM**	

1. Crop: **Peanut (*Arachis hypogaea* L.)**

2. Experimental no. or name: **GA 072716**

3. Pedigree and history: **GA 072716 was developed from a cross made in 2002 between Georgia-02C x Georgia-09B. Pedigree selection was practiced within the early segregating populations (F_2–F_5). Yield tests have been conducted for the past five years total and three-years (2010–12) compared to other cultivars.**

4. Description of plant material: **GA 072716 is being proposed for release as a new medium-seeded, high-oleic, runner-type peanut cultivar. It has an intermediate runner growth habit, medium maturity, and pink testa color. It also has a high level of resistance to tomato spotted wilt virus (TSWV). For these past five years (2008 – 2012), field observations and data indicate that the characteristics of GA 072716 are very uniform and stable, and no off-types or variants have been found.**

5. Need for and potential users of plant material: **This potential new cultivar has very good stability and a wide range of adaptability throughout the major U.S. peanut production area. Possibly several peanut seed companies, manufacturers, and growers should be interested in the use of this plant material.**

6. Justification for release:

   A. **During the past three-years (2010–12) averaged over 29 multilocation tests in Georgia, GA 072716 was found to have significantly less total disease incidence, higher yield, and higher dollar value return per acre compared to Georgia-09B, Florida-07, FloRun '107', and Georgia-02C (Table 1). GA 072716 also has a smaller seed size (more number per pound) compared to these other four high-oleic cultivars which should save growers in seed cost at planting.**

   B. **The medium seed size of GA 072716 is significantly greater than these other large-seeded, high-oleic, runner-type cultivars (Table 12). GA 072716 is similar to Georgia Green in seed size (Table 13). However, GA 072716 has the high-oleic trait for improved oil quality (Table 15).**

   C. **During the past three-years (2010-12), GA 072716 was found to be comparable to many of the other non high-oleic, runner-type cultivars in yields, grade, and dollar value returns per acre (Tables 2 – 7). GA 072716 also has moderate CBR and white mold resistance (Tables 9 and 10).**

D. During 2010 when averaged across all U.S. test locations (Table 8), GA 072716 was likewise found to be among the highest in pod yield compared to other advanced breeding lines and newly released cultivars. Thus, GA 072716 has very good yield stability and a wide range of adaptability.

E. GA 072716 has a significantly smaller runner-type pod and seed size compared to Georgia-09B and Florida-07 (Tables 11 and 12). It has a lower percentage of fancy pods and jumbo runner seed size during the shelling outturn and a higher percentage of the smaller seed size (medium and No. 1).

F. During the past two years (2010–11), GA 072716 has been found to be similar in blanchability and roasted peanut flavor to the U.S. peanut industry leading cultivar, Georgia Green (Tables 14 and 15). However, GA 072716 also has a significantly higher oleic (O) to linoleic (L) fatty acid or O/L ratio and lower iodine value for longer shelf-life of peanut and peanut products, and it also has significantly lower saturated fatty acid content (% saturation) compared to Georgia Green (Table 15).

7. Participating scientists: **W. D. Branch**

8. Location(s) at which plant material was developed: **Coastal Plain Experiment Station**

9. Recommended form of intellectual property protection and royalty:
U.S. Plant Variety Protection (PVP) with royalty

Cultivar and associate cultivar applications only provide the following information:

10. Method of propagation: **Seed**

11. Amount of breeder seed stocks available (if applicable): **50 lbs**

12. Amount of foundation seed stocks available if applicable: **400 lbs**

13. Amount of cutting or bud material available for vegetatively propagated material for nursery distribution (if applicable): **N/A**

14. Describe any unusual difficulty anticipated in the production of any class of seed stocks:
None

15. Suggest up to three names for the cultivar, if appropriate:
'Georgia-13M' (Name preferred by the breeder).

16. Name approved by plant cultivar and germplasm release committee:

APPLICATION FOR RELEASE

(Please keep this as a separate page)

Application for the cultivar release of the advanced peanut breeding line, GA 072716.

Recommended:

A. Wm. D. Branch — Originating Scientist — May 28, 2013 — Date

B. [signature] — Department Head — 6-5-13 — Date

C. Joe W Wert — For Griffin and Tifton, Assistant Dean — 5-28-13 — Date

D. Peggy Ozias-Akins — Digitally signed by Peggy Ozias-Akins DN: cn=Peggy Ozias-Akins, o=University of Georgia, ou=PBGG Institute, email=pozias@uga.edu, c=US Date: 2013.08.26 14:05:16 -04'00' — Chair, GAES PCGRC — Date

E. R N Shulaw — Associate Dean for Research — 8-28-13 — Date

Approved:

F. [signature] — Dean and Director — 8/27 — Date

GA 072716

Georgia-02C x Georgia-09B
(2002)

Pedigree Selection
($F_2 - F_5$)

Yield Tests
($F_6 - F_{10}$)

2013 = F_{11} Foundation Seed

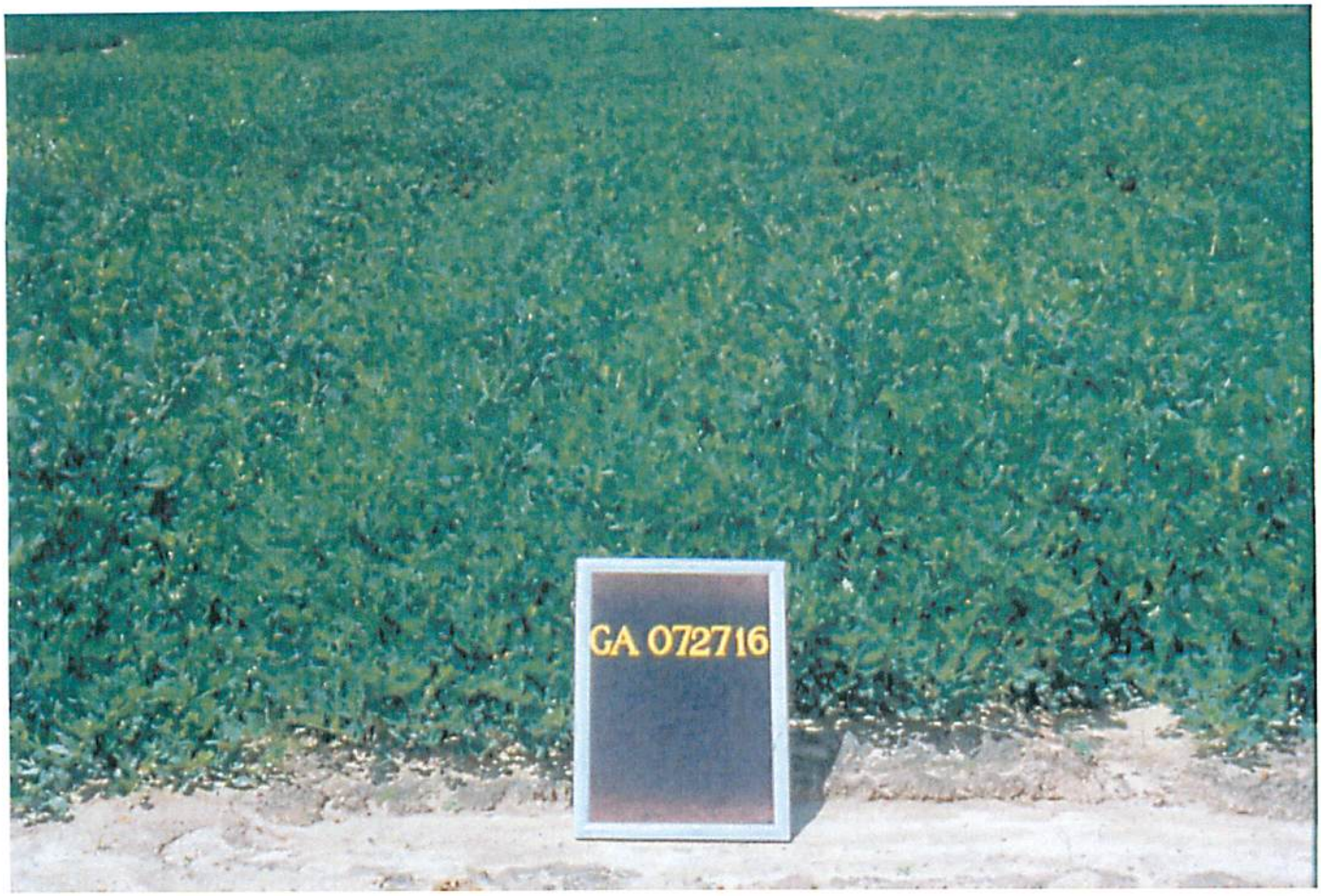
GA 072716

Table 1. THREE-YEAR (29 TESTS) AVERAGE DISEASE INCIDENCE, POD YIELD, TSMK GRADE, SEED COUNT, AND DOLLAR VALUES OF GA 072716 VS. FOUR OTHER HIGH-OLEIC, RUNNER-TYPE VARIETIES AT THREE MULTILOCATIONS (TIFTON, PLAINS, AND MIDVILLE) IN GEORGIA, 2010-12.

Peanut Genotype	TSWV† (%)	TD‡ (%)	Yield (lb/a)	TSMK¶ (%)	Seed (no./lb)	Value ($/a)
GA 072716	4 c*	10 d	4658 a	73 bc	828 a	845 a
Georgia-09B	5 c	14 c	4423 bc	74 a	717 c	807 b
Florida-07	10 a	20 b	4539 ab	71 d	631 d	791 b
FloRun™ '107'	11 a	22 a	4353 c	72 c	712 c	778 b
Georgia-02C	6 b	14 c	3977 d	73 ab	778 b	722 c

* Within columns, means followed by the same letter are not significantly different at P≤0.05.

† Percentage of tomato spotted wilt virus (TSWV) incidence at about mid-season.

‡ Percentage of total disease (TD) incidence prior to digging, primarily TSWV and some soilborne diseases.

¶ Percentage of total sound mature kernel (TSMK) grade equals all sound splits (SS) plus sound mature kernels (SMK) that ride a minimum slotted screen size of 16/64 x 3/4 inch for runner types.

Table 2. FOUR-TEST AVERAGE PERFORMANCE WITH IRRIGATED MAXIMUM-INPUTS AND NONIRRIGATED MINIMUM-INPUTS OF 21 RUNNER AND 9 VIRGINIA-TYPE PEANUT GENOTYPES AT MULTILOCATIONS IN GEORGIA WHEN PLANTED IN MID-APRIL, 2010†

Peanut Genotype	TSWV (%)	TD (%)	Yield (lb/a)	TSMK (%)	Seed (no./lb)	Value ($/a)
Runner Types:						
Georgia-10T	5.1 i-m*	8.0 jk	3939 a-f	77.2 a	674 f-i	744 ab
Georgia-07W	3.6 m	7.8 k	4119 ab	74.0 bc	638 ij	739 abc
Georgia-06G	4.8 klm	10.2 g-k	4044 abc	73.0 c-f	638 ij	733 a-d
Georgia-12Y	3.9 lm	8.1 jk	4060 abc	71.7 efg	708 efg	727 a-e
Georgia-09B	5.0 j-m	11.7 g-k	3960 a-e	74.1 bc	720 de	723 a-f
GA 072515	4.1 lm	9.8 g-k	4043 abc	73.1 cde	714 ef	722 a-f
Georgia Greener	5.2 i-l	9.5 h-k	3868 a-g	72.9 c-f	708 efg	696 a-g
Tifguard	8.2 g	12.5 ghi	3862 a-g	72.0 d-g	642 ij	692 a-g
Florida-07	9.8 f	16.8 def	3989 a-d	70.1 ghi	599 jk	683 a-h
GA 072523	4.4 lm	8.4 ijk	3788 b-h	73.8 bcd	701 e-h	678 b-i
GA 072514	5.5 i-l	10.4 g-k	3583 d-j	75.3 ab	722 de	664 b-j
McCloud	11.4 b-f	16.8 def	3708 b-i	72.0 d-g	614 j	660 b-j
Georgia Green	6.5 g-j	13.6 efg	3577 d-j	73.8 bcd	794 bc	651 c-j
Exp. 27-1516	11.2 c-f	17.2 de	3710 b-i	70.4 ghi	700 e-h	651 c-j
GA 072716	5.4 i-l	8.3 jk	3585 d-j	73.7 bcd	812 b	651 d-j
Georgia-02C	6.7 ghi	11.0 g-k	3534 e-j	74.4 bc	758 cd	648 d-j
GA 062711	7.4 gh	9.7 g-k	3620 c-j	72.9 c-f	866 a	644 e-k
Georgia-03L	6.1 h-k	11.9 g-j	3718 b-i	68.9 ij	680 e-i	633 g-k
FloRun™ '107'	10.2 ef	16.8 def	3622 c-j	73.5 b-d	709 efg	630 g-k
AP-4	11.6 b-e	18.8 cd	3502 f-j	71.0 fgh	663 hi	618 g-l
AT-215	12.4 bc	22.6 bc	3247 j	69.6 hi	668 ghi	558 kl
Virginia Types:						
Georgia-08V	7.2 gh	13.0 fgh	4246 a	70.5 ghi	467 no	771 a
Bailey	5.4 i-l	11.8 g-k	3845 a-g	67.4 jk	540 lm	672 b-i
Florida Fancy	10.5 def	18.1 d	3711 b-i	67.5 jk	489 no	636 f-k
CHAMPS	10.2 ef	20.6 cd	3560 d-j	66.2 k	502 mn	610 g-l
Georgia-11J	8.0 g	13.7 efg	3504 f-j	68.6 ij	455 o	596 h-l
Gregory	11.6 b-e	19.9 cd	3537 e-j	66.1 k	558 kl	593 i-l
Perry	12.0 bcd	24.8 ab	3342 ij	69.0 ij	560 kl	590 i-l
Brantley	13.0 ab	27.8 a	3474 g-j	65.6 k	464 no	582 jkl
Titan	14.1 a	27.8 a	3380 hij	61.3 l	462 no	532 l

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Tests were conducted at Tifton and Plains, GA.

Table 3. SIX-TEST AVERAGE PERFORMANCE WITH AND WITHOUT IRRIGATION OF 21 RUNNER AND 9 VIRGINIA-TYPE PEANUT GENOTYPES AT MULTILOCATIONS IN GEORGIA WHEN PLANTED IN MID-MAY, 2010.†

Peanut Genotype	TSWV (%)	TD (%)	Yield (lb/a)	TSMK (%)	Seed (no./lb)	Value ($/a)
Runner Types:						
Georgia-12Y	5.4 i-l*	10.3 k-n	4583 a	67.8 ghi	749 de	789 ab
Georgia-06G	3.4 l	11.8 j-n	4255 a-d	72.6 abc	655 ij	768 abc
GA 072523	5.8 ijk	9.0 mn	4290 abc	71.0 a-f	725 ef	767 abc
GA 072515	6.8 ghi	12.8 jkl	4196 a-f	71.3 a-e	735 def	750 a-d
Exp. 27-1516	10.5 ef	18.4 e-h	4240 a-d	70.0 d-g	675 g-j	741 a-e
GA 072514	5.0 i-l	10.1 lmn	3987 b-g	73.2 a	759 cde	735 a-f
Georgia-09B	5.8 ijk	14.0 ijk	4171 a-f	70.4 c-f	731 def	729 a-g
Georgia Greener	5.9 ijk	13.0 jkl	4029 a-g	72.3 a-d	707 fgh	726 a-g
Georgia-07W	4.1 kl	9.8 lmn	4026 a-g	72.9 ab	673 hij	724 a-g
Georgia-10T	4.0 kl	8.8 n	3971 b-g	72.8 abc	731 def	723 a-g
GA 072716	4.2 jkl	11.3 k-n	4078 a-f	69.2 e-h	835 a	719 a-g
Florida-07	12.4 de	20.4 d-g	4090 a-f	69.2 e-h	651 ij	703 b-h
McCloud	13.9 cd	22.0 cde	4054 a-f	69.5 e-h	677 g-j	699 b-h
Georgia-03L	6.1 h-k	12.2 j-n	4016 b-g	67.7 g-j	711 fg	684 c-i
FloRun™ '107'	12.9 cd	23.3 c-d	3944 b-g	69.5 e-h	766 bcd	679 c-i
C724-19-25	12.4 de	18.0 fgh	3827 c-g	69.1 e-h	643 j	662 d-i
Tifguard	9.5 f	18.0 fgh	3763 c-g	70.6 b-f	660 ij	660 d-i
Georgia Green	8.4 fgh	17.7 ghi	3760 c-g	70.5 c-f	791 bc	656 d-i
Georgia-02C	6.6 g-j	12.6 j-n	3700 d-g	69.4 e-h	802 ab	640 f-i
AP-4	14.4 bcd	25.1 bc	3666 efg	70.0 d-g	686 ghi	638 f-i
AT-215	16.3 b	27.8 b	3696 d-g	68.8 fgh	654 ij	636 ghi
Virginia Types:						
Georgia-08V	8.5 fgh	15.5 hij	4415 ab	68.8 fgh	504 m	813 a
Georgia-11J	8.6 fg	12.7 j-m	4217 a-e	65.2 kl	512 lm	742 a-e
Bailey	6.2 h-k	12.6 j-m	4046 a-f	67.2 h-k	546 kl	717 a-g
CHAMPS	13.3 cd	21.2 c-g	3858 b-g	65.8 i-l	489 m	673 c-i
Florida Fancy	15.3 bc	24.6 bc	3865 b-g	63.9 lm	569 k	651 e-i
Sugg	14.0 bcd	21.6 c-f	3642 fg	65.3 jkl	516 lm	638 ghi
Perry	14.8 bc	23.4 cd	3476 g	65.8 i-l	509 m	614 hi
Gregory	14.4 bcd	23.9 cd	3694 d-g	62.8 mn	517 lm	611 hi
Titan	20.4 a	31.7 a	3650 fg	61.1 n	503 m	594 i

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Tests were conducted at Tifton, Plains, and Midville, GA.

Table 4. FOUR-TEST AVERAGE PERFORMANCE WITH IRRIGATED MAXIMUM-INPUTS AND NONIRRIGATED MINIMUM-INPUTS OF 21 RUNNER AND 7 VIRGINIA-TYPE PEANUT GENOTYPES AT MULTILOCATIONS IN GEORGIA WHEN PLANTED IN MID-APRIL, 2011. †

Peanut Genotype	TSWV (%)	TD (%)	Yield (lb/a)	TSMK (%)	Seed (no./lb)	Value ($/a)
Runner Types:						
Georgia-12Y	3.1 d-h*	7.8 kl	4522 a	72.7 f-l	710 f-i	810 a
Georgia-06G	1.6 jkl	10.0 jkl	4458 ab	73.8 d-h	628 m	807 a
Georgia Greener	2.0 g-l	12.6 g-k	4361 abc	73.3 e-l	691 h-k	785 ab
Georgia-07W	1.7 i-l	11.7 i-l	4298 a-d	74.6 a-e	678 ijk	782 ab
GA 072515	1.8 h-l	10.2 jkl	4241 a-e	75.4 a-d	703 g-j	778 abc
GA 072716	2.3 f-l	8.5 jkl	4196 a-f	73.9 d-h	833 bcd	764 a-d
GA 092539	3.2 d-g	9.6 jkl	4211 a-f	74.1 c-g	742 f	759 a-d
Georgia-10T	1.1 l	6.7 l	4020 b-g	76.4 a	670 jk	758 a-d
Florida-07	4.9 bc	17.8 d-g	4222 a-f	70.8 jk	637 lm	726 a-e
GA 072523	1.5 kl	8.4 jkl	4037 a-g	73.5 d-l	673 jk	721 a-f
GA 082549	3.0 d-j	11.2 i-l	3902 c-h	75.1 a-e	851 bc	718 a-f
GA 072514	1.8 g-l	9.7 jkl	3855 d-i	76.2 ab	740 f	714 a-f
Georgia-09B	2.8 e-k	15.5 e-l	3881 c-i	74.4 b-f	730 fg	708 a-g
FloRun™ '107'	4.2 cde	19.6 cde	3881 c-i	74.0 c-h	723 fgh	705 a-g
Tifguard	4.8 bc	13.5 f-j	3974 b-g	71.9 ij	664 kl	705 a-g
GA 082522	3.0 d-l	11.6 i-l	3737 f-j	75.8 abc	821 cd	697 b-h
GA 082546	3.6 c-f	10.7 i-l	3734 f-j	75.0 a-e	844 bcd	687 b-h
Georgia Green	4.4 cd	19.8 cde	3738 f-j	74.4 b-f	816 d	686 b-h
GA 082524	3.6 c-f	10.2 jkl	3600 g-j	72.2 hij	860 b	647 e-h
Georgia-02C	3.9 a	16.9 e-h	3460 hij	74.6 a-f	781 e	628 e-h
GA 082548	3.8 cde	10.8 i-l	3284 j	74.7 a-e	918 a	599 gh
Virginia-Types:						
Georgia-08V	4.1 cde	18.4 c-f	4241 a-e	72.3 g-j	449 q	794 ab
Georgia-11J	4.3 cd	15.7 e-l	3882 c-h	70.8 jk	436 q	695 b-h
Bailey	3.5 c-f	12.2 h-k	3832 d-i	67.7 l	531 op	672 c-h
Florida Fancy	6.1 ab	22.5 bcd	3780 e-i	67.5 l	502 p	659 d-h
CHAMPS	6.7 cde	23.1 bc	3622 g-j	67.6 l	499 p	628 e-h
Perry	6.8 a	32.8 a	3392 ij	70.0 k	550 no	615 fgh
Gregory	7.0 a	26.4 b	3429 hij	67.1 l	577 n	589 h

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Tests were conducted at Tifton and Plains, GA.

Table 5. FIVE-TEST AVERAGE PERFORMANCE WITH AND WITHOUT IRRIGATION OF 21 RUNNER AND 9 VIRGINIA-TYPE PEANUT GENOTYPES AT MULTILOCATIONS IN GEORGIA WHEN PLANTED IN MID-MAY, 2011.†

Peanut Genotype	TSWV (%)	TD (%)	Yield (lb/a)	TSMK (%)	Seed (no./lb)	Value ($/a)
Runner Types:						
GA 072716	4.3 h-k*	8.7 e-l	5649 a	71.3 ghi	861 bc	1013 a
Georgia-12Y	2.4 l	5.8 jkl	5557 ab	71.4 ghi	755 f-i	996 ab
Georgia-07W	3.3 kl	7.6 g-l	5333 abc	74.7 b-e	682 jkl	988 ab
Georgia-06G	2.3 l	7.9 g-k	5352 abc	74.5 b-e	694 jkl	985 ab
Georgia Greener	3.9 kl	6.7 i-l	5099 b-e	75.1 bcd	717 h-k	948 a-d
GA 082522	4.2 ijk	8.2 g-k	5114 a-e	74.6 b-e	826 cde	945 a-d
GA 072515	3.3 kl	8.0 g-k	4990 c-f	76.3 ab	773 e-h	939 a-d
FloRun™ '107'	8.0 de	18.0 bc	5158 a-d	72.1 fgh	763 f-i	924 a-e
GA 072514	3.2 kl	5.6 jkl	4719 d-i	77.7 a	776 efg	908 a-f
Georgia-09B	3.7 kl	9.6 d-h	4956 c-f	73.8 c-f	731 g-j	908 a-f
GA 072523	3.1 kl	5.4 kl	4848 c-g	75.9 abc	715 ijk	904 b-f
Florida-07	9.2 cd	15.4 c	5206 a-d	70.2 hij	656 l	903 b-f
GA 082546	4.0 jk	6.8 h-l	4888 c-g	73.3 d-g	856 bcd	895 b-f
Georgia-10T	2.2 l	5.2 l	4686 d-i	75.7 abc	684 jkl	875 c-g
TUFRunner™ '727'	10.5 bc	16.8 bc	4741 d-i	73.2 d-g	669 kl	862 c-h
GA 082549	6.2 fg	10.1 d-g	4667 d-i	74.5 b-e	910 ab	860 c-h
Tifguard	5.8 fgh	11.7 d	4770 d-h	72.5 efg	662 kl	857 c-h
GA 082524	4.4 h-k	8.2 g-k	4609 e-i	73.7 c-f	872 bc	849 d-h
Georgia-02C	5.5 g-j	8.3 f-j	4705 d-i	72.8 efg	827 cde	849 d-h
GA 082548	5.8 f-l	9.0 d-l	4481 f-i	73.4 d-g	963 a	820 e-h
Georgia Green	6.2 fg	15.6 c	4454 f-i	73.1 d-g	802 def	814 fgh
Virginia-Types:						
Georgia-08V	5.7 f-l	10.3 d-g	5137 a-e	71.4 ghi	479 mn	961 abc
Georgia-11J	7.2 ef	11.5 de	4889 c-g	71.8 f-l	457 n	927 a-e
CHAMPS	9.9 c	16.8 bc	4409 ghi	69.7 ij	473 mn	805 fgh
Bailey	6.4 efg	11.1 def	4402 ghi	69.7 ij	519 m	804 fgh
Gregory	9.8 c	17.9 bc	4483 f-i	66.7 k	495 mn	787 gh
Sugg	11.6 b	18.4 b	4253 hij	70.2 hij	493 mn	784 ghi
Florida Fancy	14.3 a	18.7 b	4200 ijk	68.0 jk	512 mn	758 hi
Perry	14.8 a	22.7 a	3700 k	70.0 hij	523 m	679 ij
Titan	14.8 a	24.3 a	3814 jk	63.2 l	474 mn	637 j

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Tests were conducted at Tifton, Plains, and Midville, GA.

Table 6. FOUR-TEST AVERAGE PERFORMANCE WITH IRRIGATED MAXIMUM-INPUTS AND NONIRRIGATED MINIMUM-INPUTS OF 22 RUNNER AND 8 VIRGINIA-TYPE PEANUT GENOTYPES AT MULTILOCATIONS IN GEORGIA WHEN PLANTED IN MID-APRIL, 2012.†

Peanut Genotype	TSWV (%)	TD (%)	Yield (lb/a)	TSMK (%)	Seed (no./lb)	Value ($/a)
Runner Types:						
GA 072716	6.1 f-k*	11.8 lm	5164 ab	76.2 cde	766 b	971 a
Georgia-06G	5.1 h-k	13.8 jkl	5100 abc	77.1 bcd	590 ij	966 a
Georgia-07W	6.6 f-j	14.9 i-l	4914 a-d	76.8 bcd	612 ghi	927 ab
Georgia-12Y	4.8 ijk	11.5 lm	5171 a	72.2 gh	676 e	926 ab
Georgia-10T	4.0 jk	9.5 m	4777 a-f	78.6 ab	641 efg	909 abc
Georgia Greener	8.1 d-g	17.2 hij	4797 a-e	76.9 bcd	650 ef	908 abc
GA 072515	6.4 f-k	16.1 h-k	4765 a-f	77.0 bcd	663 ef	901 abc
GA 072523	5.1 h-k	13.8 jkl	4626 a-g	77.4 bcd	600 hi	876 a-d
GA 072514	5.0 ijk	13.2 j-m	4444 a-h	79.9 a	657 ef	865 a-e
FloRun™ '107'	13.9 c	28.4 de	4540 a-h	76.2 cde	606 ghi	850 a-e
Tifguard	8.9 def	17.1 hij	4522 a-h	75.7 def	583 ij	840 a-e
GA 082522	5.6 g-k	14.4 i-l	4330 c-j	78.2 abc	761 bc	838 a-e
Georgia-09B	9.0 def	19.6 gh	4390 c-i	76.8 bcd	656 ef	833 a-e
GA 082546	6.4 f-k	12.0 lm	4394 b-i	77.2 bcd	750 bcd	826 a-e
GA 082524	6.6 f-j	14.2 jkl	4263 d-k	76.4 bcd	766 b	805 b-f
Florida-07	14.4 c	24.9 ef	4482 a-h	72.9 g	558 jk	801 b-f
GA 082549	8.1 d-g	13.0 klm	4210 d-k	77.7 a-d	770 ab	800 b-f
Georgia-02C	9.6 de	18.4 hi	4150 d-k	77.1 bcd	725 cd	797 b-f
TUFRunner™ '727'	18.4 b	34.2 bc	4245 d-k	74.0 efg	636 fgh	779 b-g
GA 082550-MS_{10}	7.0 e-l	11.1 lm	4080 e-k	76.8 bcd	805 a	757 c-g
Georgia Green	9.8 de	30.5 cd	3956 g-k	75.4 def	721 d	744 d-g
Florida-EP '113'	3.5 k	12.9 klm	4050 e-k	73.0 g	635 fgh	742 d-g
Virginia-Types:						
Georgia-08V	10.5 d	20.0 gh	4692 a-g	73.6 fg	446 no	878 a-d
Georgia-11J	10.9 d	19.8 gh	4678 a-g	72.6 g	414 o	854 a-e
Bailey	8.0 d-h	16.2 h-k	4014 f-k	68.8 ij	530 kl	716 efg
GA 092709	9.8 de	23.2 fg	4081 e-k	70.0 hi	473 mn	714 efg
Gregory	17.8 b	35.1 b	3800 h-k	67.4 j	500 lm	664 fg
CHAMPS	17.9 b	35.2 b	3643 ijk	68.8 ij	505 lm	650 fg
Florida Fancy	16.8 bc	30.2 cd	3579 jk	68.4 ij	461 n	638 g
Perry	21.9 a	46.9 a	3495 k	69.8 i	533 kl	635 g

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Tests were conducted at Tifton and Plains, GA.

Table 7. SIX-TEST AVERAGE PERFORMANCE WITH AND WITHOUT IRRIGATION OF 21 RUNNER AND 9 VIRGINIA-TYPE PEANUT GENOTYPES AT MULTILOCATIONS IN GEORGIA WHEN PLANTED IN MID-MAY, 2012.†

Peanut Genotype	TSWV (%)	TD (%)	Yield (lb/a)	TSMK (%)	Seed (no./lb)	Value ($/a)
Runner Types:						
Georgia-06G	2.8 n*	8.2 n	5353 a	74.3 bcd	661 h	979 ab
Georgia-12Y	3.1 lmn	8.6 n	5306 ab	73.1 d-g	726 fg	960 abc
Georgia-07W	3.0 lmn	8.6 n	5156 abc	75.0 abc	673 h	950 a-d
GA 072716	3.9 k-n	11.7 k-n	5100 a-d	73.2 d-g	846 bc	928 a-e
GA 082522	2.9 mn	9.5 mn	4987 a-g	75.0 abc	838 c	927 a-e
Georgia Greener	4.5 j-n	12.8 j-m	4922 a-h	74.8 bc	709 g	912 b-f
Georgia-09B	3.7 lmn	14.5 h-k	4922 a-h	73.9 cd	725 fg	906 b-g
Florida-07	11.2 c-f	23.3 de	5047 a-e	71.5 h	660 h	894 b-h
GA 082524	3.2 lmn	10.1 lmn	4659 c-k	75.4 ab	845 bc	873 c-i
Georgia-10T	4.5 j-n	11.2 k-n	4597 d-k	76.3 a	714 fg	868 d-i
Georgia Green	5.0 j-m	22.2 ef	4753 c-j	73.2 d-g	796 d	861 e-i
TUFRunner™ '727'	12.9 bc	29.4 c	4801 b-i	72.1 gh	674 h	855 e-j
FloRun™ '107'	12.6 bcd	26.6 cd	4769 c-j	71.9 gh	770 de	853 e-j
GA 072514	3.8 k-n	11.6 k-n	4485 g-k	76.3 a	765 de	841 e-k
GA 072523	4.0 k-n	9.4 mn	4526 f-k	74.2 bcd	670 h	829 f-k
Tifguard	8.3 gh	15.0 h-k	4520 f-k	72.3 e-h	657 h	808 h-l
GA 082549	4.8 j-n	10.4 lmn	4411 i-l	73.6 c-f	845 bc	806 h-l
GA 082546	4.2 k-n	9.4 mn	4355 i-l	73.9 cd	874 b	803 i-l
GA 072515	5.1 jkl	13.3 i-l	4376 i-l	73.9 cd	744 ef	803 i-l
Georgia-02C	6.6 hij	16.8 ghi	4174 kl	73.7 c-f	764 de	761 kl
GA 082550-MS_{10}	5.8 ijk	11.9 k-n	3956 lm	74.0 bcd	931 a	728 l
Virginia-Types:						
Georgia-08V	7.3 hi	19.0 fg	5305 ab	72.2 fgh	487 j	1011 a
Georgia-11J	7.4 hi	17.3 gh	5022 a-f	73.8 cde	415 k	978 ab
Bailey	7.4 hi	16.2 g-j	4575 e-k	69.1 i	515 ij	825 f-k
Florida Fancy	14.1 b	29.8 c	4608 d-k	68.1 i	510 ij	820 g-k
CHAMPS	10.4 efg	28.6 c	4437 h-l	68.1 i	482 j	791 i-l
Gregory	10.8 def	26.6 cd	4479 h-k	66.4 j	488 j	787 i-l
Perry	12.3 b-e	35.5 b	4275 jkl	69.0 i	542 i	770 jkl
Sugg	10.2 fg	29.0 c	4295 i-l	68.2 i	513 ij	768 jkl
Titan	18.7 a	40.6 a	3566 m	61.9 k	494 j	578 m

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Tests were conducted at Tifton, Plains, and Midville, GA.

Table 8. POD YIELD OF 8 RUNNER (RU) AND 5 VIRGINIA (VA) MARKET TYPE PEANUT GENOTYPES IN THE 2010 UPPT AVERAGED ACROSS ALL U.S. TEST LOCATIONS.

Peanut Genotype	Pod Yield (lb/a)			
	SE*	SW†	VC‡	Mean
N08081olJC (Va)	5858 a*	5163 cd	3872 a	4855 a
N05006 (Va)	5324 abc	6031 a	3484 a	4800 a
GA 072716 (Ru)	5557 abc	5712 abc	3545 a	4799 a
UF 10302 (Ru)	5555 abc	5511 a-d	3681 a	4792 a
UF 10301 (Ru)	5293 abc	5445 a-d	3758 a	4724 a
GA 072515 (Ru)	5726 a	5040 d	3680 a	4702 ab
UF 09303 (Ru)	5491 abc	5776 ab	3200 ab	4660 ab
Exp. 27-1516 (Ru)	5583 ab	5700 abc	3094 ab	4623 ab
GA 052533 (Va)	5067 bcd	5131 cd	3742 a	4556 abc
VT 024024 (Va)	4589 de	5366 bcd	3162 ab	4251 bc
NC 7 (Va)	4905 cd	5282 bcd	2694 bc	4134 cd
Florunner (Ru)	4020 e	5510 a-d	2089 c	3695 de
SPT 06-06 (Ru)	4120 c	4364 e	2641 bc	3602 e

*Means within the column followed by the same letter do not differ significantly at P≤0.05.
†Pod yield for SE = mean of Georgia, Florida, and Alabama (3 tests).
‡Pod yield for SW = mean of Texas and Oklahoma (3 tests).
¶Pod yield for VC = mean of Virginia, North Carolina, and South Carolina (4 tests).

Table 9. TSWV AND CBR DISEASE INCIDENCE AND POD YIELD AMONG 16 PEANUT GENOTYPES IN A HEAVILY INFECTED FIELD TRIAL, 2012.

Peanut Genotype	TSWV Mid-season	TSWV + CBR Mid-Season	CBR + TSWV Late Season	CBR After Digging	Pod Yield
	(%)	(%)	(%)	(%)	(lb/a)
Perry	12.1 a*	24.6 a	29.6 b	7.9 efg	4135 a
Georgia-12Y	2.9 gh	8.3 de	16.2 cde	9.2 d-g	3996 ab
Georgia-10T	3.3 fgh	7.5 e	10.0 e	9.2 d-g	3781 abc
Georgia-06G	3.3 fgh	8.3 de	14.6 cde	7.9 efg	3693 abc
Georgia-07W	4.2 d-h	9.2 de	11.2 de	2.5 g	3655 abc
GA 082522	3.8 e-h	8.3 de	14.6 cde	16.2 cd	3648 abc
GA 072716	4.2 d-h	10.4 de	17.5 cd	23.8 bc	3642 abc
GA 072514	6.2 bcd	11.2 de	18.8 c	7.5 fg	3641 abc
Georgia Greener	2.5 h	8.3 de	16.2 cde	2.5 g	3626 a-d
GA 072515	5.0 d-h	12.5 cd	15.8 cde	30.0 ab	3453 bcd
Carver	8.3 b	16.7 bc	27.5 b	5.0 g	3368 cde
Georgia-02C	5.8 cde	12.1 d	19.6 c	15.4 de	3336 cde
GA 082524	5.4 def	8.8 de	15.8 cde	13.8 def	3220 cde
GA 072523	4.2 d-h	8.8 de	15.4 cde	33.3 a	3043 def
Tifguard	7.9 bc	19.6 b	37.5 a	30.8 ab	2848 ef
GA 082546	3.8 e-h	8.8 de	15.0 cde	15.4 de	2551 f

*Means within the column followed by the same letter do not differ significantly at P≤0.05.

Table 10. TSWV AND WM DISEASE INCIDENCE AND POD YIELD AMONG 10 PEANUT GENOTYPES IN A HEAVILY INFECTED FIELD TRIAL, 2012.

Peanut Genotype	TSWV Mid-season	TSWV + WM Mid-Late Season	WM + TSWV Late Season	WM After Digging	Pod Yield
	(%)	(%)	(%)	(%)	(lb/a)
Georgia-12Y	0.8 c*	6.7 d	10.0 d	2.5 e	4642 a
GA 072716	2.1 bc	6.2 d	17.5 cd	22.9 cd	4616 ab
Georgia-10T	2.9 b	5.8 d	10.4 d	11.2 de	4391 ab
Georgia-07W	2.1 bc	6.7 d	12.1 d	13.3 de	4240 ab
York	5.4 a	13.3 bc	17.5 cd	2.5 e	4167 bc
GA 072515	2.5 bc	8.8 d	20.8 c	30.8 bc	3749 cd
Georgia Greener	2.1 bc	9.6 cd	36.7 b	52.9 a	3321 de
Florida-07	6.7 a	17.5 a	45.0 a	47.9 a	3138 e
Georgia-06G	0.8 c	5.8 d	30.4 b	52.5 a	3130 e
Tifguard	2.9 b	13.8 ab	33.8 b	42.1 ab	2911 e

*Means within the column followed by the same letter do not differ significantly at P≤0.05.

Table 11. THREE-YEAR (16 TESTS) AVERAGE POD PRESIZER DISTRIBUTION OF GA 072716 VS. GEORGIA-02C, GEORGIA-09B, FLORUN '107' AND FLORIDA-07, 2010-12.

Peanut Genotype	Fancy Pods† (%)	+38/64" (%)	-38+34/64" (%)	-34/64" (%)
GA 072716	4 d*	0 c	4 c	96 a
Georgia-02C	9 d	1 c	8 c	91 a
Georgia-09B	49 b	6 b	43 a	51 c
FloRun™ '107'	16 c	2 c	14 b	84 b
Florida-07	58 a	11 a	47 a	42 d

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Fancy pods = +38/64 and +34/64 inches summed together.

Table 12. THREE-YEAR (16 TESTS) AVERAGE SHELLING OUTTURN OF GA 072716 VS. GEORGIA-02C, GEORGIA-09B, FLORUN '107', AND FLORIDA-07, 2010-12.

Peanut Genotype	Jumbo† (%)	Med.‡ (%)	No. 1¶ (%)	SMK (%)	SS (%)	OK (%)	DK (%)	Meat (%)	Hull (%)
GA 072716	27 d*	36 a	5 a	68 a	7 a	3 a	1 ab	78 a	22 c
Georgia-02C	38 b	26 c	4 b	68 a	7 a	3 ab	0 b	78 a	22 c
Georgia-09B	42 a	24 c	3 c	69 a	6 a	2 c	1 a	78 a	22 c
FloRun™ '107'	30 c	33 b	5 ab	68 a	6 a	2 bc	1 a	77 b	23 b
Florida-07	40 ab	21 d	2 c	63 b	8 a	2 c	1 a	74 c	26 a

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
† Jumbo = +21/64 x 3/4 inch screen.
‡ Medium = - 21/64 + 18/64 inch screen.
¶ No. 1 = -18/64 + 16/ 64 inch screen.

Table 13. TWO-YEAR AVERAGE COMMERCIAL SHELLING OUTTURN, TOTAL SHELLING RATE (TSR) AND FIRST-STAGE SHELLING RATE (FSR) OF GA 072716 VS. GEORGIA GREEN, 2010-11†.

Peanut Genotype	Jumbo (%)	Med. (%)	No. 1 (%)	SMK (%)	OK (%)	Splits (%)	TSR (g/min)	FSR (g/min)
GA 072716	28 a*	35 a	7 b	70 b	7 a	23 a	896 a	1406 a
Georgia Green	27 a	45 a	9 a	81 a	7 a	12 b	942 a	1463 a

* Within columns, means followed by the same letter are not significantly different at P≤0.05.

† Research conducted by Marshall Lamb, USDA/ARS National Peanut Research Laboratory, Dawson, GA.

Table 14. TWO-YEAR AVERAGE BLANCHABILITY OF GA 072716 VS. GEORGIA GREEN, 2010-11[†].

Peanut Genotype	Blanched (%)	Partial (%)	Unblanched (%)
GA 072716	95.4 a*	3.9 b	0.7 a
Georgia Green	92.6 b	7.1 a	0.3 a

* Within columns, means followed by the same letter are not significantly different at P≤0.05.
[†] Research conducted by Wil Parker, JLA/Pert Labs, Edenton, NC.

Table 15. TWO-YEAR AVERAGE ROASTED FLAVOR, SENSORY, CHEMICAL, AND SHELF-LIFE PROPERTIES OF GA 072716 VS GEORGIA GREEN, 2010-11.†

Peanut Genotype	Roasted Flavor	Oil (%)	O/L¶ Ratio	Iodine Value	Saturation (%)	Total Tocopherol‡	Total Sugars ‡
GA 072716	4.9 a*	52.2 a	32.0 a	71.8 b	16.5 b	236.0 a	24,804 a
Georgia Green	4.6 a	53.0 a	1.9 b	92.3 a	18.5 a	240.0 a	26,771 a

* Within columns, means followed by the same letter are not significantly different at P≤0.05.

† Research conducted by Tim Sanders, USDA/ARS, Market Quality and Handling Research Unit, Raleigh, NC.

‡ mcg/gFW

¶ Oleic (O) fatty acid (C18:1) = 78.45 and 52.08%; whereas, Linoleic (L) fatty acid (C18:2) = 2.46 and 27.44% for GA 072716 and Georgia Green, respectively.

GA 072716

* High-Yielding, High-Oleic, TSWV Resistant, Runner-Type Cultivar.

* Intermediate Runner Growth Habit with Medium^{+} Maturity (140-147 DAP) and Medium Green Leaf Color.

* High Levels of TSWV Resistance and Moderate CBR and White Mold Resistance.

* Good Performance and Stability across Many Different Environments.

* Excellent High-Oleic Runner-Type with a High-Percentage of Medium Seed Size.