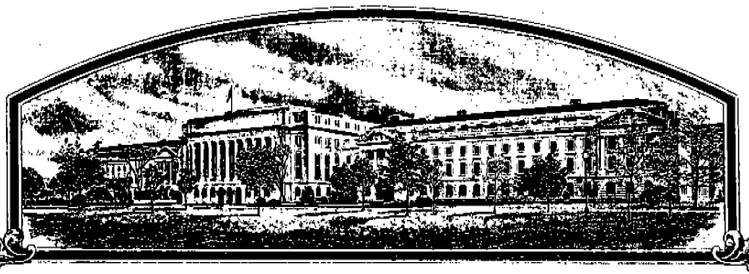

No. 7400077

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Rice Researchers, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

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

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

RICE

'Kokubelle'

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* 17 th *day of* October *in the year of our Lord one thousand nine hundred and* seventy-five

Attest:

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Secretary of Agriculture

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 Kokubelle	2. KIND NAME Rice	FOR OFFICIAL USE ONLY PVPO NUMBER 7400077
3. GENUS AND SPECIES NAME Oryza Sativa	4. FAMILY NAME *(Botanical)* Graminae	FILING DATE 3-13-74 / TIME 10:00 A.M.
	5. DATE OF DETERMINATION December 1, 1972	FEE RECEIVED $ 750 / CHARGES —
6. NAME OF APPLICANT(S) Rice Researchers, Inc.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)* P.O. Box 652 Woodland, California 95695	8. TELEPHONE AREA CODE AND NUMBER

9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)* Corporation	10. STATE OF INCORPORATION California	11. DATE OF INCORPORATION 1968

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

~~AX~~
Arthur H. Williams
Rt. 2, Box 320
Chico, California 95926

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.)* [ ] YES [X] NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations? [ ] YES [ ] NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed?

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).

2-10-74
(DATE)

Rice Researchers Inc
Arthur H Williams
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

7400077

Kokubelle

Exhibit A

Origin and Breeding History

Kokubelle originated from a hand pollinated cross between Kokuho Rose and Bluebelle.

Selections were made on the basis of Kokuho Rose vigor and Bluebelle grain type. At the present time there has not been a successful long grain rice grown in California.

From the F5 generation, one pure line having the characteristics desired was increased for field planting and quality testing. The present selection has the favorable long grain cooking characteristics with the very favorable Kokuho Rose flavor.

JJH 3/28/75

From letter of January 14, 1975:

No variants have been found in Kokubelle.

7400077

Kokubelle

Exhibit B

Botanical Description

Kokubelle is a long grain variety. It is stiff strawed and mature in about 145 days. The plant type more resembles Bluebelle.

The grain shape is long and slender and boat shaped. The second foliar leaf is long with a large angle, and the color is medium green.

The culm is stiff, medium long, and fairly erect. The flag leaf is broad, long, and upright. The culm, leaves, and grain are glabrous.

The plant tillers well, and the grain is awnless.

The panicles are long and lax. The lemma and palea at maturity are straw colored.

JUL 07 1975

Application No. 7400077
'Kokubelle'

Exhibit D

'Kokubelle' most closely resembles 'Bluebelle' but 'Kokubelle' has straw versus gold colored hulls and straw versus light purple colored apiculus and has the cooked grain flavor of 'Kokuho Rose.'

Arthur H Wilhelm

Kokubelle

FORM GR-470-17 (1-2-73)

FORM APPROVED. OMB NO. 40-R3712

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

EXHIBIT C (Rice)

OBJECTIVE DESCRIPTION OF VARIETY

REFERENCES: *See Reverse.*

RICE *(ORYZA SATIVA)*

NAME OF APPLICANT(S)
Rice Researchers, Inc.

ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*
P.O. Box 652
Woodland, California 95695

FOR OFFICIAL USE ONLY
PVPO NUMBER 74-00077
VARIETY NAME OR TEMPORARY DESIGNATION KOKU BELLE

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. MATURITY (Seeding to 50% Heading):

LOCATION Sacramento Valley AVERAGE DATE SEEDED April 25 - May 5

[2] Season: 1 = VERY EARLY (86 days or less) 2 = EARLY (86 - 100) 3 = MIDSEASON (101 - 115) 4 = LATE (115 - or more)

[0][9][5] NUMBER OF DAYS

[1][2] NO. OF DAYS EARLIER THAN . . . [5]
[ ][ ] NO. OF DAYS LATER THAN . . . . . [ ]

1 = BELLE PATNA 2 = BLUEBELLE 3 = NATO
4 = STARBONNET 5 = CALROSE 6 = REXORO

2. PLANT HABIT (Tiller Angle from Perpendicular at the Early Jointing Stage):

[ ] 1 = SPREADING (more than 60°) 2 = INTERMEDIATE 3 = ERECT (less than 30°)

3. STEMS (Full Heading):

[1][0][0] CM. TALL (Soil level to tip of extended panicle on main culm)

[2][0] CM. SHORTER THAN . . . . . [5]
[ ][ ] CM. TALLER THAN. . . . . [ ]

1 = BELLE PATNA 2 = BLUEBELLE 3 = NATO
4 = STARBONNET 5 = CALROSE 6 = REXORO

[0][4] NUMBER OF NODES Elongate

[4] INTERNODE COLOR (Outside)
[ ] SEPTUM COLOR (Inside Node)

1 = LIGHT YELLOW 2 = CREAM 3 = GOLD
4 = GREEN 5 = REDDISH 6 = LIGHT PURPLE
7 = PURPLE 8 = DARK PURPLE 9 = OTHER (Specify) _____

[ ] Tillering Ability (number of culms): 1 = 10 OR LESS (Belle Patna) 2 = 11 - 20 (Bluebonnet) 3 = ABOVE 20 (Century Patna)

[2] Strength: 1 = STURDY (Starbonnet) 2 = INTERMEDIATE (Belle Patna) 3 = WEAK

8/75 Ten 1A

4. LEAF BLADE (First Leaf Below Flag Leaf):

[3][6] CM. LENGTH [1][4] MM. WIDTH

[2] Color: 1 = PALE GREEN (Starbonnet) 2 = MEDIUM GREEN (Bluebelle) 3 = DARK GREEN (Calrose) 4 = PURPLE 5 = RED 6 = OTHER (Specify) _____

[1] Pubescence: 1 = GLABROUS 2 = INTERMEDIATE 3 = PUBESCENT

[2] Flag Leaf Angle: 1 = HORIZONAL 2 = ASCENDING 3 = ERECT

[3][0] CM. LENGTH OF FLAG LEAF (Booting Stage)

[1][7] MM. WIDTH (widest point) OF FLAG LEAF (Booting Stage)

5. LEAF SHEATH (First Leaf Below Flag Leaf):

[3] Ligule Length: 1 = NONE 2 = 20 MM. OR LESS 3 = 21 - 34 MM. 4 = MORE THAN 34 MM.

Color:

[2] SHEATH (Outside) [2] COLLAR
[2] SHEATH (Inside) [2] LIGULE
[2] SHEATH (Seedling) [2] AURICLE

1 = COLORLESS 2 = GREEN 3 = RED
4 = PURPLE 5 = OTHER (Specify) _____

See Remarks

7400077

Kokubelle

Exhibit D Revised

Data Indicative of Novelty

Kokubelle is a long grain variety resembling Blubelle in plant type and grain characteristics. The heading period for Kokubelle is much more narrow than Bluebelle. Bluebelle heads over a 30 day period in California where as Kokubelle's heading period is about 8-10 days. Kokubelle matures earlier than the midseason California varieties Calotto and Calrose by about 10 days. Kokubelle also has very strong straw which resists lodging. Kokubelle is comparitively weak at seedling stage (first 21 days). Careful water depth management is necessary to get satisfactory stands. Kokubelle is a pure line selection, therefore no variants are expected.

See revision

7400077

Kokubelle

Exhibit D

Data Indicative of Novelty

Kokubelle will probably be the first successful long grain variety in California. It has southern long grain characteristics yet matures like Japanese rice in California. It has outstanding cooking quality, tasting very much like Kokuho Rose which has been the best in California for the past ten years.

Kokubelle, however, does not have seedling vigor comparable to the Japanese varieties. Therefore, water depth during the seedling stage is very critical. Water depth of 2 - 4 inches is ideal. Deeper water will result in poorer stands.

7400077

Kokubelle

Exhibit E

Statement of the Basis of Applicant's Ownership

Breeder is employed by the applicant.

Rice Researchers Inc. is owner 7/23/74

Kokubelle

FORM GR-470-17 (1-2-73)

FORM APPROVED. OMB NO. 40-R3712

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

EXHIBIT C (Rice)

OBJECTIVE DESCRIPTION OF VARIETY

RICE (*ORYZA SATIVA*)

REFERENCES: *See Reverse.*

NAME OF APPLICANT(S)
Rice Researchers, Inc.

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
P.O. Box 652
Woodland, California 95695

FOR OFFICIAL USE ONLY

PVPO NUMBER
74 00077

VARIETY NAME OR TEMPORARY DESIGNATION
KOKUBELLE

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. MATURITY (Seeding to 50% Heading):

LOCATION Sacramento Valley AVERAGE DATE SEEDED April 25 - May 5

[2] Season: 1 = VERY EARLY (86 days or less) 2 = EARLY (86 - 100) 3 = MIDSEASON (101 - 115) 4 = LATE (115 - or more)

[0][9][5] NUMBER OF DAYS

[1][2] NO. OF DAYS EARLIER THAN . . . [5]

[ ][ ] NO. OF DAYS LATER THAN . . . . . [ ]

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[1][0][0] CM. TALL (Soil level to tip of extended panicle on main culm)

[2][0] CM. SHORTER THAN . . . . . [5]

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

1 = BELLE PATNA 2 = BLUEBELLE 3 = NATO
4 = STARBONNET 5 = CALROSE 6 = REXORO

[0][4] NUMBER OF NODES Elongate

[4] INTERNODE COLOR (Outside)

[ ] SEPTUM COLOR (Inside Node)

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[2] Strength: 1 = STURDY (Starbonnet) 2 = INTERMEDIATE (Belle Patna) 3 = WEAK

4. LEAF BLADE (First Leaf Below Flag Leaf):

[3][6] CM. LENGTH [1][4] MM. WIDTH

[2] Color: 1 = PALE GREEN (Starbonnet) 2 = MEDIUM GREEN (Bluebelle) 3 = DARK GREEN (Calrose)
4 = PURPLE 5 = RED 6 = OTHER (Specify) _____

[1] Pubescence: 1 = GLABROUS 2 = INTERMEDIATE 3 = PUBESCENT

[2] Flag Leaf Angle: 1 = HORIZONAL 2 = ASCENDING 3 = ERECT

[3][0] CM. LENGTH OF FLAG LEAF (Booting Stage)

[1][7] MM. WIDTH (widest point) OF FLAG LEAF (Booting Stage)

5. LEAF SHEATH (First Leaf Below Flag Leaf):

[3] Ligule Length: 1 - NONE 2 = 20 MM. OR LESS 3 = 21 - 34 MM. 4 = MORE THAN 34 MM.

Color:

[2] SHEATH (Outside) [2] COLLAR

[2] SHEATH (Inside) [2] LIGULE

[2] SHEATH (Seedling) [2] AURICLE

1 = COLORLESS 2 = GREEN 3 = RED
4 = PURPLE 5 = OTHER (Specify) _____

 7400077 KOKU BELLE

[1] Type: 1 = OPEN 2 = INTERMEDIATE 3 = COMPACT

[1] Habit: 1 = DROOPING 2 = INTERMEDIATE 3 = ERECT

[2 5] CM. LENGTH

[3] Exsertion: 1 = LESS THAN 90% 2 = 90 - 99% 3 = 100% EXSERTION

7. SPIKELET:

[ ] Stigma Color: 1 = COLORLESS (White) 2 = YELLOW 3 = PURPLE 4 = RED

8. LEMMA AND PALEA:

[0 5] Color at Maturity

[0 5] Apiculus color at maturity

[0 5] Apiculus color at anthesis

01 = COLORLESS (White) 02 = GREEN 03 = YELLOW
04 = TAWNY 05 = STRAW 06 = GOLD
07 = BROWN FURROWS 08 = RED 09 = PURPLE
10 = PIEBALD 11 = BLACK 12 = OTHER (Specify) _____

[1] Pubescence: 1 = GLABROUS 2 = PUBESCENT ONLY ON LEMMA KEEL 3 = PUBESCENT

[1] Awn: 1 = AWNLESS 2 = TERMINAL SPIKELETS AWNED 3 = AWNED AND AWNLESS 4 = ALL SPIKELETS AWNED

[0 0] MM. AWN MAXIMUM LENGTH

9. SEED:

[1] Non-pigmented coat (Pericarp) ("Brown Rice" color): 1 = LIGHT 2 = MEDIUM 3 = DARKER

[ ] Pigmented coat (Pericarp): 1 = GOLD 2 = PURPLE 3 = RED 4 = BROWN 5 = SPECKLED BROWN

[1] Scent: 1 = NONSCENTED (Common) 2 = LIGHTLY SCENTED (Sadri) 3 = SCENTED (Popcorn aroma - Della)

may 3, 1974 letter - 99%

[1] Endosperm: 1 = NON-WAXY (common) 2 = WAXY (glutinous) [/] Endosperm: 1 = TRANSLUCENT, FEW CHALKY SPOTS 2 = CHALKY GERMTIP 3 = WHITE BELLY 4 = LARGE CHALKY CORE 5 = OPAQUE

[2] Shattering (Threshability): 1 = DIFFICULT THRESHING (Conway) 2 = THRESHES READILY 3 = SHATTERS

[2] Dormancy: 1 = LOW (0 days) 2 = MEDIUM (30 days) 3 = HIGH (90 days or more)

10. GRAIN:

[3] Paddy shape (length/width Ratio): 1 = SHORT (less than 2.2:1) 2 = MEDIUM (2.2:1 to 3.4:1) 3 = LONG (greater than 3.4:1)

MEASUREMENTS:

Grain Form	Length (mm.)	Width (mm.)	Thickness (mm.)	L/W Ratio	1000 Grains (Grams)
Paddy	0 8 7	2 4	2 0	3 0	2 1 3
Brown	0 7 1	2 0	1 6	3 2	1 7 5
Milled					1 5 5

3/28/75 letter 99%

MILLING QUALITY

[2 0] % HULLS [7 1] % TOTAL MILLED RICE

11. RESISTANCE TO LOW TEMPERATURE:

[2] Germination & Seedling vigor: 1 = LOW (Bluebelle) 2 = MEDIUM (Nato) 3 = HIGH (Caloro)

[2] Flowering (Spikelet fertility): 1 = LOW (Bluebelle) 2 = MEDIUM (Caloro) 3 = HIGH (Calrose)

12. RESISTANCE TO:

[3] Salinity: 1 = LOW (Bluebonnet) 2 = MEDIUM (Blue Rose) 3 = HIGH

[ ] Alkalinity: 1 = LOW (Bluebelle) 2 = MEDIUM (Dawn) 3 = HIGH (Arkrose)

13. RESPONSE TO PHOTOPERIOD:

[2] 1 = NON-SENSITIVE (Belle Patna) 2 = WEAKLY SENSITIVE (Blue Rose) 3 = STRONGLY SENSITIVE (Caloro)

PV # 7400077 KOKOBELLE

FORM GR-470-17 (Page 3 of 3 pages)

14. PYRICULARIA ORYZAE RESISTANCE (International races found under References, items 2 and 4 below.)
(0 = Not Tested; 1 = Susceptible; 2 = Resistant): Not Tested 5/3/74 letter

GROUP	IA	IB				IC			ID				IE		IG		IH				
NUMBER	109	1	33	49	54	1	17	19	1	8	13	14	1	3	1	2	1				
RESISTANCE																					

15. DISEASE RESISTANCE (0 = Not Tested; 1 = Susceptible; 2 = Resistant):

0 CERCOSPORA ORYZAE	0 ENTYLOMA ORYZAE	0 FUSARIUM PANICLE BLIGHT
0 HELMINTHOSPORIUM ORYZAE	0 HOJA BLANCA VIRUS	1 ~~0~~ LEPTOSPHAERIA SALVINII 3/24/75 letter PJH
0 PYTHIUM SEEDLING BLIGHT	0 RHIZOCTONIA ORYZAE	0 STRAIGHTENED
0 TILLETIA BARCLAYANA	0 WHITE TIP NEMATODE	0 OTHER (Specify)

16. INSECT RESISTANCE (0 = Not Tested; 1 = Susceptible; 2 = Resistant)

0 GRASS HOPPER	0 LEAF HOPPER	0 RICE HISPA
0 RICE MIDGE	0 STEM BORER	0 STINK BUG
0 SWARM CATERPILLAR	1 WATER WEEVIL	0 OTHER (Specify)

17. INDICATE A VARIETY WHICH MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Tillering	Bluebelle	Seed Shape	Bluebelle
Lodging	Bluebelle	Endosperm Transp.	Bluebelle
Leaf Angle	Bluebelle	Milling Quality	Bluebelle
Leaf Color	Bluebelle	Cook & Proc. Quality	Bluebelle

18. GIVE THE FOLLOWING AVERAGE DATA FOR SUBMITTED AND A SIMILAR VARIETY

VARIETY	PARBOIL CANNING STABILITY (% Loss)	PROTEIN * (%)	AMYLOSE ** (%)	ALKALI REACTION *** 1.7	2.0	GELATINIZATION TEMPERATURE (°C)
SUBMITTED						
SIMILAR						
NAME OF SIMILAR VARIETY						

*Hulled Rice - Dry Wt. **Milled Rice 11 - 12% Moisture ***Average spreading value in 1.7% and 2.0% KOH Solution.

REFERENCES

1. C. R. Adair et al, 1972. Rice in the United States: Varieties and Production. USDA Handbook No. 289 (Rev.), 124 pp.
2. J. G. Atkins, et al, 1967. An International Set of Rice Varieties for Differentiating Race of Pyricularia Oryzae. Phytopath. 57:297-301.
3. Te-Tzu Chang, 1965. The Morphology and Varietal Characteristics of the Rice Plant. IRRI Los Banos, Philippines Tech. Bulletin 4.
4. K. C. Ling and S. H. Ou, 1969. Standardization of the International Race Numbers of Pyricularia Oryzae. Phytopath. 59:339-342.
5. B. D. Webb et al, 1968. Characteristics of Rice Varieties in the USDA Collection. Crop Sci. 8:361-365.
6. Nickerson's or any recognized color fan may be used to determine plant colors of the described variety.

COMMENTS: