No. 7200102

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Nebraska Agricultural Experiment Station

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. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS ALLOWED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

* [Waived]

WHEAT

'Centurk'

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* eighth *day of* April *in the year of our Lord one thousand nine hundred and* seventy-five

PLANT VARIETY PROTECTION OFFICE · U.S. DEPARTMENT OF AGRICULTURE

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

EXHIBIT A

Origin and Breeding History of Centurk

Pedigree: Kenya 58/2/Newthatch/3/Hope/2*Turkey/4/Cheyenne/5/Parker.

Date of cross: 1959.

Place: Agronomy Department, Nebraska Agricultural Experiment Station, Lincoln, Nebraska.

Breeding system: Modified pedigree.

The breeding history and management of Centurk are summarized in table 1.

The decision to release NB66425 (C.I.15075)* under the name Centurk was made by the Nebraska Agricultural Experiment Station on January 22, 1971.* Public release of information on Centurk as a variety occurred on March 15, 1971. The Plant Science Research Division, Agricultural Research Service, U. S. Department of Agriculture, and the states of Colorado, Illinois, Kansas, New Mexico, Oklahoma, South Dakota, and Texas joined Nebraska in the release of Centurk.*

Breeder seed of NB66425 (C.I.15075) in the amount of 970 bushels was produced in Nebraska and Colorado in 1970. Of this, 325 bushels were allocated to eight other states for foundation or registered seed production in 1971. The remainder was allocated to Nebraska certified seed producers for 1971 Nebraska registered seed production of Centurk.

Variants detected in Centurk during reproduction and multiplication are as follows:

Tall plants (2-3 inches taller than typical Centurk plants)

White beardless plants

Bronze beardless plants

Black bearded plants

Bronze bearded plants

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* Supporting Documents Nos. 1 to 3 attached.

EXHIBIT B

Botanical Description of Centurk

Botanical description of the mature plant and seed of Centurk is as follows: Plant winter-habit, early; height, short; stem white, mid-strong; spike awned, fusiform to oblong, mid-dense to dense, erect before maturity, inclined at maturity; glumes glabrous, white, short, narrow to mid-wide; shoulders narrow to mid-wide; beaks mid-wide, acuminate, 2-4 mm long; awns white, 3-8 cm long; kernels red, short, hard, ovate; germ mid-sized to large; crease mid-wide, shallow; cheeks rounded; brush mid-sized, short.

The seed of Centurk is shorter and usually smaller than that of Scout, Scout 66, Gage, and Lancer (table 6 and figure 2). Plants of Centurk in the seedling and flowering stages possess no known distinctive characteristics that would be useful in identification of Centurk.

Mature Centurk plants possess spikes that are more compact in appearance than typical spikes of Scout, Scout 66, Scoutland, Eagle, Lancer, or Gage. This results from slightly shorter length of rachis internodes and higher spike fertility of Centurk. Centurk will set from 2 to 5 kernels per spikelet depending on production environment. The number of kernels can be expected to exceed that of the above varieties by 0.5 to 1.0 kernel per spikelet. The larger number of kernels per spikelet of Centurk and high fertility at the base and tip of spikes usually results in a more rectangular or blocky appearance of Centurk spikes than other commercially-grown hard red winter wheat varieties. Spikes of Centurk are compared with those of Scout 66 or Scoutland in figure 3.

Spike carriage of Centurk is erect until the full ripe stage when the spikes become inclined (figure 4). The degree of spike inclination may range from slight to extreme, depending on production conditions. Spike appearance

and spike carriage of Centurk during grain maturation are useful distinguishing features. Traits that distinguish Centurk from 10 other commercially-grown hard red winter wheat varieties are identified in table 7.

FORM GR-470-6
(7-3-72)

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

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY

WHEAT *(TRITICUM SPP.)*

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S) Board of Regents, University of Nebraska, and Agricultural Research Service, US Dept. of Agriculture

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

Lincoln, Nebraska 68503 - Washington, DC 20250

FOR OFFICIAL USE ONLY

PVPO NUMBER 72102

VARIETY NAME OR TEMPORARY DESIGNATION Centurk

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. KIND:

[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

[2] 1 = SPRING 2 = WINTER 3 = OTHER *(Specify)* _____

[2] 1 = SOFT 2 = HARD 3 = OTHER *(Specify)* _____

[2] 1 = WHITE 2 = RED 3 = OTHER *(Specify)* _____

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

[ ][ ][ ] FIRST FLOWERING

[ ][ ][ ] LAST FLOWERING

4. MATURITY *(50% Flowering)*:

[ ][ ] NO. OF DAYS *EARLIER* THAN .....

[ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

[0][2] NO. OF DAYS *LATER* THAN .....

[2]

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

[0][8][2] CM. HIGH

[ ][ ] CM. TALLER THAN .....

[ ] 1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

[0][3] CM. SHORTER THAN .....

[2]

6. PLANT COLOR AT BOOTING *(See reverse)*:

[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHER COLOR:

[1] 1 = YELLOW 2 = PURPLE

8. STEM:

[ ] Anthocyanin: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom: 1 = ABSENT 2 = PRESENT

[ ] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

[1] Internodes: 1 = HOLLOW 2 = SOLID

[0][5] NO. OF NODES *(Originating from node above ground)*

[ ][ ] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

[ ] Anthocyanin: 1 = ABSENT 2 = PRESENT

[ ] Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER *(Specify)*: _____

[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED

[ ] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

[2] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

[ ][ ] MM. LEAF WIDTH *(First leaf below flag leaf)*

[ ][ ] CM. LEAF LENGTH *(First leaf below flag leaf)*:

Wheat
'Centurk'

PV # 72102

13D. Exhibit D:

'Centurk' is most similar to 'Scout 66' except it is approximately 2 cm. shorter in plant height, heads 2 days later and is moderately resistant to leaf rust, where as 'Scout 66' is susceptible. 'Centurk' produced 0.5 to 1.0 more kernels per spiklet than other similar varieties due to higher fertility at the base and tip of spikes.

Howard W. Ottoson, Director
Nebraska Agricultural Experiment Station

EXHIBIT E

Statement of the Basis of Applicant's Ownership

Centurk Hard Red Winter Wheat is a product of the breeding program of the Nebraska Agricultural Experiment Station, University of Nebraska, Lincoln, Nebraska. The breeders were Dr. John W. Schmidt and Dr. Virgil A. Johnson, employees of the Experiment Station (Department of Agronomy) and the Agricultural Research Service, USDA (stationed and functioning also as a staff member in the Department of Agronomy), respectively.

By established policy, release of varieties developed by the Nebraska Agricultural Experiment Station programs is the sole prerogative of the Experiment Station as the responsible agency providing the staff and funds for the breeding programs.

NOV 20 1974

Experiment Station

Plant Variety Protection Office
Grain Division, Agricultural Marketing Service
U. S. Department of Agriculture
Hyattsville, Maryland 20782

Gentlemen:

Subject: Application No. 72102

Variety and kind 'Centurk' wheat

As provided in section 83(a) of the Plant Variety Protection Act, 7 U.S.C. 2321, we request that the Certificate on the above variety be issued with a notation on each Certificate that the right to exclude others from selling, offering for sale, reproducing, importing or exporting the variety covered by this Certificate, or using it in producing a hybrid or different variety is waived.

It has been agreed that the certificate should be issued in the name(s) of:

Nebraska Agricultural Experiment Station

November 25, 1974
DATE

For the Board of Regents -
~~University of Nebraska~~

Miles Tommeraasen, Vice Chancellor
for Business and Finance

FORM GR-470
(2-12-71)

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	2. KIND NAME	FOR OFFICIAL USE ONLY
Centurk (C.I.15075)	Hard Red Winter Wheat	PVPO NUMBER 72102
3. GENUS AND SPECIES NAME	4. FAMILY NAME *(Botanical)*	FILING DATE 3/14/72 — TIME 4:30 A.M. P.M.
Triticum aestivum L.	Gramineae	
	5. DATE OF DETERMINATION July, 1967	FEE RECEIVED $ 750 — CHARGES

6. NAME OF APPLICANT(S)	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*	8. TELEPHONE AREA CODE AND NUMBER
Board of Regents University of Nebraska	Lincoln, Nebraska 68503	402-472-7211
and Agricultural Research Service U.S. Department of Agriculture	Washington, D. C. 20250	202-388-3656

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*	10. STATE OF INCORPORATION	11. DATE OF INCORPORATION
Corporation and U. S. Government Agency	Nebraska and Washington, D. C.	

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

Dr. R. W. Kleis, Acting Director
Agricultural Experiment Station
University of Nebraska
Lincoln, Nebraska 68503

Dr. T. W. Edminster
Office of the Administrator
USDA, Agricultural Research Service
Washington, D. C. 20250

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
- [X] 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.)* [X] YES [ ] 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 (Foundation, Registered, and Certified)

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).

FOR THE BOARD OF REGENTS

3/17/72
(DATE)

(SIGNATURE OF APPLICANT)
Miles Tommeraasen, Director of Business and Finance

3/13/72
(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (REVERSE)

RECEIVED MAR 14 1972 U.S. DEPARTMENT OF AGRICULTURE C&MS GRAIN DIVISION

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.

11. HEAD:

[2] Density: 1 = LAX 2 = DENSE

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

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[2] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER *(Specify)*: _____

[ ][ ] CM. LENGTH [ ][ ] MM. WIDTH

12. GLUMES AT MATURITY:

[1] Length: 1 = SHORT *(CA. 7 mm.)* 2 = MEDIUM *(CA. 8 mm.)* 3 = LONG *(CA. 9 mm.)*

[2] Width: 1 = NARROW *(CA. 3 mm.)* 2 = MEDIUM *(CA. 3.5 mm.)* 3 = WIDE *(CA. 4 mm.)*

3-4 [~~2~~] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[3] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

13. COLEOPTILE COLOR:

[1] 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

[1] 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

[1] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[1] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[ ] Phenol reaction *(See instructions)*: 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[2] Embryo size: 1 = SMALL *(Lemhi)* 2 = MEDIUM *(Scout)* 3 = LARGE *(Arthur)*

[3] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER *(Specify)* _____

[ ][ ] MM. LENGTH [ ][ ] MM. WIDTH [2][½] GM. PER 100 SEEDS

17. SEED CREASE:

[ ] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[ ] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

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

[2] STEM RUST *(Races)* _____ [2] LEAF RUST *(Races)* _____ [1] STRIPE RUST *(Races)* _____ [0] LOOSE SMUT

[1] POWDERY MILDEW [0] BUNT [ ] OTHER *(Specify)* _____

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

[0] SAWFLY [0] APHID *(Bydv.)* [0] GREEN BUG [0] CEREAL LEAF BEETLE

[ ] OTHER *(Specify)* _____

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

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

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

INSTRUCTIONS

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

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. *(See attachment.)*

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