No. 9900189

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Texas Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN UCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY CTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CL ERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE 4 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEANUT

'Tamrun 98'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighteenth day of April, in the year two thousand two.

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-005

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Texas Agricultural Experiment Station

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
Tx901417

3. VARIETY NAME
TAMRUN 98

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
G. Dewey Liccioni
Office of the Director
110 Administration Building
College Station, TX 77843-2147

5. TELEPHONE *(Include area code)*
409/847-9325

6. FAX *(Include area code)*
409/845-9938

FOR OFFICIAL USE ONLY

PVPO NUMBER
9900189

FILING DATE
2/24/99

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Research Agency of the State of Texas

8. IF INCORPORATED, GIVE STATE OF INCORPORATION

9. DATE OF INCORPORATION

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION *(First person listed will receive all papers)*
JANIE HURLEY
Agriculture/Life Sciences
Technology Licensing Office
The Texas A&M University System
310 Wisenbaker
College Station, TX 77843-3369

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2450-
DATE 2/24/99

CERTIFICATION FEE:
$ 320.00
DATE 3/22/02

11. TELEPHONE *(Include area code)*
409/847-8682

12. FAX *(Include area code)*
409/845-1402

13. E_MAIL

14. CROP KIND *(Common Name)*
Peanut

15. GENUS AND SPECIES NAME OF CROP
Arachis hypogaea var hypogaea

16. FAMILY NAME *(Botanical)*
Fabaceae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☒ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)

a. ☒ Exhibit A. Origin and Breeding History of the Variety
b. ☒ Exhibit B. Statement of Distinctness
c. ☒ Exhibit C. Objective Description of Variety
d. ☒ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☒ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☒ Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☒ YES *(If "yes", answer items 20 and 21 below)* ☐ NO *(If "no," go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☒ YES ☐ NO

21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☒ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER

NAME *(Please print or type)*
G. Dewey Liccioni

CAPACITY OR TITLE
Assistant Vice Chancellor-TAES

DATE
10/6/99

SIGNATURE OF OWNER

NAME *(Please print or type)*

CAPACITY OR TITLE

DATE

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $2,450 ($300 filing fee and $2,150 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $300 for issuance of the certificate Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvp.htm

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USDA-AMS-PVPO
'99 FEB 24 P5:16

ITEM

18a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method.
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences, and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center–East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

The U.S. Department of Agriculture (USDA) prohibits discrimination in its programs on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, and marital or familial status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA Office of Communications at (202) 720-2791. To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call (202) 720-7327 (voice) or (202) 720-1127 (TDD). USDA is an equal opportunity employer.

STD-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

9900189

Exhibit A. – Revised

ORIGIN AND BREEDING HISTORY OF TAMRUN 98

Tamrun 98 was derived from a backcross of TxAG-5 to Texas breeding line TP 107-11. TP 107-11 was selected from progeny of a cross Florunner x PI 109839 and is a sister line of Langley. TP 107-11 has good fruiting and plant growth traits, and a growth duration approximately equal to Florunner. F_2 plants from TP 107-11/TxAG-5/TP 107-11 were harvested separately and subsequent generations were managed as F_2 derived lines. F_3 progeny were simultaneously screened for reaction to sclerotinia at the Texas Agricultural Research Station at Stephenville and evaluated agronomically in soil without sclerotinia infestation near Bryan, TX. Yield testing of the line was begun in 1992. Disease reaction, yield, and grade evaluations were expanded in subsequent years into Oklahoma through cooperation with the USDA, and in 1997 the line was entered in the Uniform Peanut Performance Test. Seed from 45 typical appearing individually harvested plants were planted in Puerto Rico in the late fall of 1995. The produce from the harvest of that increase was planted as progeny blocks near the Texas Agricultural Research Station at Yoakum in 1996. One of the progeny blocks was discarded because of atypical plant form and another was harvested for individual testing. Following pre-sampling and grading each of the progeny blocks, the 43 plant progeny blocks were harvested as a composite for breeder's seed.

Tamrun 98 has been observed in ten generations since selection and it is uniform and stable in plant and pod and seed characteristics as well as sclerotinia disease resistance.

Tamrun 98 exceeded Florunner and Tamrun 88 in yield by more than 50% in Texas and Oklahoma tests with moderate to heavy sclerotinia disease pressure during the years 1992-1996. Disease ratings averaged 2.5 (0 = no disease, 10 = all plants dead or wilted) for the new cultivar in Texas tests compared to 6.5 for Florunner. A 4-test average rating of 2.5 for Tamrun 98 compared with an average of 5.0 for Tamrun 96. The average pre-digging disease incidence for Tamrun 98 in the Oklahoma trials was 33% compared to 71% for Okrun. In the absence of sclerotinia blight, yields of Florunner and Tamrun 98 in North Texas have been very similar, and both have been inferior to Tamrun 96. However, the shelling percentages and grades of both Tamrun 98 and Florunner have exceeded those of Tamrun 96 by approximately 2%. Shelling and quality factors have shown Tamrun 98 to be acceptable for commercial markets although the O/L ratio was a little lower than Florunner. Mature seed of Tamrun 98 have ranged among tests from 53 to 68 g/100; similar in size to that of Florunner.

Tamrun 98 is susceptible to tomato spotted wilt virus and both early and late leaf spot. Data on reaction to other diseases is inadequate for conclusions. Limited observations indicate that the germination and emergence of the new cultivar is a little more rapid than Florunner.

Foundation Seed of Tamrun 98 may be obtained from the Foundation Seed Services, Texas A&M University Agricultural Research and Extension Center, Vernon, TX.

9900189

Exhibit B. – Revised

STATEMENT OF DISTINCTIVENESS OF TAMRUN 98

"TAMRUN 98" is a runner market-type peanut (*Arachis hypogaea L. subsp. hypogaea var. hypogaea*) cultivar with partial resistance to sclerotinia blight (*Sclerotinia* minor Jagger), high grade, and good yield potential. It was tested during its evaluation stages as Tx 901417 and released by the Texas Agricultural Experiment Station in 1998.

Tamrun 98 is most similar to Florunner, but the main stem of Tamrun 98 is more apparent at maturity than Florunner, and Tamrun 98 has a good level of resistance to *Sclerotinia minor* whereas Florunner is highly susceptible to the disease. Tamrun 98 has a prostrate plant growth form with leaflet size and shape, stem thickness, and plant color similar to Florunner. The main stems of Tx 901417 tend to be slightly shorter, the secondary branches more compressed, and the main stem more prominent than Florunner. The lateral branches are trailing with primary lateral branch tips rising to about 10^0 from horizontal. Flowers are few to absent on the main stem, and orange with a red crescent. Fruiting on the lateral branches is irregularly alternate, sometimes near sequential, in respect to branch nodes. The pods are mostly two-seeded, slightly beaked, the shells lightly veined and thin, and the testae tan in color. Pod and seed length and width measurements and weight are approximately equal to Florunner.

FORM GR-470-29 (6-17-74)

FORM APPROVED. OMB NO. 40-R371

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF VARIETY
PEANUT (Arachis hypogaea)

NAME OF APPLICANT(S)		VARIETY NAME OR TEMPORARY DESIGNATION
Olin D. Smith	Charles E. Simpson	Tamrun 98
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)		FOR OFFICIAL USE ONLY
Dept. of Soil & Crop Sciences, TAMU College Station 77843-2474	Tamu Agric. Res. & Ext. Center Route 2, Box 00 Stephenville, TX 76401	PVPO NUMBER 9900189

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. BOTANICAL TYPE:

[1] Flowering on the Main Stem: 1 = ABSENT 2 = PRESENT

[3] Branching Pattern: 1 = ALTERNATE – Pairs of vegetative & reproductive branches (Virginia) 2 = SEQUENTIAL – Continuous reproductive branches (Valencia–Spanish) 3 = OTHER (Specify) irregularly alternate

2. PLANT:

[1] Habit: 1 = PROSTRATE (*Florunner*) 2 = DECUMBENT (*NC–5*) 3 = SEMI-ERECT (*Florigiant*) 4 = ERECT (*Starr*)

[3] Branching: 1 = SPARSE (*Valencia*) 2 = MODERATE (*Sta* 3 = PROFUSE (*Florunner*)

3. MATURITY:

[3] Region: 1=VIRGINIA, NORTH CAROLINA 2 = S.E. UNITED STATES 3=S.W.UNITED STATES 4=OTHER

[1][4][0] NUMBER OF DAYS TO MATURITY (Central Texas)

[0][0] NO. OF DAYS EARLIER THAN . . . . . [2] 1 = STARR 2 = FLORUNNER 3 = FLORIGIANT 4 = VIRGINIA 61R 5 = NC-2

[0][0] NO. OF DAYS LATER THAN . . . . . [2] 6 = NC-5 7 = SOUTHEASTERN RUNNER 56-15 8 = OTHER (Specify) _____

4. LEAVES:

[4] COLOR AT 60 DAYS: (*Nickerson Color Designation*): 1 = LIGHT GREEN (10GY 5/8) 2 = MEDIUM GREEN (2.5G 5/8) 3 = DARK GREEN (5G 4/7) 4 = OTHER (Specify) Royal Hort Soc 137A

[5][6] MM. LEAFLET LENGTH (*Based leaflet of the youngest fully opened leaf*)

[2][:][1] LEAFLET LENGTH/WIDTH RATIO Actual measured = 2.4:1

5. POD: (Average for 20 pods at maturity)

[2][5] MM. LENGTH [1][3] MM. DIAMETER

[3][8][7][5] KG./HA. POD YIELD

[ ][0][4] % LESS THAN . . . . . [2] 1 = STARR 2 = FLORUNNER 3 = FLORIGIANT 4 = VIRGINIA 61R 5 = NC-2

[ ][ ][ ] % MORE THAN . . . . . [ ] 6 = NC-5 7 = SOUTHEASTERN RUNNER 56-15 8 = OTHER (Specify) _____

[ ][ ] % FANCY SIZE: (*% riding 13.46 mm., 34/64 inch, spacing set on prestizer roller*)

4

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5. POD (Average for 20 pods at maturity):

[2] NUMBER OF SEEDS PER POD: 1 = 1 2 = 2 3 = 3 4 = 3–4 5 = 2–3–4

[2] CONSTRICTION: 1 = SHALLOW OR NONE (*Virginia 56R, Argentine*) 2 = MEDIUM (*Virginia 61R*) 3 = DEEP (*Starr*)

[1] SURFACE: 1 = GLABROUS (*Florunner*) 2 = PUBESCENT (*Florispan*)

[2] BEAK: 1 = ABSENT 2 = INCONSPICUOUS 3 = PRONOUNCED

6. SEED (Mature, cured but not aged):

[3] COAT COLOR: 1 = WHITE (*Pearl*) 2 = CREAM 3 = TAN (*Starr*) 4 = BROWN 5 = PINK (*Florigiant*) 6 = RED 7 = PURPLE 8 = DARK PURPLE 9 = VARIGATED 10 = OTHER (*Specify*) _____

[2] COAT SURFACE: 1 = SMOOTH 2 = INDENTED [2] 1 = UNIFORM COLOR 2 = BLEMISHED

[2] SHAPE: 1 = SPHERIODAL (*Starr*) 2 = SHORT-BROAD (*Florunner*) 3 = ELONGATED-SLENDER (*Dixie Runner*) 4 = CYLINDRICAL-TAPERED ENDS 5 = CYLINDRICAL-BLUNT ENDS (*NC–2*) 6 = OTHER (*Specify*) _____

[14] MM. LENGTH [10] MM. WIDTH [57] GRAMS PER 100 SEED (*8% Moisture*)

7. DISEASE RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[0] SOUTHERN STEM ROT
[1] EARLY LEAF SPOT
[1] SOUTHERN LEAF SPOT
[0] POD ROT COMPLEX
[0] RUST
[0] VIRUS X
[0] MOSAIC
[1] OTHER (*Specify*) tomato spotted wilt virus

8. INSECT RESISTANCE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[1] THRIPS
[0] LEAF HOPPER
[0] SOUTHERN CORN ROOTWORM
[0] APHID
[0] BURROWING BUG
[0] NEMATODE (*Specify species*)
[0] LESSER CORNSTALK BORER
[ ] OTHER (*Specify*) _____

9. COMPARISON OF SUBMITTED VARIETY WITH ONE OR MORE SIMILAR VARIETIES:

VARIETY	OIL* (%)	PROTEIN* (%)	OLEIC: LINOLEIC ACID RATIO	IODINE* NUMBER	SHELLING (%)	SMK** (%)	ELK+ (%)	MAIN ST HEIGHT (CM)
SUBMITTED	47		1:1	105	77	71		43
SIMILAR	48		1.3:1	100	77	71		46
NAME OF SIMILAR VARIETY			Florunner					

* *From Sound Mature Kernels* ** Sound Mature Kernels + Extra Large Kernels

10. INDICATE A VARIETY WHICH MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	VARIETY	CHARACTER	VARIETY
POD COLOR	Florunner	SEEDLING VIGOR	Tamrun 96
SEED DORMANCY	Florunner	HULL THICKNESS	Florunner
SEED SIZE	Florunner	LEAF COLOR	Florunner

11. COMMENTS (Additional description or clarification — Such as: Relative disease reactions may be compared with standard varieties)

5

REGISTRATION OF TAMRUN 98 PEANUT

"TAMRUN 98" (Reg. No.) (PI) is a runner market-type peanut (*Arachis hypogaea* L. subsp. *hypogaea* var. *hypogaea*) cultivar with partial resistance to sclerotinia blight (Sclerotinia minor Jagger), high grade, and good yield potential. It was tested during its evaluation stages as Tx901417 and released by the Texas Agricultural Experiment Station in 1998.

Tamrun 98 has a prostrate plant growth form with leaflet size and shape, stem thickness, and plant color similar to Florunner (1). The main stems of Tx901417 tend to be slightly shorter, the secondary branches more compressed, and the main stem more prominent than Florunner. The lateral branches are trailing with primary lateral branch tips rising to about 10° from horizontal. Flowers are few to absent on the main stem, and orange with a red crescent. Fruiting on the lateral branches is irregularly alternate, sometimes near sequential, in respect to branch nodes. The pods are mostly two-seeded, slightly beaked, the shells lightly veined and thin, and the testae tan in color. Pod and seed length and width measurements and seed measurements and weight are approximately equal to Florunner.

Tamrun 98 was derived from the backcross of TxAG-5 (3) to Texas breeding line TP 107-11. TP 107-11 was selected from progeny of a cross of Florunner x PI 109839 and is a sister line of Langley (2). TP 107-11 has good fruiting and plant growth traits, and a growth duration approximately equal to Florunner. F_2 plants from TP107-11//TxAG-5/TP 107-11 were harvested separately and subsequent generations were managed as F_2 derived lines. F_3 progeny were simultaneously screened for reaction to sclerotinia at the Texas Agricultural Research Station at Stephenville and evaluated agronomically in soil without sclerotinia infestation near Bryan TX. Yield testing of the line was begun in 1992. Disease reaction, yield, and grade evaluations were expanded in subsequent years into Oklahoma through cooperation with the USDA-ARS, Stillwater, OK, and in 1997 the line was entered in the Uniform Peanut Performance Test. Seed from 45 typical appearing individually harvested plants were planted in Puerto Rico in the late fall of 1995. The produce from the harvest of that increase was planted as progeny blocks near the Texas Agricultural Research Station at Yoakum in 1996. One of the progeny blocks was discarded because of atypical plant form and another was harvested for individual testing. Following pre-sampling and grading each of the progeny blocks, the 43 plant progeny blocks were harvested as a composite for breeder's seed..

Tamrun 98 exceeded Florunner and Tamrun 88 in yield by more than 50% in Texas and Oklahoma tests with moderate to heavy sclerotinia disease pressure during the years 1992 -1996. Disease ratings averaged 2.5 (0 = no disease, 10 = all plants dead or wilted) for the new cultivar in Texas tests compared to 6.5 for Florunner. A 4-test average rating of 2.5 for Tamrun 98 compared with an average of 5.0 for Tamrun 96. The average pre-digging disease incidence for Tamrun 98 in the Oklahoma trials was 33% compared to 71% for Okrun.

In the absence of sclerotinia blight, yields of Florunner and Tamrun 98 in North Texas have been very similar, and both have been inferior to Tamrun 96. However, the shelling percentages and grades of both Tamrun 98 and Florunner have exceeded those of Tamrun 96 by approximately 2%. Shelling and quality factors have shown Tamrun 98 to be acceptable for commercial markets although the O/L ratio was a little lower than Florunner. Mature seed of Tamrun 98 have ranged from 53 to 68 g/100; similar in size to that of Florunner.

Tamrun 98 is susceptible to tomato spotted wilt virus and both early and late leaf spot. Data on reaction to other diseases is inadequate for conclusions. Limited observations indicate that the germination and emergence of the new cultivar is a little more rapid than Florunner.

Foundation Seed of Tamrun 98 may be obtained from the Foundation Seed Services, Texas A M University Agricultural Research and Extension Center, Vernon, TX.

O.D. Smith, C.E. Simpson, and H. A. Melouk (4)

References

1. Norden, A. J., R. W. Lipscomb, and W. A. Carver. 1969. Registration of Florunner peanuts. Crop Sci. 9:850.
2. Simpson, C. E., O. D. Smith, and D. H. Smith. 1987. Registration of 'Langley' peanut. Crop Sci. 27:816-817.
3. Smith, O. D., S. M. Aguirre, T. E. Boswell, W. J. Grichar, H. A. Melouk, and C. E. Simpson. 1990. Registration of TxAG-4 and TxAG-5 peanut germplasms. Crop Sci. 30:429.
4. O.D Smith, Dept of Soil Sciences, Texas A&M University, College Station, TX 77843: C.E. Simpson, Texas A&M University AREC, Rt. 2 Box 00, Stephenville, TX 76401, and H.A. Melouk, USDA-ARS, Oklahoma State University, Stillwater, OK 74074.

PROPOSAL FOR RELEASE
Tamrun 98 Peanut

Release is proposed of Texas breeding line Tx901417 for cultivation under the designation "Tamrun 98". Growers in Oklahoma and North Texas with *Sclerotinia minor* Jagger infested soil (causal agent of sclerotinia blight) have strong need of a runner-type variety that can successfully withstand attack by this soil-borne pathogen. Spanish-type Tamspan 90 has been of significant benefit to growers sustaining losses from this disease, but industry demand for spanish peanut has weakened. The availability of an agronomically acceptable, sclerotinia blight resistant, runner-type variety will offer growers the alternative of producing better yields of a more marketable commodity. Although the proposed variety can be overwhelmed by the disease, the gain displayed under moderate to heavy pressure could provide significant economic benefit. Production of Tamrun 98 is anticipated in northern Texas and in Oklahoma where sclerotinia blight is a recurring production constraint for growers who prefer to grow and market runner-type peanuts.

Breeding Line History

Tamrun 98 was derived from crosses made in 1988 and 1989 of Tx798736 (TxAG-5) and TP107-11, a sister line of Langley. TxAG-5 is a Spanish germplasm line of Spanish and Valencia ancestry with partial resistance to *S. minor* Jagger. TP107-11 is a runner type breeding line (sister line to Langley) with good agronomic traits selected from the cross of Florunner/PI 109839. The single cross of TxAG-5/TP107-11 and backcross to TP107-11 were made in the greenhouse at College Station in the spring seasons of 1988 and 1989.

The cross that led to Tx901417 was one of many crosses made to incorporate the resistance to *S. minor* of TxAG-5 into a runner-type peanut with acceptable agronomic, shelling, and quality traits. The F_1 & F_2 generations were grown near Bryan TX. Tx901417 was one of a group of F_2 plant rows selected and advanced as F_2 derived lines. In 1991, seed of $BC_1F_{2:3}$ families were divided for evaluation of reaction to sclerotinia blight at the Texas Agricultural Research Station at Stephenville and advanced in noninfested soil near Bryan. Tx901417 was first included in a replicated yield test in 1992. It since has been evaluated in the South, Central, and West peanut areas of Texas, and in Oklahoma in cooperation with the USDA. The bases for continuation of the breeding line have been disease scores relative to sclerotinia blight; yield under disease producing conditions; plant, pod and seed characteristics; shelling and grade percentages; and acceptable, although not outstanding, performance in the absence of disease in North Texas and Oklahoma.

Yield Performance

The average yield, grade, seed size (g/100 seed), and estimated gross value on the basis of 1997 USDA loan rates for Tx901417 and Florunner or Tamrun 88 for six North Texas tests are shown in Table 1. The yield and value/acre advantage of Tx901417 over the checks exceed 50% with no loss in grade factors and approximately equal seed size. Florunner was the check in four of the tests while Tamrun 88 was the check during the first two years of testing.

Data from Oklahoma tests with sclerotinia infection during 1995 and 1996 are presented in Table 2. The results were similar to those in Texas; pod yields of Tx901417 exceeded the commercial check by more than 50%. The grades (TSMK) were equal if not better than for Okrun. Data from 1997 tests were not included as the disease incidence at the sclerotinia infested site was

low: 28% for Florunner compared to 7% for Tx901417. The low disease incidence was not sufficient to cause significant effect on yield (3630 for Tx901417 and 3606 for Okrun). The situation was similar for the 1997 test at Prague.

Limited testing has shown merit for Tamrun 98 over that of Tamrun 96 for sclerotinia infested production conditions, although the previously released variety might be of some benefit, as compared to Florunner (Table 3). The 4-test average values per acre show a 44% advantage of Tamrun 96 over Florunner, while the estimated dollar return from Tx901417 was 24% higher than Tamrun 96. The superiority of Tamrun 98 for such production conditions was manifest in yield, grade, and disease evaluations.

In the absence of significant sclerotinia blight, the benefit of Tamrun 98 as compared to the check varieties was lost. Data summarized in Table 4 were from 18 tests in all of the major peanut growing areas of Texas. Averaged over all tests, in which sclerotinia was absent in most and moderate but confounded with effects of tomato spotted wilt virus in one test, the better choice would appear to be Tamrun 96. Data recorded for the past three years indicate that Tamrun 98 does not have resistance to tomato spotted wilt virus and is not a candidate for production in the South Texas area. Tables 5, 6, and 7 show data summaries from the two-state area in regions where Tamrun 98 would likely be grown but at sites where the disease was not present. In those situations, Tamrun 98 is about equal, certainly no better, than Florunner, Okrun, and Georgia Green. The grades of the breeding line were similar to those for Florunner and Okrun.

Our interpretation of the data is that Tamrun 98 should provide benefit to growers in Texas and Oklahoma with moderate to heavy sclerotinia disease pressure who wish to grow a runner-type variety. The data also indicate that plantings in those areas where the disease fails to develop should not result in significant loss in income as compared to the popular varieties Florunner and Okrun. However, in situations where the disease development is light, Tamrun 96 seems to tolerate the effects of the disease adequately to produce yields equal or better than Tamrun 98. As the disease intensity increases the effect of the disease seems greater on Tamrun 96 and the yield advantage shifts to Tamrun 98. However, it should be recognized that significant loss has occurred in Tamrun 98 under heavy disease pressure and higher levels of resistance are needed.

Recently received results from Uniform Peanut Performance test sites in the Southeastern and Eastern U.S. peanut regions show no advantage of Tamrun 98 as compared to the runner-type check varieties tested. Sclerotinia blight has not been a problem in the Southeast and the test was not on sclerotinia infested land in the Virginia-North Carolina tests.

Disease Reaction.

Sclerotinia disease scores for Tamrun 98 and appropriate check varieties are shown in tables 1, 2, 3 and 7. Disease scores made in Texas (Tables 1 & 3) are on the basis of apparent plant health with 0 being healthy and 10 all plants dead or wilted. The average disease scores of 2.5 for Tamrun 98 as compared to 6.5 for Florunner expresses a distinct difference in plant survival and condition at seasons end and gives indication of the cause of the difference in plot yields.

The disease scores in Oklahoma were taken on the basis of plant incidence. Inspections were made and evidence of disease (visible plant symptoms or fungal hyphae) within six inch row segments constituted a "hit". The number of hits as a percentage of the number possible constituted the disease incidences provided. Averaged over 5 tests, the disease incidence in Tx901417 was approximately one-half that in Okrun (Table 2). This, again, may be associated with the difference in yields.

Both the Texas and Oklahoma sclerotinia disease scores show distinct advantage of proposed

variety as compared to the popular cultivars now in production. For diseases other than sclerotinia blight, little difference from the reactions of Florunner or Tamrun 88 have been found. The breeding line is susceptible to tomato spotted wilt and to both early and late leaf spot. More data are needed on its reactions to southern blight, pod rot, and other diseases.

Shelling & Sizing

Tamrun 98 shelled easily on small and mid-sized laboratory shellers with shelling percentages similar to Florunner. The shelling percentage was usually high as the shells are thin and the constriction between seeds is moderate. The sound split fraction has usually been low and the proportion of seeds that fail to shell mechanically has been low when the peanuts were grown under reasonable conditions and harvested when

The seed size of Tamrun 98 is approximately equal to that of Florunner as shown in terms of g/100 seed in Tables 1 & 3-7. Percentages of seed by size for the 1996 breeder's seed increase are shown in Table 10. All percentages are relative to the cleaned "farmers stock"weight. The total kernel percentage for this seed lot averaged a very high 83.7% and the total sound mature kernels (grade) was 82%. The shelling of this particular lot was very easy and the grade exceptional.

Sizing of sound mature kernels for other seed lots grown in Central and South Texas in 1994 are shown in Table 11. The percentages of jumbo's were much lower and the number 1's much higher than in the breeder's seed increase. The average size distribution of Tamrun 98 and Florunner were nearly equal for these three tests.

Quality

Quality data were acquired on the 1996 crop through the compliments of the Birdsong Peanut Company via the services of Jim Leeks & Associates. Samples were collected from tests in five counties: Frio, Brazos, Erath, and Lubbock, Texas and Caddo, Oklahoma. Near infrared analyzed fat percentages were approximately equivalent among the three varieties. The percentage of oil in Florunner was higher (O.7 - 2.9%) in samples from four of the five locations (Table 12). Other measures were approximately equal among the three entries except that the O:L ratio of Tx901417 was lower than Florunner in every sample. These ratios for Tx901417 are similar to that which would be expected from the Tamspan 90 parent. The flavor rank is a subjective score which is used by the evaluators in assigning the pass or fail classification. All three varieties passed the flavor study.

Seed Increase

Seed increase of Tx901417 was effected sooner than usual in relation to multiple location testing because of the strong urging bo growers and seedsmen for a sclerotinia resistant runner-type variety. Progenies of 45 typical plants were increased in Puerto Rico in the spring of 1995. Seed from that increase were planted in progeny blocks for seed increase near the Agricultural Research Station in Yoakum during the summer of 1996. One of the progeny blocks was discarded because of atypical vine size and one was harvested separately for individual line testing. The remaining 43 progeny blocks were sampled and graded, and then bulk harvested with a well-cleaned 2-row peanut combine. Approximately 1700 lbs. of shelled seed were produced of which 1300+ pounds were turned to Foundation Seed Stocks in the spring of 1997. The increase from this planting is reported to exceed 100,000 lbs. in-shell which should provide some 60,000+ lbs. of seed for Foundation and Registered Seed increase.

Royalties

Royalties on the variety are recommended with the participants yet to be determined. Approximate Texas project contribution to the research for the development of this breeding line was: Soil & Crop Sciences project 8194 (Dr. Olin Smith) 50%, Stephenville Research & Extension Center project (Dr. Charles Simpson) 50%. The USDA collaborator has contributed in disease reaction assessment and in ascertaining adaptation and performance in Oklahoma. No discussions have been held between TAES and USDA researchers in regard to royalties.

Table 1. Average yield, grade, value/acre, and seed size of Tx901417 and commercial check variety in six Texas tests *with sclerotinia* blight: 1992-1996

Entry	Val/ac $	Pods/ac lbs.	TK %	TSMK %	DK %	OK %	g/100 seed	Disease Rating*
Tx901417	994 a	2902 a	76 a	71 a	0.5 a	4.3 a	56 a	2.5 a
Flo/Tam 88	651 b	1913 b	77 a	69 a	0.8 a	7.3 b	54 a	6.5 b

Tests in Erath and Hall Counties * Scale: 0 = no symptoms; 10 = all plants dead/wilted

Table 2. Average yield, grade, and disease incidence in five Oklahoma tests* (*with sclerotinia*): 1995 & 1996

Entry	Pod /ac lbs.	TSMK %.	g/100 seed	Disease incidence (%) Reading 1	Reading 2
Tx901417	2595 a	67 a	55 a	27 a	31 a
Okrun	1443 b	64 a	57 a	44 b	71 b

* Ft. Cobb

Table 3. Average yield, grade, and disease incidence of Tx901417, Tamrun 96 and Florunner in four Texas tests *(with sclerotinia)*: 1993-1996.

Entry	Val/ac $	Pods/ac lbs.	TK %	TSMK %	DK %	OK %	g/100 seed	Disease Rating*
Tx901417	852 a	2570 a	75 a	70 a	0.7 a	4.7	55 a	2.5 a
Florunner	476 b	1471 c	76 a	67 a	0.9 a	8.4	53 a	6.2 c
Tamrun 96	685 a	2174 b	75 a	66 a	1.0 a	7.1	56 a	5.0 b

* Scale: 0 = no symptoms; 10 = all plants dead/wilted

Table 4. Performance of Tx901417, Florunner, and Tamrun 96 in Texas (w\o sclerotinia): 1993-1997 (18 test means)

Entry	Val/ac $	Pods/ac lbs.	TK %	TSMK %	DK %	OK %	g/100 seed
Tamrun 96	1330 a	4265 a	77 b	71 a	0.7 a	4.6 a	61 a
Florunner	1137 b	3627 b	78 a	71 a	0.8 a	5.8 b	56 b
Tx901417	1085 b	3459 b	77 ab	72 a	0.6 a	5.0 ab	57 b

Test locations: Frio, Brazos, Erath, Comanche, Eastland, Dawson, Gaines, and Lubbock Counties

Means within columns and tables compared at P=0.05 DNMR

Table 5. Yield, grade, and seed size of Tx901417 and Florunner at Chickasha, Durant, and Prague OK (w/o sclerotinia): 1996-97

(five test means)

Entry	Pods/ac lbs.	TSMK (%)	DK (%)	OK (%)	Seed wt (g/100)
Tx901417	3727 a	68 a	3.1 a	9.1 a	59 a
Okrun	3668 a	69 a	3.6 a	9.1 a	58 a

Table 6. Uniform Peanut Performance Test: Bryan, Stephenville, Ft. Cobb:1997 (w/o sclerotinia)

Entry	Pods/ac lbs.	TSMK (%)	DK (%)	OK (%)	Seed wt (g/100)
Tx901417	2748 a	68 a	1.2 a	6.4 a	54 a
Florunner	2957 a	68 a	1.1 a	6.4 a	54 a

Table7. Mean values for yield, grade, gross value/acre and seed size for six North Texas tests without sclerotinia: 1996-1997*

Entry	Val/ac $	Pods/ac lbs.	TSMK (%)	Seed Wt. g/100
Tx901417	1136 b	3294 b	74 a	58 a
Florunner	1146 b	3447 b	74 a	59 a
Georgia Green	1127 b	3552 b	74 a	56 a
Tamrun 96	1342 a	4140 a	73 a	61 a

*Comanche, Eastland, Erath, Dawson, & Lubbock Counties

Table 8. Disease scores for Tx901417 and checks during screening tests, 1991-1993.

Entry	No. of infected/ 17 plants evaluated	
Tx901417	First reading	Second reading
1991	2	
1992	4	13
Florunner		
1991	6.6	
1992	17	17
	% Severity*	
1993	Date 1	Date 2
Tx901417	0.33	3.3
Florunner	5.33	7.67
Okrun	3.67	7.0

* Scale: 0 = no damage, 10 = all plants dead or wilted

Table 9. Incidence of sclerotinia blight in plots and area under disease progress curve (AUDPC) in Fluazinam 500 treated and untreated plots at Suffolk VA: 1997 (Copied from P.M. Phipps. 1997. Applied Research on Field Crop Disease Control. V.P.I. Information Series No. 399 p 73-74)

Treatment / Variety	Sclerotinia blight Aug. 5	Aug 15	Aug 28	Sep 10	Sep 30	AUDPC	Yield
Untreated							
Florunner	2.0 bc	21.5 a-c	20.3 ab	26.3 a	32.8 a	1164 a	3211 b-e
Georgia Green	2.0 bc	24.8 a	23.5 a	26.0 a	26.0 a	1155 ab	3919 ab
Georgia Runner	2.8 a-c	24.3 ab	21.8 ab	27.0 a	28.0 ab	1166 a	3136 c-e
Andru 93	1.0 bc	21.5 a-c	20.8 ab	26.3 a	31.3 a	1155 ab	3060 de
Tamrun 96	2.3 a-c	17.3 a-d	17.8 ab	20.3 a-c	24.0 ab	917 a-c	3565b-d
Tx901417	1.3 bc	10.5 d	7.5 cd	10.5 d	12.5 c	464 d	3831 a-c
Treated							
Florunner	----	16.3 a-c	15.8 ab	16.3 a-d	15.8 a	736 a-d	4387 ab
Georgia Green	----	14.0 a-d	13.8 ab	12.0 b-f	13.0 c-g	598 c-e	4324 ab
Georgia Runner	----	15.5 a-c	14.0 ab	14.5 a-d	14.5 b-g	667 b-e	4096 b-e
Andru 93	----	15.3 a-c	15.5 ab	15.8 a-d	15.0 b-g	711 a-e	4210 a-d
Tamrun 96	----	8.0 cd	7.0 bc	8.0 d-f	6.0 fg	335 eg	4754 a
Tx901417	----	3.3 d	2.8 c	3.0 f	4.8 fg	154 g	3818 b-e

Table 10. Seed fraction percentages of 'Farmer's Stock" Tx901417 Breeder's Seed: 1996

In shell pod weight	Seed Size %				Oil Stock %
Lbs.	Jumbo	Medium	No.1's	Sound splits	
2401.6	32.1	36.2	5.4	8.8	1.2

Table 11. Average percentages of jumbo, medium, and #1 seed in sound mature kernel fraction of pods from three tests shelled on mid-size research sheller in 1994.

Variety	Jumbo (%)	Medium (%)	No. 1's (%)
Tx901417	23	30	46
Florunner	24	30	46

Table 12. Quality measure averages for Tx901417, Tamrun 96 and Florunner by Leek & Associates, 1996.

Variety	NIRA fat (%)	NIRA sugar (%)	FFA %	O:L Ratio	Flavor Rank	Flavor Pass/Fail
Tx901417	46.5	4.4	0.05	1.04	6.6	P
Tamrun 96	46.8	4.4	0.04	1.36	6.6	P
Florunner	47.8	4.2	0.04	1.32	6.9	P

9900189

NOTICE OF AVAILABILITY

Release of 'Tamrun 98' Peanut

We are pleased to announce the spring, 1998 release of Texas breeding line Tx901417 under the designation 'Tamrun 98'. Tamrun 98 is a runner-type peanut with partial resistance/reduced susceptibility to sclerotinia blight, while other characteristics are similar to those of Florunner. Average yields of Tamrun 98 exceeded those of checks Florunner, Okrun, and Tamrun 88 by more than 50% in 11 tests with moderate to heavy sclerotinia disease pressure during the years 1992-1996. Disease ratings (0 = no disease symptoms; 10 = all plants dead or wilted) for Tamrun 98 in the six tests that were located in North Texas averaged 2.5 compared to a 6.5 for checks Florunner and Tamrun 88. Pre-digging disease incidence for Tamrun 98 in the five Oklahoma tests averaged 33% compared to 72% for Okrun. Yields of Tamrun 98 in North Texas and in Oklahoma in the absence of the disease were approximately equal to, but no better than, the aforementioned commercial check varieties. Tamrun 98 is susceptible to tomato spotted wilt and is not a variety of choice for production in South Texas.

Tamrun 98 was selected from progeny of a backcross of germplasm line TxAG-5 (the progenitor of Tamspan 90) backcrossed to a Texas runner-type breeding line TP107-11 (a sister-line of Langley). Its vine size, growth duration, and pod and seed size are similar to those of Florunner. Pods mostly contain 2 seed with occasional pods having three. Shelling of Tamrun 98 on small and mid-sized research shellers has been excellent with good seed turnout. The variety is susceptible to both early and late leaf spot. Data are unavailable or too preliminary for conclusions on southern blight, pod rot, and other diseases. Test results indicate that the potential for benefit to growers from this variety is on sclerotinia infested land in North Texas and in Oklahoma.

Breeders Seed of Tamrun 98 was provided to Texas Foundation Seed Stocks for planting 30+ acres in 1997. The harvest from that increase, when shelled, is anticipated to provide some 60,000+ lbs. of processed seed, a portion of which will be available for purchase from the Texas Foundation Seed Services for Registered Seed production in 1998. Seed inquiries and orders should be made to the Texas Foundation Seed Services, Vernon, TX.

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EXHIBIT E
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Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)

Texas Agricultural Experiment Station

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER

Tx901417

3. VARIETY NAME

TAMRUN 98

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*

Room 110 Administration Building
College Station, TX 77843-2147

5. TELEPHONE *(include area code)*

409/847-8682

6. FAX *(include area code)*

409/845-1402

7. PVPO NUMBER

9900189

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? [X] YES [ ] NO

If no, give name of country

10. Is the applicant the original owner? [X] YES [ ] NO *If no, please answer one of the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

[ ] YES [ ] NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO If no, give name of country

11. Additional explanation on ownership *(if needed, use reverse for extra space)*:

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1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

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