No. 7700035

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Wilco Peanut Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED 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 seventeen 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, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS ED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEANUT

'Goldin I'

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 *this* fifth *day of* March *in the year of our Lord one thousand nine hundred and* seventy-six

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

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(12-15-72)

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

FORM APPROVED
OMB NO. 40-R3712

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

1. VARIETY NAME OR TEMPORARY DESIGNATION	2. KIND NAME	FOR OFFICIAL USE ONLY	
GOLDIN I	SPANISH PEANUT	PV NUMBER 7135	
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 3·10·71	TIME 9:30 A.M.
ARACHIS HYPOGAEA	LEGUMINOSAS	FEE RECEIVED $ 250	BALANCE DUE $ —
	5. DATE OF DETERMINATION NOVEMBER 15, 1965	$ 250	$ —
		$ 250	$ —

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
WILCO PEANUT CO.	P. O. BOX 23156 SAN ANTONIO, TEXAS 78223	512-633-0442

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
CORPORATION	TEXAS	6-22-51

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

W. G. CONWAY
WILCO PEANUT CO.
P. O. BOX 921
SAN ANTONIO, TEXAS 78294

or

C. H. WARNKEN, JR.
WILCO PEANUT CO.
P. O. BOX 23156
SAN ANTONIO, TEXAS 78223

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

[X] 13B. Exhibit B, Botanical Description of the Variety

[X] 13C. Exhibit C, Objective Description of the Variety

[X] 13D. Exhibit D, Data Indicative of Novelty

[X] 13E. Exhibit E, Statement of the Basis of Applicant's Ownership

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [X] YES [ ] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [X] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed? [ ] FOUNDATION [ ] REGISTERED [X] CERTIFIED

The applicant declares that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) of this sexually-reproduced novel plant variety believes that the variety is distinct, uniform, and stable as required in Section 41 and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant is informed that false representation herein can jeopardize protection and result in penalties.

February 11, 1975
(DATE)

C. H. Warnken, Jr.
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, 6525 Belcrest Road, Hyattsville, Maryland 20782. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety based on the definition in Section 41 (a) of the Act and decision is made to increase the seed.

13a First, give the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. Second, give the details of subsequent stages of selection and multiplication. Third, indicate the type and frequency of variants during reproduction and multiplication and state how these variants may be identified. Fourth, provide evidence on stability.

13b First, give any special characteristics of the seed and of the plant as it passes through the seedling stage, flowering stage and the fruiting stage. Second, describe the mature plant and compare it with a similar commercial variety grown under the same conditions, and indicate the differences.

13c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

13d Provide complete data indicative of novelty. Seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty may be submitted. Seeds submitted may be sterile.

13e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

RECEIVED
FEB 24 1975
U. S. DEPARTMENT

FORM APPROVED. OMB NO. 40-R3712

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

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

OBJECTIVE DESCRIPTION OF VARIETY
PEANUT (Arachis hypogaea)

NAME OF APPLICANT(S)
WILCO PEANUT CO.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)
P. O. BOX 23156
SAN ANTONIO, TEXAS 78223

VARIETY NAME OR TEMPORARY DESIGNATION
GOLDIN I

FOR OFFICIAL USE ONLY
PVPO NUMBER 7135

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:

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

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

2. PLANT:

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

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

3. MATURITY:

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

[1][3][0] NUMBER OF DAYS TO MATURITY

[1][5] NO. OF DAYS EARLIER THAN . . . . . [4]

[1][0] NO. OF DAYS LATER THAN . . . . . [1]

1 = STARR 2 = FLORUNNER 3 = FLORIGIANT
4 = VIRGINIA 61R 5 = NC - 2
6 = NC - 5 7 = SOUTHEASTERN RUNNER 56-15
8 = OTHER (*Specify*) _____

4. LEAVES:

[3] COLOR AT 60 DAYS: (*Nickerson Color Designation*): 1 = LIGHT GREEN (10Gy 6/9) 2 = MEDIUM GREEN (2.5G 5/9) 3 = DARK GREEN (5G 4/7) 4 = OTHER (*Specify*) _____

[5][7] MM. LEAFLET LENGTH (*Basal leaflet of the youngest fully opened leaf*)

[.][6][8] LEAFLET LENGTH/WIDTH RATIO

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

[3][1] MM. LENGTH

[1][4] MM. DIAMETER

[ ][ ][ ][ ] KG./HA. POD YIELD

[ ][ ][ ] % LESS THAN . . . . . [ ]

[ ][ ][ ] % MORE THAN . . . . . [ ]

1 = STARR 2 = FLORUNNER 3 = FLORIGIANT
4 = VIRGINIA 61R 5 = NC - 2
6 = NC - 5 7 = SOUTHEASTERN RUNNER 56-15
8 = OTHER (*Specify*) _____

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

GOLDIN I PV# 7135

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
3	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):

5	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*) _____
1	COAT SURFACE:	1 = SMOOTH 2 = INDENTED 1 = UNIFORM COLOR 2 = BLEMISHED
1	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*) _____

19	MM. LENGTH	
11	MM. WIDTH	
71	GRAMS PER 100 SEED (*8% Moisture*)	

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

0	SOUTHERN STEM ROT	0	RUST
0	EARLY LEAF SPOT	0	VIRUS X
/	SOUTHERN LEAF SPOT — Tolerant JJA letter 3/3/75	0	MOSAIC
0	POD ROT COMPLEX	V	OTHER (*Specify*) It is susceptible but not as bad as Starr.

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

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

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

VARIETY	OIL* (%)	PROTEIN* (%) NIACIN	OLEIC: * LINOLEIC ACID RATIO	IODINE* NUMBER	SHELLING (%)	SMK** (%)	ELK+ (%)	MAIN STEM HEIGHT (CM)
SUBMITTED	49.8	See Attached	1.17	98.0	78%	75%	60%	
SIMILAR	46.5	33.2(Nx6.25)	1.27	95.7	77%	72%	30%	
NAME OF SIMILAR VARIETY	STARR	STARR	STARR	STARR	STARR	STARR	STARR	

* *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	Cream	Starr	SEEDLING VIGOR	
SEED DORMANCY	-	-	HULL THICKNESS	Starr
SEED SIZE	-	-	LEAF COLOR	

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

RECEIVED FEB 24 1975 U.S. DEPARTMENT OF AGRICULTURE AMS GRAIN DIV. PVPO

EXHIBIT A

GOLDIN I is a mass selection from a breeding line that was introduced into the United States by Wilco Peanut Co. in 1965. The breeding line was a selection made from the progeny of an apparent varietal cross. The parentage of the breeding line is unknown to Wilco Peanut Co.

In addition to this breeding line, the Company had under observation in 1965 eight other lines or varieties of Spanish, Virginia and Valencia types, and in 1966 ten more acquisition were added. The entries in each year were from both foreign and domestic sources.

The line from which GOLDIN I originated was observed in 1965 to have a potential for high production, and it also had a distinctive dark green leaf color and shorter branches than the commonly-grown Spanish varieties. Consequently, this line was increased as rapidly as possible, and the increase blocks were subjected each year to intensive selection pressure to eliminate off-type plants. The line has been reselected in this manner through five generations with special attention being given to the above characters as well as to uniformity of shape and size of pods and to pod location on the plant.

In the early stages of evaluating and selecting this line, it was noted that an occasional plant would have a three-seeded pod. These plants were readily identified at harvest and discarded. It is not at all unusual, however, for a three-seeded pod to develop on an occasional plant of some Spanish varieties, i.e.: Starr, Spantex

EXHIBIT A

Comet, and Spanhoma; and there is no valid reason to suggest that the occasional occurrence of this variant detracts in any way from the value or utility of a variety.

GOLDIN I is genetically stable for the characters enumerated above. It is proposed for registration as a Protected Plant Variety on the basis of its novel or distinctive dark green leaf color. This deep coloration does occur in some other types of peanuts (Runner) but not in any known variety of Spanish peanut. GOLDIN I is not only distinctive in its leaf color; it is also a phenomenally high producing Spanish variety of commercial status and is being presented through the Texas Department of Agriculture to the State Seed and Plant Board of Texas for certification so that it can be entered into commercial competition with other certified Spanish varieties.

Plantings of GOLDIN I have been in the Texas Department of Agriculture grow-out trials since 1967, and observations made by scientists of this agency substantiate our declaration of a new and distinctive variety of Spanish peanut.

Sinch the acquisition of the breeding line from which GOLDIN I evolved, the development of the variety has been under the supervision of Mr. C. Martinez, Jr., Wilco Peanut Co. Agronomist, BS in Agronomy, Texas A&M University, 1963.

7135

EXHIBIT B

THE BOTANICAL DESCRIPTION OF A NEW PEANUT VARIETY, WILCO-I, DEVELOPED BY THE WILCO PEANUT CO. OF SAN ANTONIO, TEXAS.

Goldin I - per letter 10/20/72

BY

BOLLERA M. MACHIA, PH. D.
ASSOCIATE PROFESSOR OF BOTANY
DEPARTMENT OF LIFE SCIENCES
ST. MARY'S UNIVERSITY
SAN ANTONIO, TEXAS 78284

Goldin-I / letter 10/20/72

Newly developed peanut seeds called Wilco-I were supplied by the Wilco Peanut Co. of San Antonio, and a study was conducted at St. Mary's University to determine their botanical characteristics. Before starting the investigation, a preliminary study was done on seedlings (about 20 days old) at the peanut fields near Pearsall, Texas. The field observation on the seedlings led to believe that Wilco-I was typical of a Spanish type. In order to compare Wilco-I with other Spanish varieties, Starr and Argentine were grown in the greenhouse along with it to determine typical plant characteristics (if there were any) of the Spanish type. During the entire study period, emphasis was given to the morphological, as well as the taxonomical, characteristics of the plants.

The seeds supplied by the Wilco Seed Co were in excellent condition. The seeds within the same type were more or less uniform in size, shape, and weight. The shape of all the seeds used in the study were round, smooth, bold, and without constrictions, indicating that all three kinds belong to the same strain of peanuts.

The seeds from each group were soaked separately for 24 hours in beakers containing water in order to obtain imbibition and germination. At the end of the period, the seeds were removed, and a single peanut was sown in a four gallon plastic bucket containing a 4:1 mixture of Poteet sandy loam soil and commercial cow manure (plate I). Each bucket was marked for identification and placed ramdomly in the greenhouse where the day temperature was about 85°F and night temperature of about 70°F. They were all watered as needed, which was generally the same for all. The germination time was found to be 5 to 7 days for all seeds.

At the time of seedling development, many seedlings in both Starr and Argentine varieties seemed to lose their geotrophic response to some degree (figs. 1, 2, and 3). The radical seemed to develop toward the soil surface and, after gaining the positive geotrophic response, it grows into a tap root system from which many secondary roots arise. The Wilco-I does not seem to show a similar loss of geotrophic response at the time of germination (fig. 4). It could be possible that at the time of shelling the pods, a slight mechanical shock to the embryo might be causing an abnormal radical development in Starr and Argentine varieties. If the Wilco-I pods were shelled the same way as the Starr and Argentine, the embryos seem to withstand the mechanical shock received at the time of shelling.

The growth pattern of Wilco-I was found to be different from that of Starr and Argentine (plate 3,4,5). The growth habits of Wilco-I are definitely "semi erect," which is between the Spanish and Virginia type. This semi erect habit of growth is one of the main reasons it is a high yielding variety, as was found by the number of pods per plant (plate 12). The laterals of Wilco-I were more or less the same length as the main stem. The wide branching pattern of Wilco-I did not resemble any of the Southern runner types of peanut plants because the spread was much less and the growth pattern was also different. The internodes of Wilco-I were slightly shorter than the other two varieties. All the three kinds

had herbaceous types of stems. These herbaceous stems of Argentine and Starr turned purplish green as they matured (about 85 days after planting), while in the case of Wilco-I it remained green throughout the life period.

There were no significant differences in the root growth patterns in all three types of plants. The tap roots were short - rapidly tapering down from the crown of the plants. However, the tap root size of Wilco-I was found to be significantly bigger than the Starr variety, and the Starr was found to be a little bigger than the Argentine variety (plate 6). The secondary root population and the length were found to be more or less the same in both Wilco-I and Starr, but these two had a noticeably longer and greater root population than the Argentine (plate 3, 6). There appeared to be no significant difference in root coloration between the plants (plate 3, 4, 6).

The leaves in all the three types of plants were pinnately compound and elliptical in shape with a cruniate (wedge shape) leaf base (plate 7). In the case of Wilco-I, the leaf tips were emerginate, whereas in the case of Starr and Argentine they were obtuse (plate 7). The emerginate leaf tip of Wilco-I could be of the taxonomical variation rather than of the horticultural variation, because even though most leaves had emerginate leaf tips, few leaves were also found to be obtuse. Therefore, the taxonomic variation is the characteristic which is not consistent but varies with the interaction between genetic, climatic, and edaphic factors, whereas the horticultural variations are consistent within the specific

variety. There was no significant difference in the length of the petiole. The stipules in all the three varieties were long and pointed (plate 7). The leaf lamina was somewhat thicker in the case of Wilco-I as compared to Starr and Argentine, which was primarily because of thick palisade tissues as observed under the microscope. It appeared that the leaves of Wilco-I were of a much darker green in color in comparison to any other Spanish varieties of peanuts (plate 7). The field observations also proved that it is darker green in color as compared to Starr variety (plate 2). In order to confirm this physical appearance, the chlorophylls were extracted from 10 grams of randomly picked leaf samples from each batch of plants with 80 per cent acetone (plate 8). The chlorophyll concentrations were measured photometrically, and it was found that Wilco-I contained 1.88 milligrams (mgs), Argentine 1.53 mgs, and Starr only 0.96 mgs per gram of leaf tissues. This specific characteristic of the leaf color could be due to the fact that food reserves in the seeds are efficiently metabolized at the time of germination and, furthermore, the seedlings are highly adaptive to variable physical factors of the environment (temperature, soil moisture, light intensity, photoperiod, relative humidity, etc.) as compared to other Spanish varieties, and thus grows as a healthier plant. The healthier the plant, the more chlorophyll content, as well as the more resistant to diseases and insect damage. The deep green color does not necessarily mean that Wilco-I is not a Spanish type.

The Starr variety was the earliest to bloom, and the first bloom emerged in about 35 days after planting. The Argentine bloomed in 44

days after planting. One of the typical characteristics of the Spanish type of peanut is that the reproductive branches arise on the main axis, which is not so in the Virginia type. In the Virginia type, main stem nodes are all vegetative. All the lateral branches are vegetative at the first node and mostly vegetative at the second node, which is not the case of Wilco-I. In this investigation, it was found that some Wilco-I plants had reproductive branches on the main stem (plate 10, 11) and others did not. The reason why some do not have reproductive branches on the main axis could be a genetic variation which is common during the segregation and recombination of chromosomes at the time of breeding. Similarly, the first few nodes at the base of the lateral branches growing on the cotyledonary laterals are reproductive, which is definitely a characteristic of the Spanish type rather than of the Virginia type (plate 4, 5, 11). As a result, the pods aggregate around the crown of the plant (plate 12). In the Virginia type, the pods will be scattered much further from the crown. There were no noticeable differences in the floral characteristics between the three kinds of plants (plate 9). The flowers were papilionaceous type, zygomorphic, and bilaterally symmetrical. The banner (standard), wing, and keel petals were more or less the same shape and size in all the plants. There were found no variations in the stamens and pistils of the three types of plants. These similarities in floral structure may be due to the fact that all the three types of plants belong to the Spanish strain.

Eight days after the first bloom, the gynophores (pegs) began to appear in all the plants. The pegs were mostly clustered around the base of the Starr and Argentine plants, while the Wilco-I had a larger radial spread of the pegs (plate 4, 12). The pegs began to reach the soil surface in about 18 days after the first bloom in all the plants (i.e. 53 days for Starr, 60 days for Argentine, and 62 days for Wilco-I after planting). Three to four pegs per node were found to be quite common in the case of Wilco-I, whereas predominantly two pegs per node were found in Starr, and one, two, or three pegs per node in Argentine. The highest number of pegs per node as was found in Wilco-I suggests the possibility of a higher yield over Starr and Argentine, in addition to their larger seed size. Wilco-I matures about ten days later than most Spanish varieties. On the contrary, they mature ten to fifteen days earlier than most early Virginia varieties. The maturity of Wilco-I as compared to most Spanish type is a simple plant physiological phenomena. Within the same type, whenever a plant matures later, they produce a better quality fruit which is evident in Wilco-I, because the pod and the seeds are bigger, disease resistant, and most of all, the pods are uniform in size when they are physiologically of the same age. Therefore, Wilco-I can be considered as the late variety of the Spanish.

The shape of the pods of Wilco-I is definitely of the Spanish type. The beak (if there is one present) is small with moderate to pronounced constrictions (plate 13, 14, 15). The shells are thin (plate 20).

The shape of Wilco-I seeds are spherical to round with a smooth seed coat, which is a specific Spanish peanut characteristic (plate 16, 17, 18, 19). Seeds are definitely not elongated, nor pointed, as can be found in the Virginia type. The size of the seeds are bigger than the most commonly grown Spanish type (plate 18). The large seed size is definitely an improvement in breeding for a better variety within the Spanish type. The seed coat color of Wilco-I is a little pinkish as compared to most Spanish. This pinkish color is a much lighter than that of the Virginia type peanut. The intermediate color of Wilco-I resembles more closely the Spanish type than it does to the Virginia type.

SUMMARY

Golding-I 10/20/72

A study was conducted on Wilco-I peanut plants here at St. Mary's University to determine whether they were a Spanish type on the basis of their botanical characteristics. Field observations were also done and the following observations were recorded:

1) Plant Growth Habits: The Wilco-I had "semi-erect" growth habits, which is between the Spanish (erect) and Virginia (runner or prostrate) type. This semi-erect type of growth appeared to be one of the factors that causes Wilco-I to be a high-yielding variety. The branches of Wilco-I were found more or less the same length as the main stem. The type of branching did not resemble any of the southern runner type of peanut plants because the plant spread was much less and the growth pattern different.

2) Root Growth: The tap root system of Wilco-I was found bigger than other Spanish varieties under the investigation (Starr and Argentine) which could be one of the reasons why Wilco-I is a healthier plant.

3) Leaves: The leaf lamina of Wilco-I was found thicker than other Spanish varieties because they had thicker palisade tissues which contained more chlorophylls. The thick palisade tissue may be the reason why Wilco-I is somewhat resistant to Cercospora leaf spot disease as compared to other Spanish varieties. It was evident that, physiologically, Wilco-I grew much healthier plants than the other Spanish types because Wilco-I were more adaptive to the existing climatic, as well as edaphic, factors. This physiological condition could be an improvement in breeding.

4) Flowering: The Spanish type peanuts have the reproductive branches arising from the main axis, whereas the Virginia types do not (all vegetative). The lateral branches of Virginia type are vegetative at the first node and mostly vegetative at the second node. In case of Wilco-I, many plants were found with reproductive branches on the main stem and others not. Furthermore, the first few nodes at the base of the lateral branches growing on the cotyledonary laterals were reproductive, a characteristic of the typical Spanish type.

5) Gynophores (pegs): Wilco-I had mostly three to four pegs per node, whereas other Spanish varieties had one, two, or three pegs per node. The more number of pegs per node suggests that it can be a high-yielding variety, which was evident by the number of pods per plant.

6) Maturity: Wilco-I matured in about 135 days, which was about ten days later than most Spanish varieties, but ten to fifteen days earlier than most early Virginia varieties.

7) Pods: The pods of Wilco-I had a small or no beak with moderate to pronounced constrictions. The shape of the pod was found to be a typical Spanish type. The pods are clustered around the crown of the plant which can be seen in Spanish types. In Virginia types, the pods will be scattered farther from the crown. Wilco-I had two seeds per pod mostly. The shells were thin.

8) Seeds: The shape of Wilco-I seeds were spherical to round with a smooth seed coat. This is also a definite characteristic of the Spanish type. However, the size of the seeds were bigger than most Spanish types, thus Wilco-I can be considered as the giant Spanish type. The seed coat color of Wilco-I was a bit pinkish. This pinkish color was found much closer resembling the flesh or pink seed coat color of the Spanish type than the dark pink color of the Virginia type.

Conclusions: Similarities in the shape of the peanut pods, seeds, plant growth habits, and flowering characteristics are the important points to be considered in classifying a new plant under different types like Spanish or Virginia. The size of the pods, seeds, and plants cannot be the major factor because within the same type varietal variation does occur due to the segregation and recombination of chromosomes during the time of breeding. Plants which are disease resistant, healthier, high yielding, bigger pod and seed size, within the same type are indications of improvement in plant breeding for new varieties.

The botanical characteristics like the shape of the pod, seed, clustered arrangement of pods around the base of the main stem, and the flowering habits of Wilco-I suggest that it is definitely a Spanish type. Therefore, from this investigation it was proposed that Wilco-I is a giant, late maturing, high yielding, disease resistant Spanish type peanuts.

LITERATURE CITATION

1. Jasper G. Woodroof, 1966. Peanut Production, Processing, Products. The Avi Publishing Company, Inc., Printed by Mack Printing Company.

2. Hemingway, J.S., 1957. The Resistance of Groundnuts to Cercospora Leaf Spots. Empire. J. Exp. Agr. 25:60-68.

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'Goldin I'
Peanut

7135

Exhibit D:

'Goldin I' most closely resembles the spanish variety 'Starr' except 'Goldin I' has a semi-erect growth habit (vs. erect), leaves are thicker and darker green, with thicker palisade tissue and more chlorophyll, has more pegs per node (3.4 vs. 1, 2, 3), matures 10 days later, is more resistant to cercospora leaf spot, has larger and heavier seeds (length 14 vs. 12 mm., diameter 11 vs. 9 mm., dry wt. 0.82 vs. 0.63 gms), and larger and heavier pods (length 31 vs. 27 mm, diamter 14 vs. 12 mm, and dry wt 1.92 vs. 1.52 gms) in comparison with 'Starr.'

E. H. Wardlaw Jr

EXHIBIT E

Applicant is the owner of the variety by virtue of being the actual breeder.

7135

WILCO PEANUT CO.

- *Certified* Spanish Peanuts
- *Certified* Virginia Peanuts

Peanut Seeds

June 9, 1975

W. C
P. O
San .
Telep

C. H.
Cente
P. O.
San A
Telep

IN 4 TESTS IN 1972
(BY TEXAS AGRICULTURAL EXPERIMENT STATION)
STARR & GOLDIN I
WERE GROWN UNDER SIMILAR CONDITIONS.

RESULTS AS FOLLOWS:

LOCATION	DAYS TO MATURITY	
	STARR	GOLDIN I
Stephenville (1)	126	158
Stephenville (2)	130	137
Eastland	121	136
Mason	120	141

SOUTHWEST'S EXCLUSIVE PEANUT SEED PLA

THE WILCO PEANUT CO. WARRANTS TO THE EXTENT OF THE PURCHASE PRICE THAT SEEDS SOLD ARE AS DESCRIBED ON THE CO
TAINER, WITHIN RECOGNIZED TOLERANCES. SELLER GIVES NO OTHER OR FURTHER WARRANTY, EXPRESS OR IMPLIED.

® REGISTERED WILSON COUNTY PEANUT CO. - 1960

Summary table on the test for significance of means from Goldin I and Starr peanuts.

	F-Ratio	Standard Error		Standard Error of Difference	t-Value
		Goldin I	Starr		
1. Dry weight of pods	40.63**	0.04	0.05	0.062	6.365**
2. Length of pods	6.672*	1.23	0.81	1.548	2.584*
3. Diameter of pods	6.207*	0.55	0.53	0.803	2.491*
4. Dry weight of seeds	18.600**	0.02	0.03	0.044	4.320**
5. Length of seeds	10.588**	0.47	0.35	0.615	3.254**
6. Diameter of seeds	13.953**	0.36	0.36	0.535	3.735**

* significance at 1% level

** significance at 99% level

WARF INSTITUTE, INC.

MADISON, WISCONSIN

Reports are submitted to clients on a confidential basis. No reference to the work, the results or to the Institute in c
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REPORT

7/35

PEANUTS GOLDIN I VS STARR

# of observations	Goldin I	Diam of pods	Length of pods	Diameter of pods	Diam seeds	Length seeds	Diameter seeds
1	1	1.98	30.00	12.00	0.91	16.00	13.00
2	1	1.67	26.00	13.00	0.76	12.00	10.00
3	1	1.83	28.00	12.00	0.87	15.00	10.00
4	1	1.95	29.00	14.00	0.85	12.00	12.00
5	1	1.98	33.00	13.00	0.66	12.00	11.00
6	1	1.88	30.00	15.00	0.92	16.00	11.00
7	1	2.03	38.00	17.00	0.79	14.00	10.00
8	1	1.85	28.00	13.00	0.84	15.00	13.00
9	1	1.93	31.00	14.00	0.85	14.00	11.00
10	1	2.11	38.00	17.00	0.77	14.00	10.00
	MEANS=	1.92	31.10	14.00	0.82	14.00	11.10
STANDARD DEVIATION=		0.12	3.88	1.73	0.07	1.48	1.14
STANDARD ERROR=		0.04	1.23	0.55	0.02	0.47	0.36

PEANUTS GOLDIN I VS STARR

8)

NC.

FORM 2-4

7135

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MADISON, WISCONSIN

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REPORT

Analysis for Fatty acid profile

Description of Sample Shelled Peanuts

Date Received 1-20-75 **Control Number**

Submitted by C.H. Warnken
Wilco Peanut Company
San Antonio, Texas

Results

Fatty Acids	Percent (by wt.) on sample basis
16	4.56
16:1	0.01
17	0.03
18	0.94
18:1	17.0
18:2	14.5
20	0.43
20:1	0.46
22	1.14

Method A.O.C.S. Ce 1-62, 1970

Remarks Oleic acid, linoleic acid ratio equals 1.17

Signed David J. Cullen

by and for the WARF INSTITUTE, INC.

Date February 6, 1975

WARF Institute No. 5012186

FORM 2-4

7/35

WARF INSTITUTE, INC.

MADISON, WISCONSIN

Reports are submitted to clients on a confidential basis. No reference to the work, the results or to the Institute in c
of advertising, news release or other public announcement may be made without written authorization from the

REPORT

Analysis for: Niacin and tryptophan

Description of Sample: Shelled Peanuts

Date Received: 1-20-75 Control Number

Submitted by: C.H. Warnken
Wilco Peanut Company
San antonio, Texas

Claimed Content

Results

Niacin	16.2 mg/100 gm
Tryptophan	294 mg/100 gm or 4.9 mg of niacin from tryptophan/100 gm*

Method

Niacin:	A.O.A.C., 787 (1970) 11th Ed.
Tryptophan:	Henderson and Snell, J.B.C., 172, 15 (1948)

Remarks *Assuming 60 mg of tryptophan equals 1 mg of niacin

Signed

by and for the WARF INSTITUTE, INC.

Date February 6, 1975

WARF Institute No. 5012186

FORM 2-4

PEANUTS GOLDIN I VS STARR

# of observations	Goldin I	Diam of pods	Length of pods	Diameter of pods	Diam seeds	Length seeds	Diameter seeds
1	1	1.98	30.00	12.00	0.91	16.00	13.00
2	1	1.67	26.00	13.00	0.76	12.00	10.00
3	1	1.83	28.00	12.00	0.87	15.00	10.00
4	1	1.95	29.00	14.00	0.85	12.00	12.00
5	1	1.98	33.00	13.00	0.66	12.00	11.00
6	1	1.88	30.00	15.00	0.92	16.00	11.00
7	1	2.03	38.00	17.00	0.79	14.00	10.00
8	1	1.85	28.00	13.00	0.84	15.00	13.00
9	1	1.93	31.00	14.00	0.85	14.00	11.00
10	1	2.11	38.00	17.00	0.77	14.00	10.00
	MEANS=	1.92	31.10	14.00	0.82	14.00	11.10
STANDARD DEVIATION=		0.12	3.88	1.73	0.07	1.48	1.14
STANDARD ERROR=		0.04	1.23	0.55	0.02	0.47	0.36

PEANUTS GOLDIN I VS STARR

PEANUTS GOLDIN I VS STARR

1	2	1.62	29.00	14.00	0.78	14.00	11.00
2	2	1.34	26.00	10.00	0.63	12.00	10.00
3	2	1.46	28.00	11.00	0.53	11.00	8.00
4	2	1.39	26.00	10.00	0.49	11.00	8.00
5	2	1.65	29.00	11.00	0.48	12.00	9.00
6	2	1.45	24.00	12.00	0.74	14.00	11.00
7	2	1.63	30.00	14.00	0.73	12.00	8.00
8	2	1.34	25.00	12.00	0.73	12.00	9.00
9	2	1.56	23.00	11.00	0.54	11.00	9.00
10	2	1.81	31.00	15.00	0.68	11.00	8.00
	MEANS=	1.52	27.10	12.00	0.63	12.00	9.10
	STANDARD DEVIATION=	0.15	2.55	1.67	0.11	1.10	1.14
	STANDARD ERROR=	0.05	0.81	0.53	0.03	0.35	0.36

PEANUTS GOLDIN I VS STARR