No. 9300010

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Terral-Norris Seed Co., Inc.

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 MULTIPLYING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PERMITTED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Terra-Vig 5555'

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, DC this twenty-eighth day of April in the year of our Lord one thousand nine hundred and ninety five.

Attest:

Kenneth R. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Dan Glickman
Secretary of Agriculture

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 Office, OIRM, Room 404-W, Washington, D.C. 20250; and to the Office of Management and Budget, Paperwork Reduction Project (OMB #0581-0055), Washington, 20250. FORM APPROVED: OMB 0581-0055, Expires 1/31/91

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

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) *(as it is to appear on the Certificate)*: Terral -- Norris Seed Co., Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.: TVX - 5653

3. VARIETY NAME: Terra-Vig 5555 ~~Terra Vig - 5555~~ 2 May 1995

4. ADDRESS *(street and no. or R.F.D. no., city, state, and ZIP)*: 604 Ninth Street, Lake Providence, LA 71254

5. PHONE *(Include area code)*:

FOR OFFICIAL USE ONLY

PVPO NUMBER: 9300010

FILING — Date: October 20, 1992; Time: 9:00 ☑ A.M. ☐ P.M.

FEES RECEIVED — Filing and Examination Fee: $ 2150.00; Date: October 19, 1992; Certificate Fee: $ 300.00; Date: April 11, 1995

6. GENUS AND SPECIES NAME: Glycine max

7. FAMILY NAME *(Botanical)*: Leguminosae

8. CROP KIND NAME *(Common Name)*: Soybean

9. DATE OF DETERMINATION: 1988

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*: Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION: Louisiana

12. DATE OF INCORPORATION:

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS

Thomas F. Terral
P.O. Box 826
Lake Providence, LA 71254

PHONE *(Include area code)*:

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*

- a. [X] Exhibit A, Origin and Breeding History of the Variety
- b. [X] Exhibit B, Novelty Statement.
- c. [X] Exhibit C, Objective Description of Variety
- d. [X] Exhibit D, Additional Description of Variety.
- e. [X] Exhibit E, Statement of the Basis of Applicant's Ownership.
- f. [X] Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office 10/14/92.
- g. [X] Filing and Examination Fee ($2,150) made payable to "Treasurer of the United States."

15. 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) of the Plant Variety Protection Act.)* ☐ YES *(If "YES," answer items 16 and 17 below)* ☒ NO *(If "NO," skip to item 18 below)*

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☐ NO

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ YES *(If "YES," through* ☐ Plant Variety Protection Act ☐ Patent Act. Give date: _____ .)
☒ NO

19. HAS THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?

☐ YES (If "YES," give names of countries and dates)
☒ NO

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) 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(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE
Thomas F. Terral	President	10/14/92
SIGNATURE OF APPLICANT *(Owner(s))*	CAPACITY OR TITLE	DATE

EXHIBIT A

Terral-Norris Seed Company's Application for Terra-Vig 5555

ORIGIN AND BREEDING HISTORY:

1985	-	Cross number 86014 made between A5980 and DP415.
Summer 1986	-	Grew F_1 plants in field.
Winter 1986-87	-	F_2 advanced to F_4 by single seed descent.
Summer 1987	-	Pulled F_4 plants and threshed them individually.
Summer 1988	-	Grew F_5 plant row and composited seed from Row #88-20300 which was determined to be stable and breeding true for important characteristics.
Summer 1989	-	Yield tested in Preliminary Yield Tests.
Summer 1990-91	-	Tested in Advanced Tests at several locations and entered in state tests as TVX 5653.
Summer 1992	-	Released and named as Terra-Vig 5555.

EXHIBIT B

NOVELTY STATEMENT:

To our knowledge, Terra Vig 5555 most resembles A5980 and P9592. Differences include but are not necessarily restricted to the following:

1) Terra-Vig 5555 is resistant to stem canker and frogeye leaf spot where as A5980 is susceptible.

2) Terra-Vig 5555 is resistant to Races 3, 9 and 14 of soybean cyst nematode and Pioneer 9592 is susceptible.

3) Terra-Vig 5555 has purple flowers, whereas P9592 has white flowers.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.*)*

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Terral Norris Seed Co., Inc.	TVX 5653	Terra-Vig 5555

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*

604 Ninth Street
Lake Providence, LA 71254

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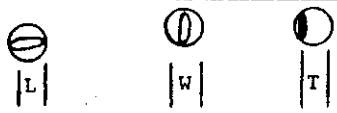
PVPO NUMBER 9300010

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

[2]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ **2. SEED COAT COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[2] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ **4. SEED SIZE: (Mature Seed)**

[1][4] Grams per 100 seeds

★ **5. HILUM COLOR: (Mature Seed)**

[6] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

★ **6. COTYLEDON COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green

★ **7. SEED PROTEIN PEROXIDASE ACTIVITY:**

[2] 1 = Low 2 = High

★ **8. SEED PROTEIN ELECTROPHORETIC BAND:**

[ ] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

★ **9. HYPOCOTYL COLOR:**

[3] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ **10. LEAFLET SHAPE:**

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17') 3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton') 3 = Dark Green ('Gnome'; 'Tracy')

★ **13. FLOWER COLOR:**

[2] 1 = White 2 = Purple 3 = White with purple throat

★ **14. POD COLOR:**

[1] 1 = Tan 2 = Brown 3 = Black

★ **15. PLANT PUBESCENCE COLOR:**

[2] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[2] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton') 3 = Bushy ('Gnome'; 'Govan')

★ **17. PLANT HABIT:**

[1] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will') 3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ **18. MATURITY GROUP:**

[0][8] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V 9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

★ **19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)**

BACTERIAL DISEASES:

★ [2] Bacterial Pustule *(Xanthomonas phaseoli* var. *sojensis)*

★ [0] Bacterial Blight *(Pseudomonas glycinea)*

★ [2] Wildfire *(Pseudomonas tabaci)*

FUNGAL DISEASES:

★ [0] Brown Spot *(Septoria glycines)*

Frogeye Leaf Spot *(Cercospora sojina)*

★ [ ] Race 1 [ ] Race 2 [ ] Race 3 [ ] Race 4 [ ] Race 5 [2] Other *(Specify)* races unknown

[0] Target Spot *(Corynespora cassiicola)*

[0] Downy Mildew *(Peronospora trifoliorum* var. *manshurica)*

[0] Powdery Mildew *(Microsphaera diffusa)*

★ [0] Brown Stem Rot *(Cephalosporium gregatum)*

[2] Stem Canker *(Diaporthe phaseolorum* var. *caulivora)*

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

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FUNGAL DISEASES: (Continued)

★ [0] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[0] Purple Seed Stain *(Cercospora kikuchii)*

[0] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

★ [1] Race 1 [0] Race 2 [0] Race 3 [0] Race 4 [0] Race 5 [0] Race 6 [0] Race 7

[0] Race 8 [0] Race 9 [2] Other *(Specify)* Shows good general resistance to unspecified races

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[ ] Yellow Mosaic (Bean Yellow Mosaic Virus)

★ [ ] Cowpea Mosaic (Cowpea Chlorotic Virus)

[ ] Pod Mottle (Bean Pod Mottle Virus)

★ [ ] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

★ [1] Race 1 [0] Race 2 [2] Race 3 [0] Race 4 [2] Other *(Specify)* Races 9 and 14

[0] Lance Nematode *(Hoplolaimus Colombus)*

★ [1] Southern Root Knot Nematode *(Meloidogyne incognita)*

★ [0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[1] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[ ] OTHER DISEASE NOT ON FORM *(Specify)*: _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

★ [0] Iron Chlorosis on Calcareous Soil

[0] Other *(Specify)* _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[1] Mexican Bean Beetle *(Epilachna varivestis)*

[2] Potato Leaf Hopper *(Empoasca fabae)*

[0] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	A5980	Seed Coat Luster	A5980
Leaf Shape	A5980	Seed Size	A5980
Leaf Color	A5980	Seed Shape	A5980
Leaf Size	A5980	Seedling Pigmentation	A5980
	A		

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

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VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
Terravig-5653 Submitted	130	2.1	86	–	–	–	–	14	–
P9592 Name of Similar Variety	132	1.8	84	–	–	–	–	16	–

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

EXHIBIT D

ADDITIONAL DESCRIPTION OF VARIETY:

Terra-Vig 5555 is an F_4 selection from the cross of DP415 * A5980. It is classified as late group V maturing 2 days earlier than P9592. It has purple flowers, tawny pubescence and tan pods. Seeds are shiny yellow with black hila. Plants are relatively tall and show good adaptability to clay soils of the Mississippi delta. Terra-Vig 5555 is resistant to stem canker, frogeye leaf spot and races 3, 9 and 14 of soybean cyst nematode. It shows field resistance to phytophthora root rot, but is susceptible to root knot nematode.

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Terral-Norris
SEED COMPANY, INC.
Telephone (318) 559-2840 · Post Office Box 826 · Lake Providence, LA 71254

John C. Terral
Thomas F. Terral

Feb. 4, 1995

Mr Jeffery L. Strachan, Examiner
Plant Variety Protection Office
NAL Building, Room 500
10301 Baltimore Blvd.
Beltsville, MD 20705-2351

Dear Mr. Strachan:

SUBJECT: Plant Variety Protection Application No.9300010, Terra Vig 5555

You requested three pieces of information all concerning the purity of the variety in question. I will answer each after stating the question.

1) **lists the frequency of any variants - if none have been observed then that should be so stated;**

"Answer" Terra Vig 5555, in the summer of 1988, was observed to be stable and breeding true for important characteristics. It was observed during testing in 1989, 1990-91 as being stable and breeding true, however upon increase in 1992, some grey pubescence, purple and white flowered plants were noted in the breeder seed increase field at a frequency of 6.5/1000 plants. These offtypes were rogued out of a 3 acre block for breeder seed during bloom and in the fall prior to harvest. Also 300 single plants were pulled and thrashed for planting in the spring of 1993 in case roguing alone did not remove the offtypes observed or outcrossing had taken place.

2) **explain the observations which have led to the conclusion that the variety is stable from generation to generation: and**

3) **explains that any offtypes(if any have ever been present) have been removed-if none have been observed then that should be so stated.**

"Answer" There were 264 single plant rows planted in 1993 nested inside the increase of the rogued breeders seed of Terra Vig 5555. No progeny rows were found to have white flowers but one row did segregate for grey pubescence. The segregating row and two on both sides were discarded.
The rogued breeder seed from 1993 did have a few gray pubescence, purple flowered plants (3/2000 plants) present and these were rogued out (assumed to have been missed while

roguing in 1992 or segregating from outcrosses.
In 1994 the plant rows were planted in 10 to 30 rows fifty foot long for plant row progeny populations for second year observations to observe for potential outcrossing. No offtypes were observed and the breeder seed was bulked from these progeny rows. The variety was stable and no offtypes were observed. The variety is stable and breeding true and the observed mixture from the fall of 1991 harvest has been removed from the breeder seed.
Planting seed for 1995 will come from the rogued seed saved from the breeder seed increase of 1994 and the breeder seed increase from plant row progenies. All seed stock for 1996 plantings will come from the bulk of the progeny row Breeder seed. This will assure pure seed of the variety.

IN SUMMARY: 1988,89,90,91 Observed to be stable and breeding true

1992 observed offtypes and rogued, selected 300 single plants for progeny row purification.

1993 observed less offtypes and removed them from the bulk population. Also grew out 1st generation of single plant progenies and removed only 1 row for genetic purity problems. Harvested progeny row populations separately.

1994 Grew out bulk increase and rogued it.
Grew out single plant populations from each plant row increase in 1993, found no segregation or offtypes and bulked pure breeder seed for 1995 breeder seed increase.

Breeder seed is stable, breeding true and pure for two generations.

Mr Strachan, I apologize for being so slow in replying and I hope I have adequately answered all your questions.

Sincerely,

James Thomas

James Thomas
Director of Plant Operations
Terral-Norris Seed Co., Inc.

cc. Thomas Terral

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EXHIBIT E

STATEMENT OF APPLICANTS OWNERSHIP:

Although Terral-Norris Seed Company did not develop 'Terra-Vig 5555 soybean, the original breeder would have been eligible to apply and receive protection. Terral-Norris Seed Company is therefore eligible to apply and receive protection on 'Terra-Vig 5555' through our purchase of this variety from the original breeder.