No. 7200016

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Delta and Pine Land 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 (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

'Deltapine 25'

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* 24th *day of* January *in the year of our Lord one thousand nine hundred and* seventy-four

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

FORM GR-470
(2-12-71)

Adm. in dl. 1. Signature app # 72016 10.15.71

UNITED STATES DEPARTMENT OF AGRICULTURE
CONSUMER AND 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 Deltapine 25	2. KIND NAME Cotton	FOR OFFICIAL USE ONLY PVPO NUMBER 72016	
3. GENUS AND SPECIES NAME Gossypium hirsutum	4. FAMILY NAME *(Botanical)* Malvaceae	FILING DATE 7·30·71	TIME 11:00 A.M. ~~P.M.~~
	5. DATE OF DETERMINATION October, 1965	FEE RECEIVED $ 750	CHARGES —
6. NAME OF APPLICANT(S) Delta & Pine Land Company	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* Scott, Mississippi 38772		8. TELEPHONE AREA CODE AND NUMBER (601) 742-3351
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION Mississippi		11. DATE OF INCORPORATION April 29, 1886

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

Research Department
Delta & Pine Land Company
Scott, Mississippi 38772

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

[X] 12A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52, P.L. 91-577)*

[X] 12B. Exhibit B, Botanical Description of the Variety

[ ] 12C. Exhibit C, Objective Description of the Variety

[X] 12D. Exhibit D, Data Indicative of Novelty

[X] 12E. Exhibit E, Statement of the Basis of Applicant's Ownership

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. *(See Section 52, P.L. 91-577).*

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), P.L. 91-577) (If "Yes," answer 14B and 14C below.)* [ ] YES [X] 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? Three

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

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 (P.L. 91-577).

Delta & Pine Land Company of Miss.

July 27, 1971
(DATE)

By Early C Ewing Jr.
(SIGNATURE OF APPLICANT) Vice President

July 27, 1971
(DATE)

Minor S Gray
(SIGNATURE OF APPLICANT) President

Note: Same date as original copy

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and $50.00 fee to U.S. Dept. of Agriculture, Consumer and Marketing Service, Grain Division, Hyattsville, Maryland 20782. Retain one copy for your files. All items on the face of the form are self-explanatory unles noted below.

ITEM

5 Insert the date the applicant determined that he had a new variety.

12a 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.

12b 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.

12c A supplemental form will be furnished by the PVPO to describe in detail a variety for each kind of seed.

12d Provide complete data indicative of novelty. Seed and plant specimens may be submitted and seeds submitted may be sterile. Where possible, include photographs of plant comparisons, chemical tests, etc.

12e Indicate whether applicant is the actual breeder, the employer of the breeder, the owner through purchase or inheritance, etc.

5-20

Exhibit A of Delta & Pine Land Company's Application for Deltapine 25

Origin and Breeding History

Deltapine 25 originated from a progeny selection program in the F_2 population arising from the 1962 cross Fox 4205 x Stoneville 7A. For 4205 was a selection of the Fox variety released as Deltapine 45. Stoneville 7A is a commercial variety released by Stoneville Pedigreed Seed Company, Stoneville, Mississippi. Progenies were reselected in 1963, 1964, 1965. The final selections were made in October 1965. Six of these selections 6225-347-42-51, 53,55, 57, 45-53 and 46-56 were tested separately in 1969 did not differ markedly and were combined to begin the increase of this variety hereinafter tested under the designation Deltapine 6225.

This variety has been carefully selected over a number of generations as explained in the first of this section of that the characters described in "Exhibit D" are demonstratively repeated in each generation within the variations caused by environmental differences. In order to assure this stability plants of this variety are reselected at frequent intervals, grown in progeny rows, checked in progeny tests and variety reconstituted by bulking lines which are characteristic of the variety.

Exhibit B of Delta & Pine Land Company's Application for Deltapine 25

Botanical Description

This is a variety of upland cotton *Gossypium hirsutum*. It has an erect, many branched stem, a vigorous root system, medium sized, medium green colored, moderately hirsute leaves, flower corrollas and anthers are cream colored, bolls obovate and opening fully, linters are gray and seed are dark brown.

FORM APPROVED. OMB NO. 40-R3712

EXHIBIT C
(Cotton)

FORM GR-470-8
(10-2-72)

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

OBJECTIVE DESCRIPTION OF VARIETY
COTTON (*GOSSYPIUM SPP.*)

INSTRUCTIONS: See Reverse.

FOR OFFICIAL USE ONLY

PVPO NUMBER: 72016

VARIETY NAME OR TEMPORARY DESIGNATION: Deltapine 25

NAME OF APPLICANT(S): DELTA & PINE LAND COMPANY OF MISSISSIPPI

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code): SCOTT, MISSISSIPPI 38772

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. SPECIES:

[1] 1 = GOSSYPIUM HIRSUTUM 2 = GOSSYPIUM BARBADENSE

2. AREA(S) OF ADAPTION (0 = Not Tested, 1 = Not Adapted, 2 = Adapted):

[2] EASTERN [2] DELTA [2] CENTRAL [1] HIGH PLAINS [0] EL PASO AREA

[2] WESTERN LOW HOT VALLEYS [2] SAN JOAQUIN [ ] OTHER (*Specify*) ____

3. MATURITY (50% Open Boll):

[ ][ ] NO. OF DAYS *EARLIER* THAN ..... [ ]
[ ][7] NO. OF DAYS *LATER* THAN ..... [2]

1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213
4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1
7 = LANKART 57 8 = OTHER (*Specify*) ____

4. PLANT HABIT:

[2] 1 = SPREADING 2 = INTERMEDIATE 3 = COMPACT

[1] 1 = FOLIAGE SPARSE 2 = DENSE 3 = OTHER (*Specify*) ____

5. PLANT HEIGHT:

[ ][ ] CM. *SHORTER* THAN ..... [ ]
[ ][5] CM. *TALLER* THAN ..... [2]

1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213
4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1
7 = LANKART 57 8 = OTHER (*Specify*) ____

6. MAIN STEM:

[3] 1 = LAX 2 = ASCENDING 3 = ERECT

[6] CM. TO FIRST FRUITING BRANCH

[ ][7] NO. OF NODES TO FIRST FRUITING BRANC (*from cotyledonary node*)

7. LEAF:

[1][2] CM. WIDTH OF WIDEST LEAVES AT MATURITY

8. LEAF PUBESCENSE:

[3] 1 = GLABROUS (HAIRS AS SPARSE AS D_2 SMOOTH)
2 = SMOOTH LEAF (DELTAPINE SMOOTH LEAF) 3 = PUBESCENT (STONEVILLE 213)
4 = HEAVY PUBESCENCE (H_1 OR H_2) 5 = OTHER (*Specify*) ____

9. LEAF COLOR:

[2] 1 = VIRESCENT YELLOW 2 = LIGHT GREEN 3 = DARK GREEN (*Acala-442*) 4 = RED
5 = OTHER (*Specify*) ____

10. LEAF TYPE:

[1] 1 = NORMAL 2 = OKRA 3 = SUPER OKRA 4 = OTHER (*Specify*) ____

11. FLOWER:

[2] 1 = NECTARILESS 2 = NECTARIED

[1] Petals: 1 = CREAM 2 = YELLOW [1] Pollen: 1 = CREAM 2 = YELLOW

12. FRUITING BRANCH TYPE:

[3] 1 = CLUSTER 2 = SHORT 3 = NORMAL [2] 1 = DETERMINATE 2 = INDETERMINATE

13. GOSSYPOL CONDITION:

[3] 1 = GLANDLESS 2 = REDUCED GLANDS 3 = NORMAL GLANDS
4 = OTHER (*Specify*) ____

[1] 1 = NORMAL BUD GOSSYPOL
2 = HIGH BUD GOSSYPOL

14. SEEDS:

[ ][ ][10] ± [ ][2] SEED INDEX (*Fuzzy seed basis*)

[2] Seed Fuzz: 1 = SPARSE (GREGG 35) 2 = MODERATE (DPL-16) 3 = HEAVY (ACALA SJ-1) 4 = OTHER (*Specify*) ____

4

15. BOLLS:

[2] Locules: 1 = 3-4, 2 = 4-5

[32] NO. SEEDS PER BOLL

[40.0] LINT PERCENT

[40] MM. DIAMETER

[2] Pitted: 1 = NONE, 2 = FINELY, 3 = COURSELY

[55.0] GRAMS SEED COTTON PER BOLL

[2] Breadth: 1 = BROADER AT BASE, 2 = BROADER AT MIDDLE

[3] Type: 1 = STORMPROOF (WESTBURN 70), 2 = STORM RESISTANT (LANKART 57), 3 = OPEN (DELTAPINE 16)

[3] Shape: 1 = LENGTH < WIDTH, 2 = LENGTH = WIDTH, 3 = LENGTH > WIDTH

16. BRACTEOLES:

[1] Breadth: 1 = LENGTH < WIDTH 2 = LENGTH = WIDTH 3 = LENGTH > WIDTH

[2] Teeth: 1 = FINE 2 = COURSE

[2] Teeth: 1 = 3-4 2 = 5-7 3 = 8-10 4 = OTHER *(Specify)* _____

17. YIELD: Compared to—

[ ] PERCENT *LESS* THAN . . . . . .

[50] PERCENT *MORE* THAN . . . . . .

[ ] [2] 1 = COKER 310 2 = DELTAPINE 16 3 = STONEVILLE 213 4 = PAYMASTER 111 5 = ACALA 1517-70 6 = ACALA SJ-1 7 = LANKART 57

18. FIBER LENGTH (Complete one or more of the following and give the means):

[050] SPAN LENGTH 50%

[113] SPAN LENGTH 2.5%

[ ] U.H.M. LENGTH

[ ] MEAN LENGTH

[35] STAPLE LENGTH 32nd INCHES

[ ] UNIFORMITY RATIO (MEAN/U.H.M.)

[44] UNIFORMITY INDEX (50% SPAN/2.5% SPAN)

19. FIBER STRENGTH AND ELONGATION:

[89] 1,000 P.S.I.

[58] ELONGATION E_1

[ ] STILOMETER T_0

[46] MICRONAIRE READING

[ ] YARN STRENGTH *(Give test method)* _____

[234] STILOMETER T_1

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

[2] VERTICILLIUM WILT

[2] FUSARIUM WILT

[2] ROOT KNOT NEMATODE

[0] BACTERIAL BLIGHT *(Race 1)*

[0] BACTERIAL BLIGHT *(Race 2)*

[0] ASCOCHYTA BLIGHT

[0] PHYMATOTRICHUM ROOT ROT

[6] RHIZOCTONIA

[0] ANTHRACNOSE

[0] RUST

[ ] OTHER *(Specify)* _____

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

[1] BOLL WEEVIL

[1] APHID

[1] FLEAHOPPER

[1] LEAFWORM

[1] FALL ARMYWORM

[0] GRASSHOPPER

[1] LYGUS

[1] PINK BOLLWORM

[0] STINKBUG

[1] THRIP

[1] CUTWORM

[1] SPIDERMITE

[ ] OTHER *(Specify)* _____

REFERENCES: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(1) Brown, Harry B., and J. O. Ware, 1958, Cotton, McGraw-Hill Book Company, Inc., New York.

(2) Lewis, C. F., and H. H. Ramey, Jr., 1971, 1970 Regional Cotton Variety Tests, ARS 34-130, United States Department of Agriculture.

COLORS: Nickerson's or any recognized color fan may be used to determine flower color of the described variety.

Exhibit D of Delta & Pine Land Company's Application for Deltapine 25

See letter 9/17/73 - most closely resembles DPL 16

Data Indicative of Novelty

This variety is novel as indicated by data from a number of replicated tests conducted by Delta & Pine Land Company and other agencies. These data indicated that this is a very high yielding variety exceeding Deltapine 16 and Stoneville 213 with which it is often compared by up to 15% of lint yield averaging an 8 - 10% advantage (Tables 1, 2, 3, 4, 5). Its lint percentage is 2 - 3% higher than either of these (Tables 1, 2, 3, 4, 5). Bolls and seed are slightly smaller than Deltapine 16 (Tables 2, 4).

Its fiber properties compare with those of Deltapine 16 as follows: (Tables 1, 2, 3, 4, 5)

Staple Length (Digital Fibrograph)	.02 inch less
Length Uniformity (Digital Fibrograph)	2% more
Classer's Staple	1/64 inch less
Tensile strength (Stelometer)	Slightly stronger
Micronaire	.2 higher

A spinning test (Table 6) compares Deltapine 25 (6225) with Deltapine 16 and bears out the slightly higher yarn strength as indicated by the fiber data.

Agronomically it has a stiffer stalk, more resistant to lodging and seed cotton holds in the open boll better than Deltapine 16 or its Deltapine 45 parent. It is tolerant of Verticillium wilt (Verticillium albo atrium) and resistant to Fusarium wilt (Fusarium vasinfectum). It is tolerant of Bacterial Blight (Xanthomonas malvaceaerum) (races not determined) and shows good seedling vigor. The leaves are moderately hairy grading 3 on Delta & Pine Land Company's scale from 2 hairy to 8 very smooth (Tables 1,5).

EXHIBIT E (Amendment)

DELTA & PINE LAND COMPANY'S APPLICATION FOR DELTAPINE 25 (72016)

Delta & Pine Land Company is the owner of plant variety protection rights to the variety Deltapine 25 (72016). The breeder is an employee of the company and has executed an assignment of Plant Variety Rights to the Company.

DATE: November 1, 1973

SIGNED: Early C. Ewing Jr.
Early C. Ewing, Jr.
Vice President