No. 7400075

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

'Tsuru Mai'

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

Attest:

S. Rollin

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

Earl L. Butz

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 Tsuru Mai	2. KIND NAME Rice	FOR OFFICIAL USE ONLY PVPO NUMBER 7400075
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:

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).

Mar 10 - 74
(DATE)

Rice Researchers Inc
Arthur H Williams
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

7400075

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Tsuru Mai

Exhibit A

Origin and Breeding History

Tsuru Mai originated in California from a hand polinated cross between Kokuho Rose and (Smooth #4 x Calady 40) x Calrose.

Fifteen lines were selected from the F5 generation on the basis of being about fifteen inches shorter than the one parent Kokuho Rose. After checking for kernal appearance and milling quality, two pure lines were mixed for the final variety.

The final selections more resemble its parent Kokuho Rose except for height. It matures about ten days earlier than Kokuho Rose. Tsuru Mai is an excellent quality table rice. It is medium grain and the kernal is almost free from white belly.

The variety has good cooking quality and the best flavor of any of the present varieties in California.

AWNS WILL VARY FROM TIP TO VERY SHORT (1/4 inch). OTHER THAN THAT, NO VARIANTS ARE EXPECTED. letter 3/24/75 - 9912.

7400075

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Tsuru Mai

Exhibit B

Botanical Description

Tsuru Mai is a strong medium grain variety, and unlike California varieties, does not resemble the Japanese varieties. The plant type is somewhat between the Southern medium grain types and the California Japanese types.

The seedlings are strong and vigorous, responding well to water seeding.

The culm is heavy, stiff, medium length upright, and is pubescent as well as the leaves and grain.

The second foliar leaf is long with small angle.

The flag leaf is upright until heading after which it breaks at almost 90 degree angle. It is also very broad and long.

The plant tillers well. The seeds are strong medium grain and awns vary from slight to tip.

The panical is lax and very long and tips immediately after heading. The lemma and palea are straw colored.

Tsuru Mai

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 7400075

VARIETY NAME OR TEMPORARY DESIGNATION TSURU MAI

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 (85 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):

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

3. STEMS (Full Heading):

[0 9 8] CM. TALL (Soil level to tip of extended panicle on main culm)

[3 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

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

[4 0] CM. LENGTH [1 0] MM. WIDTH

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

[3] 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 4] 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) _____

'Tsuri Mai'

PV # 7400075

Exhibit D

'Tsuri Mai' most closely resembles 'Kokuho Rose,' except 'Tsuri Mai' is shorter (38.5 vs. 54 inches) and heads earlier (95 vs. 105 days) than 'Kokuho Rose.'

Arthur H. Williams

7400075

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Tsuru Mai

Exhibit E

Statement of the Basis of Applicant's Ownership

Breeder is employed by the applicant.

Rice Researchers Inc. is THE OWNER 7/23/74

 7400075 TSURT JJH 1/1/A1

6. PANICLE:

[2] 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:

[1] 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) _____

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

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

[3 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)

[1] Endosperm: 1 = NON-WAXY (common) 2 = WAXY (glutinous)

May 3, 1974 letter JJH

[1] 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:

[2] 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 3	3 2	3 0	2 6	3 0 2
Brown	0 6 5	2 4	2 0	2 7	2 6 6
Milled	0 6 3	2 3	2 0	2 7	2 3 1

JJH 3/28/75 letter

MILLING QUALITY

[2 0] % HULLS

[7 1] % TOTAL MILLED RICE

11. RESISTANCE TO LOW TEMPERATURE:

[1] 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:

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

 7400075

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

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	0 LEPTOSPHAERIA SALVINII
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	Kokuho Rose	Seed Shape	Kokuho Rose
Lodging	Kokuho Rose	Endosperm Transp.	Kokuho Rose
Leaf Angle	Kokuho Rose	Milling Quality	Kokuho Rose
Leaf Color	Kokuho Rose	Cook & Proc. Quality	Kokuho Rose

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: