No. 9700110

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Arkansas Agricultural Experiment Station

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

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

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN UCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY CTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COTTON

'PM 1330 BG'

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

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

9700110

REPRODUCE LOCALLY. *Include form number and edition date on all reproductions.* **OMB APPROVED NO. 0581-0055**

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

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

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

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

1. NAME OF APPLICANT(S) (as it is to appear on the Certificate)
ARKANSAS AGRICULTURAL EXPERIMENT STATION

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
Hx 6350
PM 6350

3. VARIETY NAME
PM 1330 BG

4. ADDRESS (street and no. or R.F.D. no., city, state and ZIP
UNIVERSITY OF ARKANSAS
FAYETTEVILLE, AR 72701

5. TELEPHONE *(include area code)*
(501) 575-4446

6. FAX *(include area code)*

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PVPO NUMBER 9700110

FILING
DATE 2/11/97

7. GENUS AND SPECIES NAME
Gossypium hirsutum

8. FAMILY NAME *(Botanical)*
MALVACEAE

9. CROP KIND NAME *(Common Name)*
UPLAND COTTON

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

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION

FEES RECEIVED
Filing and Examination Fee: $ 2325.00, $125.00
Date FEB. 4, 1997, MAR. 19, 97
Certificate Fee: $ 320.00
Date 4/4/02

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
RAD 10/18/01
~~DR. CHARLES SCIFRES, DIRECTOR~~ ~~Don Dombek~~ Dr. WILLIAMS
ARKANSAS ~~AGRICULTURAL EXPERIMENT STATION~~ ~~Crop Imp. Program~~
~~UNIVERSITY OF ARKANSAS~~ 381 RESEARCH STA. WILLIAMS GIBBROAD ~~1091 W. Cassatt St~~ JMP 02/20/02
FAYETTEVILLE, AR ~~727701~~ TIFTON, GA. 31794 ~~72704~~ PER LETTER

14. TELEPHONE *(include area code)*
~~(501) 575-4445~~ 6884
229-392-7794

15. FAX *(include area code)*
501-575-8646

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow INSTRUCTIONS on reverse)*
a. ☒ Exhibit A, Origin and Breeding History of the Variety
b. ☒ Exhibit B, Novelty Statement
c. ☒ Exhibit C, Objective Description of Variety
d. ☐ Exhibit D, Additional Description of Variety
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership
f. ☒ Seed Sample (2,500 viable untreated seeds). Date Seed Sample mailed to Plant Variety Protection Office _____
g. ☒ Filing and Examination Fee ($2,325) made payable to "Treasurer of the United States"

17. 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 18 and 19 below)* ☒ NO *(if "NO," go to item 20)*

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

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

20. 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

21. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the 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 42, 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))* [signature] 2.4.97

SIGNATURE OF APPLICANT *(Owner(s))*

NAME *(Please print or type)*
DR. CHARLES SCIFRES

NAME *(Please print or type)*

CAPACITY OR TITLE
DIRECTOR

DATE

CAPACITY OR TITLE

DATE

SD-470 (03-96) *(Previous editions are to be destroyed)* *(See reverse for instructions and information collection burden statement)*

PLANT VARIETY PROTECTION APPLICATION
EXHIBIT A
ORIGIN AND BREEDING HISTORY

PAYMASTER VARIETY PM 1330 BG

PM 1330 BG is a transgenic cotton variety developed by Paymaster Technology Corp., 2476 Hwy 130 East, Stuttgart, AR 72160 by transferring through the backcrossing breeding method the Monsanto developed Bollgard™ gene derived from *Bacillus thuringiensis* (Bt). The initial cross of AR 818 (8518-18) by transformed Coker 312 was made in the greenhouse by Monsanto at St. Louis, MO. Three backcrosses were made to H 1330 by Paymaster at Stuttgart. AR 818 (8518-18) later named H 1330 was selected by Dr. Fred Bourland, University of Arkansas, from the cross DES 119 (Bridge, 1986) by Miscot 7803-54 (Bourland and White, 1989).

The BC_3F_2 bulk population was grown in Puerto Rico during the winter 1994-95. BC_3F_3 progeny rows were grown at Altheimer, AR the summer of 1995. Leaf tissue from 48 plants was sampled to identify homozygous rows for Bt. Segregating lines were removed before flowering. Rows of H 1330 were planted in the same field as the BC_3F_3 progeny rows for comparison of maturity, type, yield potential and fiber properties. Before harvest 50 seeds (1 seed/plant) were analyzed for Bt. Homozygous rows that were very similar to H 1330 were harvested and planted by line in Argentina the winter of 1996. At least 200 seeds per line were picked at random one seed per plant prior to harvest and analyzed for Bt. Six lines homozygous for Bt and similar to H 1330 were bulked to constitute the variety. Seed production fields were planted in the United States in 1996.

Yield tests were conducted at ten locations by Paymaster in 1996 to determine yield and fiber characteristics. Gene equivalency tests were conducted in 1996 by Monsanto and at Mississippi State University Starkville, MS.

The H 1330 recurrent parent was acquired from the University of Arkansas in 1992 by Jacob Hartz Seed Co. (P.O. Box 946, Stuttgart, AR 72160) in a competitive bid process. On February 2, 1996 Delta and Pine Land Company (P.O. Box 157, Scott, MS 38772) purchased all cotton rights of Jacob Hartz Seed Co. The organization is now referred to as Paymaster Technology Corp., a wholly owned subsidiary of Delta and Pine Land Co.

PLANT VARIETY PROTECTION APPLICATION
EXHIBIT B
STATEMENT OF DISTINCTNESS

VARIETY: PM 1330 BG

PM 1330 BG is most similar to its recurrent parent H 1330. It differs from H 1330 in that it has the Monsanto developed Bollgard™ gene from *Bacillus thuringiensis* (Bt) which gives resistance to certain lepidoptera insect pests.

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U.S. DEPARTMENT OF AGRICULTURE
PLANT VARIETY PROTECTION OFFICE, AMS, USDA
NATIONAL AGRICULTURAL LIBRARY Bldg., Rm. 500
10301 BALTIMORE Blvd.
BELTSVILLE, MD 20705

EXHIBIT C
(COTTON)

OBJECTIVE DESCRIPTION OF VARIETY
COTTON (Gossypium spp.)

NAME OF APPLICANT (S)	TEMPORARY DESIGNATION	VARIETY NAME
Arkansas Agricultural Experiment Station	Hx 6350	PM 1330 BG

ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code)	FOR OFFICIAL USE ONLY
University of Arkansas Fayetteville, AR 72701	PVPO NUMBER 9700110

Place 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.

1. H1330 2. DP 50 3. _____

*1. SPECIES:

X G. hirsutum L. _____ G. barbadense L.

*2. AREA(S) OR ADAPTATION: (A = Adapted, NA = Not Adapted, NT = Not Tested)

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

Other (Specify) _____

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

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Plant Habit: Spreading, Intermediate, Compact	Intermediate	Intermediate	Intermediate	
Foliage: Sparse, Intermediate, Dense	Intermediate	Intermediate	Intermediate	
Stem Lodging: Lodging, Intermediate, Erect	Intermediate	Intermediate	Intermediate	
Fruiting Branch: Clustered, Short, Normal	Short	Short	Normal	
Growth: Determinate, Intermediate, Indeterminate	Intermediate	Intermediate	Intermediate	
Leaf Color: Greenish yellow, Light green, Dark green	Medium Green	Medium Green	Medium Green	

*3. GENERAL: (continued)

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Boll Shape: Length less than width, Length equal to width, Length more than width	L>W	L>W	L>W	
Boll Breadth: Broadest at base, Broadest at middle	Middle	Middle	Middle	

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

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
% First Pick ~~Date of 50 % open bolls~~	88.4	89.2	86.2	

5. PLANT:

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Cm to 1st Fruiting Branch (from cotyledonary node)	16.3	14.9	16.0	__.__
No. of Nodes to 1st Fruiting Branch (excluding cotyledonary node)	5.5	5.1	5.0	__.__
Mature Plant Height cm (from cotyledonary node to terminal)	79.2	82.3	85.7	____.__

6. LEAF: Upper most, fully expanded leaf.

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Type: Normal, Sub Okra, Okra, Super Okra	Normal	Normal	Normal	
Pubescence: Absent, Sparse, Medium Dense OR Trichomes/sp. cm Bottom surface excluding veins	Sparse/Medium	Sparse/Medium	Very Sparse	
Nectaries: Present or Absent	Present	Present	Present	

7. STEM PUBESCENCE: Glabrous, Intermediate, Hairy

Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Intermediate	Intermediate	Intermediate	

8. GLANDS: (Gossypol) Absent, Sparse, Normal, More Than Normal

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Leaf:	Normal	Normal	Normal	
Stem:	Normal	Normal	Normal	
Calyx Lobe: (normal is absent)	Normal	Normal	Normal	

9. FLOWER:

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Petals: Cream, Yellow	Cream	Cream	Cream	
Pollen: Cream, Yellow	Cream	Cream	Cream	
Petal Spot: Present, Absent	Absent	Absent	Absent	

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*10. SEED:

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Seed Index (g/100 seed, fuzzy basis)	10.7 a	11.2 a	10.8 a	___.__
Lint Index (g lint/100 seeds)	___.__	___.__	___.__	___.__

*11. BOLL:

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
Lint Percent (X Picked __ Pulled)	38.0 a	37.9 a	36.3 b	___.__
OR				
Gin Turnout (__Picked __Stripped)	___.__	___.__	___.__	___.__
Number of Seed per Boll	___.__	___.__	___.__	___.__
Grams Seed Cotton per Boll	5.51 a	5.66 a	5.54 a	_.__
Number of Locules per Boll	Mostly 4	Mostly 4	Mostly 4	
Boll Type (Stormproof, Storm Resistant, Open)	Open	Open	Open	

12. FIBER PROPERTIES:

Specify Method (HVI or other): HVI

	Application Variety	Comparison Variety 1	Comparison Variety 2	Comparison Variety 3
* Length (inches, 2.5% SL)	1.15 a	1.15 a	1.14 a	_.__
* Uniformity (%)	85	86	85	__
* Strength, T1 (g/tex)	30.0 a	29.5 ab	28.0 b	__.__
* Elongation, E1 (%)	7.0	6.7	7.2	_.__
* Micronaire	4.61 a	4.62 a	4.71 a	_.__
Fineness (Source_____)	___	___	___	___
Yarn Tenacity (cN/tex, 27 tex)	___.__	___.__	___.__	___.__
Yarn Strength (lbs. 22's)	___	___	___	___

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

NT Alternaria macrospora

NT Anthracnose

NT Ascochyta Blight

NT Bacterial Blight (Race 1)

NT Bacterial Blight (Race 2)

NT Bacterial Blight (Race _____)

NT Fusarium Wilt

NT Phymatotrichum Root Rot

NT Pythium (specify Species) _____

NT Rhizoctonia solani

NT Southwestern Cotton Rust

NT Thielaviopsis basicola

14. NEMATODES, INSECTS AND PESTS: (NT = Not Tested, S = Susceptible, MS = Moderately Susceptible, MR = Moderately Resistant, R = Resistant)

NT Root-Knot Nematode

NT Boll Weevil

MR Bollworm

NT Cotton Aphid

NT Cotton Fleahopper

NT Cotton Leafworm

NT Cutworm (specify species) _____

NT Fall Armyworm

____ 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 Bud Worm

15. COMMENTS: Present any additional information that cannot adequately be described in 1 through 13 which significantly distinguishes your variety.

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REPRODUCE LOCALLY. *Include form number and date on all reporductions.* FORM APPROVED - OMB NO. 0581-0055 EXPIRES: 12-31-96

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

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

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

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1. NAME OF APPLICANT(S)
Arkansas Agricultural Experiment Station

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
Hx 6350

3. VARIETY NAME
PM 1330 BG

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
University of Arkansas
Fayetteville, AR 72701

5. TELEPHONE *(include area code)*
(501) 575-4446

6. FAX *(include area code)*

7. PVPO NUMBER
9700110

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

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒YES ☐NO
If no, give name of country Public Agricultural Research

10. Is the applicant the original breeder? If no, please answer the following: ☒YES ☐NO

a. If original rights to variety were owned by individual(s):
Is (are) the original breeder(s) a U.S. national(s)? If no, give name of country

b. If original rights to variety were owned by a company: ☐YES ☐NO

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

Paymaster Technology Corp., 2476 Hwy 130 E, Stuttgart, AR 72160 has exclusive marketing and development rights to this variety through competitive bid.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

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

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

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

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

Public reporting burden for this collection of information is extimated to average 10 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 suggenstion for reducing this burden, to Department of Agriculture, clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter.

Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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