No. 200200033

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Texas 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, [illegible] CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN [illegible]UCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY [illegible]CTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A [illegible] CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF T[illegible] (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'TAMBAR 501'

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

[illegible] of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - 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 OWNER: Texas Agricultural Experiment Station

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME: TX94D632

3. VARIETY NAME: TAMBAR 501

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
Dr. Frank E. Gilstrap
Associate Agency Director, TAES
2147 TAMU
College Station, TX 77843-2147

5. TELEPHONE *(include area code)*: 979-845-4747

6. FAX *(include area code)*: 979-845-9938

FOR OFFICIAL USE ONLY

PVPO NUMBER: ~~200200033~~ 200200033

FILING DATE: 11-4-2001

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*: State of Texas Research Agency

8. IF INCORPORATED, GIVE STATE OF INCORPORATION:

9. DATE OF INCORPORATION:

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Janie Hurley
Technology Licensing Associate, Agriculture/Life Sciences
Technology Licensing Office
The Texas A&M University System
3369 TAMU
College Station, TX 77843-3369

FEES RECEIVED

FILING AND EXAMINATION FEES: $ 2705.00 DATE 12/5/01

CERTIFICATION FEE: $ 320.00 DATE 3/29/02

MAH 3-6-2002

11. TELEPHONE *(Include area code)*: 979-847-8682

12. FAX *(Include area code)*: 979-845-1402

13. E-MAIL: Jurley@TAMU.edu

14. CROP KIND *(Common Name)*: Barley

15. GENUS AND SPECIES NAME OF CROP: Hordeum vulgare

16. FAMILY NAME *(Botanical)*: Graminae

17. IS THE VARIETY A FIRST GENERATION HYBRID? ☐ YES ☒ NO

18. 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 Variety
d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☒ Exhibit E. Statement of the Basis of the Owner'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 an approved public repository)*
g. ☒ Filing and Examination Fee ($2,705), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☒ YES *(If "yes", answer items 20 and 21 below)* ☐ NO *(If "no", go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? ☒ YES ☐ NO
IF YES, WHICH CLASSES? ☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☒ NO
IF YES, SPECIFY THE NUMBER 1,2,3, *etc.* ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☒ YES ☐ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☒ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners 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 owner(s) is(are) the owner 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.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Frank Gilstrap			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Dr. Frank E. Gilstrap			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Associate Agency Director, TAES	10/30/01		

INSTRUCTIONS

200200033

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) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, 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 an approved public repository; (4) check drawn on a U.S. bank for $2,705 ($320 filing fee and $2,385 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, 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 of $320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. 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

18b. 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; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics 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.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. 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 Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

21. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

Foundation Seed of TAMBAR 501 was transferred to Paramount Seed Farms in September 2001 under a license agreement for increase purposes. (United States)

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

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 or owner's representative 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 or any modification of owner's name 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 the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed/ls-sd.htm

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours 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.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A: Origin and Breeding History of TAMBAR 501

TAMBAR 501 was derived from a composite cross population (CC11) made in the spring of 1986. The maternal parent in CC11 was 'Post' (CI 15695) and the pollen parent consisted of an equal mixture (by seed weight) of 'Hitchcock' (PI 485594), 'Kanby' (PI 539139), 'Milton' (CI 15732), 'Paoli' (CI 15235), 'Schuyler' (CI 11887), 'TAMBAR 401' (CI 13778), and 'TAMBAR 402' (PI 468115). Pollen on the female, Post, was controlled by a male gametocide. The pollen-donor mixture was planted on the two lengthwise sides of Post. Cross pollination was allowed to occur, and the F_1 seed was harvested with a small plot combine. The F_1 through F_4 generations of CC11 were grown as bulk populations in the field at the Texas Agricultural Experiment Station, Prosper Research Farm from 1987 to 1990. The seed from each segregating generation was combine harvested and separated on a gravity table with the large, heavy seed saved from each generation. Single heads were selected in CC11 in the spring of 1990 for good plant type. Head rows were planted in the fall of 1990 and subsequently reselected for three years. In the fall of 1993, seed from the head row CC11PRO-8-12-1-9 was planted at Prosper as a single observation plot and given the designation TX94D632. Purity and multiplication of TX94D632 began in the spring of 1996 with the selection of 1000 heads. Approximately 900 of the head rows were bulk harvested in 1997, and this seed served as the basis for all further testing and increases. About 1,800 pounds of seed of TX94D632, produced from a breeders seed block at Prosper in the 1999-2000 growing season was used to plant approximately 15 acres of Foundation Seed at Munday, TX in December 2000.

TAMBAR 501 has been reproduced and judged stable for the past 8 generations. TAMBR 501 is uniform for all traits as described in Exhibit C (Objective Description of Variety). TAMBAR 501 shows no variants other than what would normally be expected due to environment.

Exhibit B: Statement of Distinctness

The most similar existing variety to TAMBAR 501 is 'Post 90' (PI 549081). The character that clearly distinguishes TAMBAR 501 from Post 90 is maturity (as measured by heading date).

Cultivar	Dallas 1998	Prosper 1998	Era 1998	Windom 1998	Chill-icothe 1998	5 location average 1998	Dallas 1999	Prosper 1999	Era 1999	Bushland 1999	4 location average 1999	Prosper 2000	Dallas 2000	Era 2000	Howe 2000	4 location average 2000
TAMBAR 501	96	104	102	107	99	101.6	97	99	99	112	101.7	96	89	97	100	95.5
Post 90	107	115	110	114	105	110.2	104	101	103	119	106.7	101	99	107	109	104
Mean	101.5	109.5	106	110.5	102	105.9	100.5	100	101	115.5	104.2	98.5	94	102	104.5	99.7
LSD (5%)	1.9	1.4	2.2	2.0	1.7	2.0	1.2	1.4	2.1	2.6	2.1	1.8	2.4	2.6	1.3	2.4
CV (%)	4.6	5.7	5.5	3.9	4.4	6.3	3.0	4.7	4.2	5.3	4.9	3.4	3.8	3.1	4.2	3.8

Table 1. Heading date comparison for TAMBAR 501 and Post 90 barley over three years. Numbers are days from 1 January (Julian date), when 50% of the plants in a plot have their head extended 50% out of the boot. The locations Dallas, Prosper, Era, Windom, Chillicothe, Bushland, and Howe are all testing locations in Texas. Plots at each location and in each year measured 5 ft wide by 12 ft long, and were planted at a seeding rate of 90 pounds/acre. Planting dates were: 1997 – Dallas, 15 Oct; Prosper, 27 Oct; Era & Windom, 20 Oct; Chillicothe, 13 Nov. 1998 – Dallas, 7 Oct; Prosper, 9 Oct, Era, 14 Nov; Bushland, 29 Oct. 1999 – Prosper, 20 Oct; Dallas, 25 Oct; Era & Howe, 14 Nov. Each variety was replicated three times at each location in each year.

20020033

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
[redacted]N
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Barley)

OBJECTIVE DESCRIPTION OF VARIETY
BARLEY *(HORDEUM VULGARE)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S): Texas Agricultural Experiment Station

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*: 2147 TAMU, College Station, TX 77843-2147

FOR OFFICIAL USE ONLY
PVPO NUMBER: 200200033
VARIETY NAME OR TEMPORARY DESIGNATION: TX94D632

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (i.e. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

[3] 1 = SPRING 2 = FACULTATIVE WINTER 3 = WINTER

[2] Early Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE 3 = ERECT

2. MATURITY (50% Flowering):

[2] 1 = EARLY (~~California Mariout~~ Sussex) 2 = MIDSEASON (~~Betzes~~ TAMU-ERA) 3 = LATE (~~Frontier~~ POST 90)

[9] No. of days *Earlier* than ..... [1]
[9] No. of days *Later* than ..... [2]

1 = ~~BETZES~~ POST 90 2 = ~~CALIFORNIA MARIOUT~~ Sussex 3 = CONQUEST 4 = DICKSON
5 = PIROLINE 6 = PRIMUS 7 = UNITAN

3. PLANT HEIGHT (From soil level to top of head):

[2] 1 = SEMIDWARF 2 = SHORT (~~California Mariout~~ TAMBAR 500) 3 = MEDIUM TALL (~~Betzes~~ Sussex) 4 = TALL (~~Conquest~~ TAMU-ERA)

[0][6] Cm. *Shorter* than ..... [1]
[0][0] Cm. *Taller* than ..... [2]

1 = ~~BETZES~~ TAMU-ERA 2 = ~~CALIFORNIA MARIOUT~~ TAMBAR 500 3 = CONQUEST 4 = DICKSON
5 = PIROLINE 6 = PRIMUS 7 = UNITAN

4. STEM:

[1] Exertion *(Flag to spike at maturity)*: 1 = 0 - 3 cm. 2 = 3 - 10 cm. 3 = 10 - 15 cm.

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[0][6] NO. OF NODES (Originating from node above ground)

[1] Collar Shape: 1 = CLOSED 2 = V-SHAPED 3 = OPEN 4 = MODIFIED CLOSED OR OPEN

[1] Shape of Neck: 1 = STRAIGHT 2 = SNAKY 3 = OTHER (Specify) _____

5. LEAF:

[1] Basal leaf sheath *(seedling)*: 1 = GLABROUS 2 = PUBESCENT

[2] Position of flag leaf *(at boot stage)*: 1 = DROOPING 2 = UPRIGHT

[2] Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY 3 = WAXY

[1][6] MM. WIDTH (First leaf below flag leaf)

[2][4] CM. LENGTH (First leaf below flag leaf)

[1] Anthocyanin in leaf sheath: 1 = ABSENT 2 = PRESENT

6. HEAD:

[2] Type: 1 = TWO-ROWED 2 = SIX-ROWED

[3] Density: 1 = LAX 2 = ERECT (Not dense) 3 = ERECT (Dense)

[4] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) Oblong

[2] Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY 3 = WAXY

[1] Lateral Kernels Overlap: 1 = NONE 2 = AT TIP 3 = 1/4 - 1/2 OF HEAD

[2] Rachis *(Hair on edge)*: 1 = LACKING 2 = FEW 3 = COVERED

7. GLUME:

[2] Length: 1 = 1/3 OF LEMMA 2 = 1/2 OF LEMMA 3 = MORE THAN 1/2 OF LEMMA

[2] Hairs: 1 = NONE 2 = SHORT 3 = LONG

[3] Hair covering: 1 = NONE 2 = RESTRICTED TO MIDDLE 3 = CONFINED TO BAND 4 = COMPLETELY COVERED

[1] Awns: 1 = LESS THAN EQUAL TO LENGTH OF GLUMES 2 = EQUAL TO LENGTH OF GLUMES 3 = MORE THAN EQUAL TO LENGTH OF GLUMES

[2] Awn Surface: 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

8. LEMMA:

[5] Awn: 1 = AWNLESS 2 = AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS 3 = SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 = SHORT (less than equal to length of spike) 5 = LONG (longer than spike) 6 = HOODED

[4] Awn Surface: 1 = AWNLESS 2 = SMOOTH 3 = SEMISMOOTH 4 = ROUGH

[2] Teeth: 1 = ABSENT 2 = FEW 3 = NUMEROUS

[2] Hair: 1 = ABSENT 2 = PRESENT

[2] Shape of base: 1 = DEPRESSION 2 = SLIGHT CREASE 3 = TRANSVERSE CREASE

[1] Rachilla Hairs: 1 = SHORT 2 = LONG

9. STIGMA:

[1] Hairs: 1 = FEW 2 = MANY

10. SEED:

[2] Type: 1 = NAKED 2 = COVERED

[2] Hairs on Ventral Furrow: 1 = ABSENT 2 = PRESENT

[4] Length: 1 = SHORT (8.0 mm.) 2 = SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 = MIDLONG (8.5 - 9.5 mm.) 4 = MIDLONG TO LONG (9.0 - 10.5 mm.) 5 = LONG (10.0 mm.)

[2] Wrinkling of hull: 1 = NAKED 2 = SLIGHTLY WRINKLED 3 = SEMIWRINKLED 4 = WRINKLED

[1] Aleurone Color: 1 = COLORLESS (White or Yellow) 2 = BLUE

[0 0] PERCENT ABORTIVE

[4 1] GMS. PER 1000 SEEDS

11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3= Moderately Resistant

[0] SEPTORIA	[3] NET BLOTCH	[3] SPOT BLOTCH	[1] POWDERY MILDEW
[0] LOOSE SMUT	[0] BACTERIAL BLIGHT	[2] COVERED SMUT	[0] FALSE LOOSE SMUT
[0] STEM RUST	[2] LEAF RUST	[0] SCAB	[3] SCALD
[0] AY	[0] BSMV	[3] BYDV	[ ] OTHER (Specify)

12. INSECT: (0 = Not tested, 1 = Susceptible, 2 = Resistant)

[0] GREEN BUG	[0] ENGLISH GRAIN APHID	[0] CHINCH BUG	[0] ARMYWORM
[0] GRASS HOPPERS	[0] CERIAL LEAF BETTLE	[0] OTHER (Specify)	

HESSIAN FLY RACES: [0] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

[ ] DDT [ ] OTHER (Specify)

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	POST 90	Seed size	POST 90
Leaf size	POST 90	Coleoptile elongation	POST 90
Leaf color	POST 90	Seedling pigmentation	POST 90
Leaf carriage	POST 90		

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

1. Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
2. Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
3. Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

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

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

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

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Texas Agricultural Experiment Station	TX94D632	TAMBAR 501
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	5. TELEPHONE *(Include area code)*	6. FAX *(Include area code)*
Office of the Director, TAES 2147 TAMU College Station, TX 77843-2147	979-845-4747	979-845-9938
	7. PVPO NUMBER	
	200200033	

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

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? **If no, give name of country** [X] YES [ ] NO

10. Is the applicant the original owner? [X] YES [ ] NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

[ ] YES [ ] NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

[ ] YES [ ] NO **If no, give name of country**

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

TAES policy and handbook manual provide that all germplasm and varities developed by its employees in the course of their duties are owned by TAES. A copy of this policy is provided for your records.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet 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 nationals 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 owner, both the original owner and the applicant must meet one of the above criteria.

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

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.