THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

D&PE Technology Holding Corporation

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 HEREBY 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 THEREOF 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 SUCCESSIONS, 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 PURPOSES, 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

'DP 20B'

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 fifteenth day of November, in the year two thousand two.

[Signature]

Commissioner

[Signature]

Secretary of Agriculture

[Signature]
APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)
   Delta and Pine Land Company d/b/a Deltapine Seed
   P.O. Box 157
   Scott, MS 38772

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NO.
   DPX 9621

3. VARIETY NAME
   DP 20B

4. ADDRESS (street and no. or R.F.D. no., city, state, ZIP, and country)
   100 MAIN STREET, SCOTT, MS 38772

5. PHONE (include area code)
   (601) 742-4133

6. FAX (include area code)
   (601) 742-3182

7. GENUS AND SPECIES NAME
   Gossypium hirsutum

8. FAMILY NAME (Botanical)
   Malvaceae

9. CROP KIND NAME (Common Name)
   Cotton

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
    Delaware

12. DATE OF INCORPORATION
    October 19, 1978

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS.
    Dr. Harry Collins
    P.O. Box 157
    Scott, MS 38772
    PHONE (include area code): (601) 742-4133
    FAX (include area code): (601) 742-3182

14. 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 the Variety
   d. ☑ Exhibit D. Additional Description of the Variety
   e. ☑ Exhibit E. Statement of the Basis of the Applicant’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 a public repository)
   g. ☑ Filing and Examination Fee as prescribed in 97.175 of the regulations, made payable to "Treasurer of the United States" (Mail to PVPO)

15. DOES THE APPLICANT 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 16 below)

16. DOES THE APPLICANT 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. HAS THE VARIETY OR A HYBRID PRODUCED FROM 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

U.S. - February, 1997

19. The applicant(s) 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 applicant(s) is (are) the owner(s) 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 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))

Director of Research-New Technologies

CAPACITY OR TITLE
DATE 3/25/97

NAME (Please Print or Type)
William V. Hugie

SIGNATURE OF APPLICANT (Owner(s))

Vice President/Director of Research

CAPACITY OR TITLE
DATE 3/25/97

NAME (Please Print or Type)
Harry B. Collins

CONTINUED ON REVERSE
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) at least 2,500 viable untreated seeds, 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 a public repository prior to issuance of a certificate; (4) check drawn on a U.S. bank, payable to "Treasurer of the United States" in the amount specified for filing and examination. (See Section 97.175 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 30 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Blvd., 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 specified in 97.175 for issuance of the Certificate.

Plant Variety Protection Office
Telephone: (301) 504-5518

ITEM

14a. 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.

14b. 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;
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

14c. Exhibit C forms are available from the PVPO for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

14d. Optional additional characters 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.

14e. Section 52(4) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. The applicant may be the actual breeder, the employee of the breeder, the owner through purchase or inheritance, etc.

15. 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 P.L. 103-349 for additional information.)

18. See section 41, 42, and 43 of the Act and section 97.175 of the regulations for eligibility requirements.

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 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 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 Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant should 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 time for reviewing instructions, searching existing data sources, assembling 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, OIRA, Room 404-W Administration Building, Washington, DC 20250; and to the Office of Management and Budget, Paperwork Reduction Project, Washington DC 20503, regarding OMB clearance.
ORIGIN AND BREEDING HISTORY

DP 20\textsuperscript{B} was developed by the backcross breeding method. The donor parent was a line with insertion 531 of construct PV-GHK06 containing a \textit{Bacillus thuringiensis} var. \textit{kurstaki} pesticide protein developed by the Monsanto Company. Seed of non-transgenic recurrent parent DP 20\textsuperscript{B} was provided to Monsanto under an agreement which stipulated that the Bt gene be introduced into this germplasm and the transgenic germplasm would be returned to Deltapine Seed. The F\textsubscript{1} cross was made in Monsanto's greenhouse in St. Louis, MO. The BC\textsubscript{1}, BC\textsubscript{2} and BC\textsubscript{3} crosses were made in Delta and Pine Land's greenhouse in Scott, MS. BC\textsubscript{3}F\textsubscript{1} plants were grown at Scott, MS. BC\textsubscript{3}F\textsubscript{2} plants were grown in Puerto Rico during the winter of 1994-95.

BC\textsubscript{3}F\textsubscript{1} progeny rows were grown at Scott, MS in the summer of 1995. Progeny rows were tested for trueness to type of the recurrent parent DP 20\textsuperscript{B}. Those true to type and also containing the "Bt Gene" in a homozygous form were bulked to form the variety DP 20\textsuperscript{B}. Seed was increased in South Africa during the winter of 1995-96.

DP 20\textsuperscript{B} was evaluated across the cotton belt in replicated research and ASTR (Agronomic Services Trials-Replicated) trials in 1996. Separate isolated increases of DP 20\textsuperscript{B} were grown in 1996.
DELTAPESEED'S APPLICATION FOR DP 20^B

STATEMENT OF UNIFORMITY AND STABILITY

DP 20^B has been observed over several generations and appears to be uniform and stable. Less than 2% of the plants do not contain the gene insertion 531 of construct PV-GHBK04 of Bacillus thuringiensis var. kurstaki pesticide which imparts resistance to several Lepidopteran insects.
EXHIBIT B
DELTAPINE SEED’S APPLICATION FOR DP 20®

NOVELTY STATEMENT

DP 20® most nearly resembles its recurrent parent DP20. The principle difference between DP 20® and DP20 is that DP 20® contains, in more than 98% of its plants, the gene of Insertion 531 of construct PV-GHBK04 containing a Bacillus thuringiensis var. kurstaki pesticide protein imparting resistance to Lepidopteran insects. Gin Turnout from ASTR trials is 1.0 units higher than DP20 and lint percent values from research plots is .5 units higher. Fiber length is .01 units longer and micronaire .1 unit lower than measurements from DP20. All other fiber properties, plant type and plant map data are similar.

The donor parent for DP 20® was Coker 312 with the following transgenic insertion.

phenotype: Lepidopteran insect resistance
constructs: PV-GHBK04

genotype:

- promoter: CMoV - A 0.6 Kb 35S promoter region of cauliflower mosaic virus
- gene: cryIA © - FL B.t.k. - a 3.6 Kb gene encoding the full length Bacillus thuringiensis insect control protein.
- 3’ non-translated region: E9 3’ - the 0.7 Kb 3’ non-translated region of the pea rbcS-E9 gene Agrobacterium tumefaciens T-DNA.

selectable marker:

- promoter 35S - A 0.35 Kb 35S promoter region of cauliflower mosaic virus.
- gene: Npt II - the 0.83 Kb neomycin phosphotransferase type II gene that confers kanamycin resistance.
- 3’ non-translated region: NOS 3’ - from the nopaline synthase gene of Agrobacterium tumefaciens T-DNA.
OBJECTIVE DESCRIPTION OF VARIETY
COTTON (Gossypium spp.)

NAME OF APPLICANT(S)
Delta and Pine Land Company d/b/a Deltapine Seed

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)
100 MAIN STREET, SCOTT, MS 38772

TEMPORARY DESIGNATION VARIETY NAME
DPX 9621 DP 20B

FOR OFFICIAL USE ONLY
IPPO NUMBER
9700253

Please enter the appropriate data that describes the varietal characteristic of this variety in the space provided. Characteristics described, including numerical measurements, should represent those that are typical for the variety. Royal Horticultural Society or any recognized color fan may be used to determine plant colors. Characters marked with an asterisk * indicate necessary characters to be measured.

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: Use standard regional check varieties which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

DP 20

SPECIES:

X  G. hirsutum L.  G. barbadense L.

AREA(S) OF ADAPTATION: (A = Adapted, NA = Not Adapted, NT = Not Tested)

A Eastern  A Delta  A Central  A Blacklands
NT Plains  NT Western  A Arizona  NT San Joaquin

Other (Specify)

GENERAL: Characteristics which are known to be variable but are still useful for a meaningful description of the variety.

<table>
<thead>
<tr>
<th>Plant Habit: Spreading, Intermediate, Compact</th>
<th>Application Variety</th>
<th>Comparison Variety 1</th>
<th>Comparison Variety 2</th>
<th>Comparison Variety 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>COMPACT</td>
<td>COMPACT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Foliage: Sparse, Intermediate, Dense       | INTERMEDIATE        | INTERMEDIATE         |                      |                      |

| Stem Lodging: Lodging, Intermediate, Erect | INTERMEDIATE        | INTERMEDIATE         |                      |                      |

| Fruiting Branch: Clustered, Short, Normal | NORMAL              | NORMAL               |                      |                      |

| Growth: Determinate, Intermediate, Indeterminate | INTERMEDIATE | INTERMEDIATE |                      |                      |

| Leaf Color: Greenish yellow, Light green, Dark green | LIGHT GREEN | LIGHT GREEN |                      |                      |
### GENERAL: (continued)

Boll Shape: Length less than width, Length equal to width, Length more than width
- more than width
- more than width

Boll Breadth: Broadest at base, Broadest at middle
- broadest at middle
- broadest at middle

### MATURITY: (50 % Open Bolls; Preferred Method; Describe Method If Different Method Was Used)

<table>
<thead>
<tr>
<th></th>
<th>Application Variety</th>
<th>Comparison Variety 1</th>
<th>Comparison Variety 2</th>
<th>Comparison Variety 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of 50 % open bolls</td>
<td>Sep-9</td>
<td>Sep-8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PLANT:

<table>
<thead>
<tr>
<th></th>
<th>Application Variety</th>
<th>Comparison Variety 1</th>
<th>Comparison Variety 2</th>
<th>Comparison Variety 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cm to 1st Fruiting Branch (from cotyledonary node)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of Nodes to 1st Fruiting Branch (excluding cotyledonary node)</td>
<td>4.8</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mature Plant Height cm (from cotyledonary node to terminal)</td>
<td>940</td>
<td>930</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### LEAF: Upper most, fully expanded leaf.

<table>
<thead>
<tr>
<th></th>
<th>Application Variety</th>
<th>Comparison Variety 1</th>
<th>Comparison Variety 2</th>
<th>Comparison Variety 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Normal, Sub Okra, Okra, Super Okra</td>
<td>Normal</td>
<td>Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pubescence: Absent, Sparse, Medium Dense OR Trichomes/sq. cm Bottom surface excluding veins</td>
<td>Sparse</td>
<td>Sparse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nectaries: Present or Absent</td>
<td>Present</td>
<td>Present</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### STEM PUBESCENCE: Glabrous, Intermediate, Hairy

<table>
<thead>
<tr>
<th></th>
<th>Application Variety</th>
<th>Comparison Variety 1</th>
<th>Comparison Variety 2</th>
<th>Comparison Variety 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### GLANDS: (Gossypol) Absent, Sparse, Normal, More Than Normal

<table>
<thead>
<tr>
<th></th>
<th>Application Variety</th>
<th>Comparison Variety 1</th>
<th>Comparison Variety 2</th>
<th>Comparison Variety 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaf: Normal</td>
<td>Normal</td>
<td>Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stem: Normal</td>
<td>Normal</td>
<td>Normal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calyx Lobe: (normal is absent)</td>
<td>Normal</td>
<td>Normal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### FLOWER:

<table>
<thead>
<tr>
<th></th>
<th>Application Variety</th>
<th>Comparison Variety 1</th>
<th>Comparison Variety 2</th>
<th>Comparison Variety 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petals: Cream, Yellow</td>
<td>Cream</td>
<td>Cream</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollen: Cream, Yellow</td>
<td>Cream</td>
<td>Cream</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petal Spot: Present, Absent</td>
<td>Absent</td>
<td>Absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seed Index (g/100 seed, fuzzy basis)</td>
<td>9.2</td>
<td>9.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lint Index (g lint/100 seeds)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**II. BOLL:**

| Lint Percent (X Picked __ Pulled) | 37.8 | 37.0 |  |  |
| Gin Turnout (X Picked __ Stripped) | 34.3 | 33.2 |  |  |
| Number of Seeds per Boll |  |  |  |  |
| Grams Seed Cotton per Boll |  |  |  |  |
| Number of Locules per Boll |  |  |  |  |
| Boll Type (Stormproof, Storm Resistant, Open) | Open | Open |  |  |

**III. FIBER PROPERTIES:**

Specify Method (HVI or other): HVI

| Length (inches, 2.5% SL) | 1.144 | 1.13 |  |  |
| Uniformity (%) | 83 | 83 |  |  |
| Strength, T1 (g/tex) | 29.2 | 29.0 |  |  |
| Elongation, E1 (%) | 6.5 | 6.4 |  |  |
| Micronaire | 4.2 | 4.3 |  |  |
| Fineness (Source__________) |  |  |  |  |
| Yarn Tenacity (cN/tex, 27 tex) |  |  |  |  |
| Yarn Strength (lbs. 22's) |  |  |  |  |

DISEASES: (NT = Not Tested, S = Susceptible, MS = Moderately Susceptible, MR = Moderately Resistant, R = Resistant)

- **NT** Alternaria macrospora
- **NT** Anthracose
- **NT** Ascochyta Blight
- **NT** Bacterial Blight (Race 1)
- **NT** Bacterial Blight (Race 2)
- **NT** Bacterial Blight (Race ____________)
- **NT** Diplodia Boll Rot

**NT** Fusarium Wilt
**NT** Phytophthora Root Rot
**NT** Pythium (specify species)
**NT** Rhizoctonia solani
**NT** Southwestern Cotton Rust
**NT** Thielaviopsis basicola
**NT** Verticillium Wilt
4. NEMATODES, INSECTS AND PESTS: (NT = Not Tested, S = Susceptible, MS = Moderately Susceptible, MR = Moderately Resistant, R = Resistant)

NT Root-Knot Nematode
NT Boll Weevil
R Bollworm
NT Cotton Aphid
NT Cotton Fleahopper
NT Cotton Leafworm
NT Cutworm (specify species)
NT Fall Armyworm
NT Other (specify)

NT Reniform Nematode
NT Grasshopper (specify species)
NT Lygus (specify species)
R Pink Bollworm
NT Spider Mite (specify species)
NT Stink Bug (specify species)
NT Thrips (specify species)
R Tobacco Budworm

COMMENTS: Present any additional information that cannot adequately be described in 1 through 13 which significantly distinguishes your variety.
DELTAPINE SEED'S APPLICATION FOR DP 20^B

EXPLANATION OF TRIALS

Replicated research trials—Replicated trials conducted by research. A variety or line was replicated 4 times within each trial. Individual plots consisted of 2 rows by 50 feet and were harvested by a modified research picker and weights recorded. Samples were taken from each plot, ginned and fiber tested using HVI. AGROBASE was used to analyze all data.

ASTR Trials—Agronomic Service Trials/Replicated are replicated strip trials conducted across the cotton belt by Deltapine Seed’s Agronomic Services. Lines and varieties were replicated 2 to 3 times within each trial. Individual plot size ranges form 4 to 8 rows between 400 to 1200 feet long. Plant map data is taken during the season and summarized using the University of California “Cotton Plant Mapper” program by Dick Plant and Tom Kerby. Plots were harvested with farmers machinery, weighed with modified boll bugies, and a 15 to 20 lb samples taken from each plot. Samples were ginned to get gin turnout and fiber samples were sent USDA Cotton Classing Office for fiber testing. Data analysis was performed using JUMP.
<table>
<thead>
<tr>
<th>Variety</th>
<th>Yield Lint #/A</th>
<th>Yield % of DP 20</th>
<th>Lint %</th>
<th>Str g/tex</th>
<th>Len</th>
<th>Mic</th>
<th>UR</th>
<th>E1</th>
</tr>
</thead>
<tbody>
<tr>
<td>DP 9621</td>
<td>1444</td>
<td>105</td>
<td>37.8</td>
<td>29.24</td>
<td>1.14</td>
<td>4.2</td>
<td>83.5</td>
<td>6.5</td>
</tr>
<tr>
<td>DP 20</td>
<td>1375</td>
<td>100</td>
<td>37.0</td>
<td>29.04</td>
<td>1.13</td>
<td>4.3</td>
<td>83.2</td>
<td>6.4</td>
</tr>
</tbody>
</table>

1 1996- (2)Scott, MS; Hartsville, SC; (2)Casa Grande, AZ; Wisner, La
Over 44 AST's in 1996 - Using SAS Least Square Means

<table>
<thead>
<tr>
<th>Variety</th>
<th>N</th>
<th>Lint (lbs/A)</th>
<th>Turnout %</th>
<th>Loan Value (cents/lb)</th>
<th>Crop Value ($/Acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LS Mean</td>
<td>Std Error</td>
<td>LS Mean</td>
<td>Std Error</td>
</tr>
<tr>
<td>DPX9621</td>
<td>29</td>
<td>979</td>
<td>25</td>
<td>34.31</td>
<td>0.24</td>
</tr>
<tr>
<td>DP20</td>
<td>59</td>
<td>929</td>
<td>16</td>
<td>33.24</td>
<td>0.17</td>
</tr>
<tr>
<td>Average</td>
<td>44</td>
<td>836</td>
<td>21</td>
<td>33.77</td>
<td>0.21</td>
</tr>
<tr>
<td>CV %</td>
<td></td>
<td>12.6</td>
<td>3.7</td>
<td>4.2</td>
<td>Calculated Value</td>
</tr>
</tbody>
</table>

Crop value calculated considering differences in premiums for fiber quality and grade using $0.70 per pound as an average.

Fiber Quality Summary - Across 44 AST/Rs Over All Regions*

<table>
<thead>
<tr>
<th>Variety</th>
<th>N</th>
<th>Staple</th>
<th>Strength</th>
<th>Micronaire</th>
<th>Leaf Grade</th>
<th>Color Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LS Mean</td>
<td>LS Mean</td>
<td>LS Mean</td>
<td>LS Mean</td>
<td>LS Mean</td>
</tr>
<tr>
<td>DPX9621</td>
<td>29</td>
<td>35.9</td>
<td>28.0</td>
<td>3.85</td>
<td>3.0</td>
<td>97.4</td>
</tr>
<tr>
<td>Deltapine 20</td>
<td>59</td>
<td>35.3</td>
<td>27.8</td>
<td>4.03</td>
<td>3.1</td>
<td>96.6</td>
</tr>
<tr>
<td>Average</td>
<td>44</td>
<td>35.6</td>
<td>27.9</td>
<td>3.94</td>
<td>3.1</td>
<td>97.0</td>
</tr>
<tr>
<td>C.V.%</td>
<td></td>
<td>2.2</td>
<td>4.5</td>
<td>6.2</td>
<td>27.3</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*Sorted by Micronaire in ascending order.
Values are significantly different from each other if their difference is larger than the sum of their std. errors.
### Final Growth Summary - Across 42 AST/Rs Over All Regions

**Average Date of Evaluation September 13, 1996**

<table>
<thead>
<tr>
<th>Variety</th>
<th>N</th>
<th>Height (in)</th>
<th>Total Nodes(#)</th>
<th>Veg. Nodes (#)</th>
<th>Fruiting Nodes (#)</th>
<th>HNR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LS Mean</td>
<td>Std. Error</td>
<td>LS Mean</td>
<td>Std. Error</td>
<td>LS Mean</td>
</tr>
<tr>
<td>Deltapine 20</td>
<td>58</td>
<td>36.5</td>
<td>0.4</td>
<td>20.5</td>
<td>0.2</td>
<td>4.7</td>
</tr>
<tr>
<td>DPX9621</td>
<td>30</td>
<td>37.1</td>
<td>0.5</td>
<td>20.8</td>
<td>0.2</td>
<td>4.8</td>
</tr>
<tr>
<td>Average</td>
<td>44</td>
<td>36.8</td>
<td>0.5</td>
<td>20.6</td>
<td>0.2</td>
<td>4.8</td>
</tr>
<tr>
<td>C.V.%</td>
<td>8.0</td>
<td>5.7</td>
<td></td>
<td>7.9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Sorted by Vegetative Nodes in ascending order.
Values are significantly different from each other if their difference is larger than the sum of their std. errors.

### Final Yield Position Summary - Across 42 AST/Rs Over All Regions

**Average Date of Evaluation September 13, 1996**

<table>
<thead>
<tr>
<th>Variety</th>
<th>N</th>
<th>Bolls Per Plant</th>
<th>% FP1</th>
<th>%FP2</th>
<th>%FP2&lt;</th>
<th>%Vegetative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LS Mean</td>
<td>Std. Error</td>
<td>LS Mean</td>
<td>Std. Error</td>
<td>LS Mean</td>
</tr>
<tr>
<td>Deltapine 20</td>
<td>58</td>
<td>12.8</td>
<td>0.3</td>
<td>56.6</td>
<td>0.9</td>
<td>25.7</td>
</tr>
<tr>
<td>DPX9621</td>
<td>30</td>
<td>15.5</td>
<td>0.5</td>
<td>52.1</td>
<td>1.3</td>
<td>26.3</td>
</tr>
<tr>
<td>Average</td>
<td>44</td>
<td>14.2</td>
<td>0.4</td>
<td>54.4</td>
<td>1.1</td>
<td>26.0</td>
</tr>
<tr>
<td>C.V.%</td>
<td>18.9</td>
<td>12.9</td>
<td></td>
<td>17.7</td>
<td></td>
<td>44.2</td>
</tr>
</tbody>
</table>

*Sorted by %FP1 in descending order.
Values are significantly different from each other if their difference is larger than the sum of their std. errors.

### Final Retention and Maturity Summary - Across 42 AST/Rs Over All Regions

**Average Date of Evaluation September 13, 1996**

<table>
<thead>
<tr>
<th>Variety</th>
<th>N</th>
<th>#Nodes 95% Zone</th>
<th>% Ret. FB1-5</th>
<th>% Ret. 95% Zone</th>
<th>FBCB</th>
<th>Date 50% Open</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LS Mean</td>
<td>Std. Error</td>
<td>LS Mean</td>
<td>Std. Error</td>
<td>LS Mean</td>
</tr>
<tr>
<td>Deltapine 20</td>
<td>58</td>
<td>17.1</td>
<td>0.1</td>
<td>53.8</td>
<td>1.2</td>
<td>56.3</td>
</tr>
<tr>
<td>DPX9621</td>
<td>30</td>
<td>17.1</td>
<td>0.2</td>
<td>64.2</td>
<td>1.7</td>
<td>51.9</td>
</tr>
<tr>
<td>Average</td>
<td>44</td>
<td>17.1</td>
<td>0.1</td>
<td>59.0</td>
<td>1.5</td>
<td>54.1</td>
</tr>
<tr>
<td>C.V.%</td>
<td>5.6</td>
<td>17.7</td>
<td></td>
<td>13.0</td>
<td></td>
<td>10.9</td>
</tr>
</tbody>
</table>

*Sorted by Date of 50% Open in ascending order.
FBCB = Fruiting Branch with first position cracked boll.
Values are significantly different from each other if their difference is larger than the sum of their std. errors.
EXHIBIT E

DELTAPINE SEED'S APPLICATION FOR DP 20\textsuperscript{B}

STATEMENT OF OWNERSHIP

Deltapine Seed, by agreement of breeder, is the owner of the cultivar DP 20\textsuperscript{B} through an understanding with Monsanto Company. DP 20\textsuperscript{B} is a cultivar which carries a proprietary gene, owned by the Monsanto Company, encoding an insect toxin in the background of a Deltapine Seed cultivar.