

Directorate of Research
Bihar Agricultural University, Sabour-813210

File. No. DR/327/ Letter No..34.6

Date...03.06.2016.

To,

Registrar of Geographical indications
Intellectual Property Building,
DST Road, Guinaly,
Chennai-600032.

Sub: Regarding statutory fee under Geographical indications at Bihar Agricultural University, Sabour, Bhagalpur.

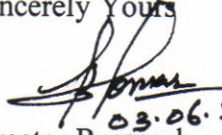
Sir,

Kindly find enclosed herewith an account payee cheque no. 997733 dated 02.06.2016 amounting to Rs. 20,000=00 (Rupees Twenty thousand) only which is to be given 5,000=00 per variety in registration fee for geographical indications i.e. (1) Zardalu Mango (2) Shahi Litchi (3) Katarni Rice and (4) Magahi Pan. The variety is popular in Bihar.

You are kindly requested to Geographical Indications for registration under GI act.

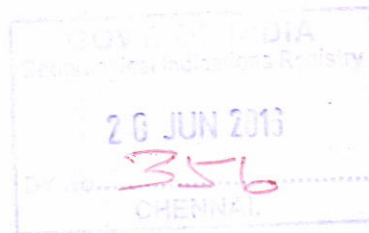
Thanking you.

Sincerely Yours


03.06.2016
Director Research
Bihar Agricultural University
Sabour, Bhagalpur (BIHA
P.N. 813210

Copy to:

Dr. R. R. Singh, Assoc. Prof. Deptt. of Horti (Fruit)/ Dr. Mankesh Kumar, Asstt. Prof. Deptt. of PBG/ Dr. Ruby Rani, Asstt. Prof. Deptt. of Horti. (Fruit)/Dr. Prabhat Kumar, I/C BRC, Islampur/Dr. Chandan Roy, Asstt. Prof., Deptt. of PBG & Nodal Officer PPV & FR for information and necessary action.





भारतीय स्टेट बैंक
State Bank Of India

(11805) - SABOUR
SABOUR BHAGALPUR
BIHAR
Tel: 641-2451601 IFS Code : SBIN0011805

केवल 3 महीने के लिए वैध / VALID FOR 3 MONTHS ONLY
02062016
D D M M Y Y Y Y

PAY Registrar of Geographical indications.
रुपये RUPEES Twenty thousand only.

को या उनके आदेश पर OR ORDER

अदा करें ₹ 20,000=00

खा. सं.
A/c No.

31966078934

VALID UPTO ₹ 50 LACS AT NON-HOME BRANCH

CURRENT A/C

PREFIX:
1516200001

Ratul Kumar
Asst. Comptroller
Directorate of Research
B.A.U., Sabour (Bhagalpur)

Homan
Director Research
DIRECTOR-RESEARCH A/C
Bihar Agricultural University
Sabour Bhagalpur (BIHAR)
PIN - 813210

MULTI-CITY CHEQUE Payable at Par at All Branches of SBI

⑈997733⑈ 812002012⑈ 000138⑈ 29

23-04-2016
MANIPAL TECHNOLOGIES LIMITED, KARNATAKA / CTS-2010

Proposal on

**GEOGRAPHICAL INDICATION OF KATARNI
RICE**

Submitted to

The Registrar,

Geographical Indications Registry Intellectual Property Office

Building, Industrial Estate, G.S.T Road

Guindy, Chennai – 600 032



Bihar Agricultural University, Sabour

Bhagalpur- 813 210, Bihar,

Received Rs. 5000 in cash/
Cheque/DD/MO on 20-6-2016
vide entry no. 3046 in the
register of valuables
Cashier
D.D.O.

Application for the Geographical Indication of Katarni rice

Application is hereby made by Bihar Agricultural University, Sabour for the registration in Part A of the Register of the accompanying geographical indication furnishing the following particulars: -

- A) **Name of the Applicant** : Bihar Agricultural University, Sabour, Bhagalpur- 813 210, Bihar.
- B) **Address** : The Director Research, Bihar Agricultural University, Sabour, Bhagalpur- 813 210, Bihar, Phone No.-(0641)- 245105858-58, Email : drbau1908@gmail.com
- C) **List of association of persons/producers/organisation/authority** :
- C) **Type of Goods** : Class-30-Rice
- D) **Specification** :

“Katarni Rice” is the most prevalent, ceremonial and finest quality scented rice of Bihar, India. The word “Katarni” literally means an *awl* with a hook at the end for sewing. Awl is a pointed tool for making holes, as in wood or leather. The name “Katarni Rice” has been given its name due to the resemblance of the tip of its husk (apicull) with *awl* which also called ‘*takna*’ in South Bhagalpur and ‘*tipuni*’ in South Munger. “Katarni Rice” is famous for its aromatic flavour, palatability and *chura*(beaten rice) making qualities.

Source:

Book: “Bihar Peasants Life”. By George A. Grierson. Publisher: The Bengal Secretariat Press(London).Edn.1885

(http://archive.org/stream/biharpeasantlife01griegoog/biharpeasantlife01griegoog_djvu.txt)

Plant: Vigorous, Tall (140-175 cm).

Leaf: Dark Green, Length (Flag Leaf): 28-34cm.

Grain: Medium Slender (L<6.0mm, L/B ratio: 2.5-3.0)

Colour: Straw

Amylose content: Medium (20-25%)

Cooking time: The cooked rice is fluffy, soft, non-sticky, sweet, and easily digestible with pop-corn like aroma.

E) Name of the Geographical Indication:



F) Description of Goods:

“Katarni Rice” is one of the famous fine grain quality scented landrace of Bihar, India. The name Katarni has been derived due to the shape of the apex of paddy which is similar to the tip of *awl*. It is famous for its taste, palatability and aroma.

The morphi-agronomic and grain quality characters of Katarni are as follows:

a. Morphi-agronomic traits of Katarni

Sl. No.	Traits	Description
1	Tillering Ability	Medium (14 tiller/hill)
2	Days to 50% flowering	130 days (photo sensitive)
3	Days to maturity	160 days (photosensitive)
4	Flag Leaf Length	30cm
5	Flag Leaf Width	1.03cm
6	Panicle length	26cm
7	Plant height	165cm
8	Aroma in Plant	Scented
9	Panicle/m ²	270
10	Awning	Absent
11	Lemma, palea colour	Golden Straw

b. Grain quality characters of Katarni

Sl. No.	Grain Traits	Description
1	Kernel length	4.67mm
2	Kernel Breadth	1.74mm
3	L/B ratio	2.68
4	Grain Type	Medium Slender
5	Kernel Colour	White
6	1000 grain weight	12.7gm
7	Hulling%	79%
8	Milling%	65.6
9	Head Rice	61.5
10	Alkali Value	4.0
11	Volume expansion	4.2
12	Gel consistency	67mm
13	Amylose Content	23.06%
14	Aroma in grain	Strongly Scented

G) Geographical area of production and Map:

Geographical area of production of Katarni Rice includes districts of Zone IIIA of South Bihar as defined by the Department of Agriculture which is comprised of south alluvial Gangetic plane of Munger, Banka and South Bhagalpur and part of Jamui District.

H) Proof of Origin: Few reports regarding the relatedness of Katarni Rice with Bhagalpur and its adjoining area are as follows:

1. Katarni is listed in the some important traditional photo-sensitive rice cultivars popular in Bihar and reported to be adopted in the plains of Bhagalpur Region.

(Source:

- i. Participatory plant breeding in Rice, By Dr. R. Thakur;
- ii. Varietal Information of Bihar Region available at <http://www.rkmp.co.in>)
- iii. Ahuja U, Ahuja SC, Thakrar R and Rani NS (2008). Scented Rices of India. *Asian Agri. History* 12(4): 267-287.
- iv. In the study entitled "Problems and prospects of Katarni Paddy production in Bihar" conducted by Ministry of Agriculture, Govt. of India (<http://www.aercbhagalpur>).
- v. Sinha RK, Kumar B and Marandi RK. (2015). Book Chapter on "Envisaging Argus-Eyed Measures to Preserve Aromatic Katarni Paddy: An Analytical Over-view of Bihar". pp: 15-24. Book on Agricultural situations in India. Published by Directorate

of Economics and Statistics, Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India, New Delhi.

- vi. Jha BK, Sinha RK. (2014). Book Chapter on “A study of Diversification of Katarni to HYV Paddy in Eastern India”. Book on India Studies in Business and Economics. pp 89-95. Publisher: Springerlink.
- vii. “Agri scientists recover aroma of Katarni rice” news clipping dated 23-09-2013 published in Business Standard.
- viii. Bhagalpur Editions of hindi daily “Dainik Jagran” .

I) Method of production:

Katarni rice is medium slender grained, tall and photosensitive landrace which flowers in the temperature range of 30-28⁰C (day) and 20-18⁰C (night) with 10-12 hrs day period and grain filling occurs in hazy sunshine in 8-10 hrs day period. It is tolerant to cold but sensitive to rain at flowering. The various agronomical practices being followed by the farmers are as follows:

a. Seed rate: 15 Kg/hectare

b. Preparation of Nursery:

- i. The field needs to be irrigated once to keep the soil cool before preparing the nursery beds.
- ii. The raised nursery beds should be prepared after mixing the soil with vermicompost.
- iii. After preparation of nursery beds, the seeds should be broadcasted uniformly in the raised beds and the seeds should be covered with thin layer of light soil. Time of nursery sowing: 15th July to 25th July.
- iv. After 3 days of sowing, the germinated seeds emerge from the soil and the nursery beds needs to be irrigated.
- v. After 20-22 days, the nursery is to be transplanted in the field.

c. Manures and Fertiliser: Manures @ 20t/ha and fertiliser dose @40:20:20Kg NPK per hectare.

d. Spacing: 20 x 15 cm

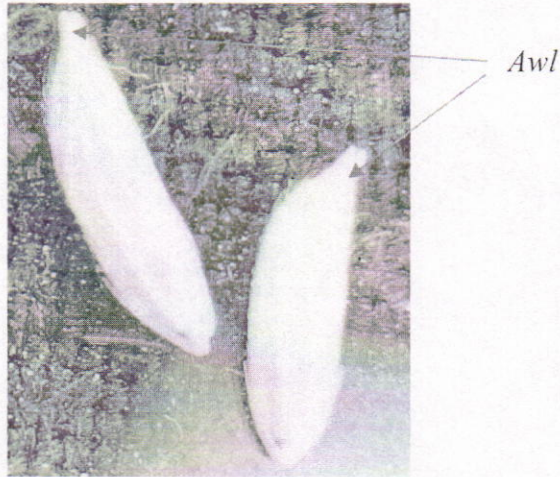
e. Pest and Disease: Before the seeds are sown requisite treatment for pest and resistance and control should be done to keep the seeds safe and free from diseases that manifest in at this stage.

f. Time of Harvesting: Last week of November to Mid December.

J) UNIQUENESS:

i. On Morphological Traits

- a. The husk is dark brown.
- b. Aroma of both cooked and uncooked rice is strongly scented.
- c. The shape of the apex of paddy which is similar to the tip of *awl*.



- d. Newly milled rice is non-sticky, digestible and sweet.
- e. The cooked rice is fluffy.
- f. The beaten rice (*Poha* or *Chura*) of Katarni is scented, very soft and sweet.

Note: The morphological features of Katarni Rice based on the DUS (Distinctness, Uniformity and Stability) traits of Katarni Rice as suggested by PPVFR&A, New Delhi is enclosed.

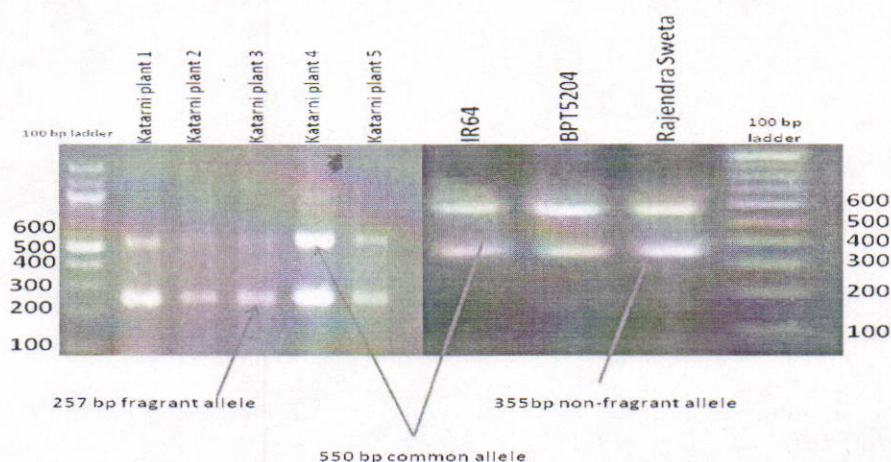
ii. On Molecular Basis:

Upon amplification with SSR (Simple Sequence Repeat) markers and gene specific markers for *fragrance* gene in rice, Katarni shows specific bands in PCR which may be attributed to its uniqueness. These are mentioned below:

- a. PCR amplification of Katarni Rice with Few Rice SSR markers:

Sl. No.	Name of the Rice SSR markers	Size of the amplified bands in base pairs				Gel Picture
		Katarni	IR64	BPT5204	Rajendra Sweta	
1	RM5	130	117	111	111	
2	RM514	272	295	263	272	
3	RM19	214	241	241	241	
4	RM161	180	162	162	162	
5	RM11	153	167	159	153	
6	RM 212	131	107	115	118	
7	RM413	65	108	84	78	

b. PCR amplification of Katarni Rice using the gene specific primer for aroma (*BADH2*) in rice (Bradbury *et al.* 2005)



The Katarni rice shows amplification of 257bp band which indicate the presence of gene responsible for 2-acetyl pyrroline synthesis in rice for aroma development.

J.) INSPECTION BODY:

The performance of Katarni for its quality and yield has been evaluated in multilocational state trials at BAU, Sabour as well as in the AICRIP trial for short aromatic rice grains during 2012-2014.



▲ Geographical Area of Production of Katarni

SIGNATURE
NAME OF THE SIGNATORY (IN BLOCK LETTERS)

Head of the Institution

Morphological Characters of Katarni Rice

S.N.	Characteristics	State in Katarni Rice
1	Coleoptile: Colour	Colourless
2	Basal leaf: Sheath colour	Green
3	Leaf: Intensity of green colour	Light
4	Leaf Sheath: anthocyanin colouration	Absent
5	Leaf auricles	Present
6	Leaf: Anthocyanin colouration of auricles	Colourless
7	Leaf: Collar	Present
8	Leaf: Anthocyanin colouration of collar	Absent
9	Leaf: Ligule	Present
10	Leaf: Shape of ligule	Split
11	Leaf: colour of ligule	White
12	Leaf: length of blade(cm)	Long (>45cm)
13	Leaf width(cm)	Narrow (<1cm)
14	Culm: attitude	Erect
15	Time of heading(days): 50% of plants with panicles	Late (111-130 days)
16	Flag leaf: attitude (early observation)	Erect
17	Lemma: Anthocyanin colouration of keel	Absent
18	Lemma: Anthocyanin colouration of area below	Absent
19	Lemma: Anthocyanin colouration of apex	Absent
20	Spikelet: Colour of stigma	White
21	Stem: Thickness	Medium (0.40-0.55 cm)
22	Stem: Length (cm) (excluding panicle)	Medium (111-130 cm)
23	Stem: Anthocyanin colouration of nodes	Absent
24	Stem: Anthocyanin colouration of internodes	Absent
25	Panicle: Length of main axis (cm)	Long (26-30 cm)
26	Flag leaf: Attitude of blade (late observation)	Semi-erect
27	Panicle: Curvature of main axis	Dropping
28	Panicle: Number per plant	Medium (11-20)
29	Spikelet: Colour of tip of lemma	Yellowish
30	Lemma and Palea: Colour	Gold and gold furrows on straw background
31	Panicle: Awns	Absent

32	Panicle : Presence of secondary branching	Absent
33	Panicle: Attitude of branches	Erect to semi-erect
34	Panicle: Exertion	Well exerted
35	Time maturity (days)	Late (141-160)
36	Sterile lemma: Colour	Straw
37	Grain: Weight of 1000 fully developed grains	Low (15-20 g)
38	Decorticated grain (without husk):Length (mm)	Medium (<6.0mm)
39	Decorticated grain: Width (mm)	Narrow(<2.0 mm)
40	Decorticated grain: Shape (in lateral view)	Medium slender
41	Decorticated grain: Colour	White
42	Endosperm: Content of amylose	Medium (20-25%)
43	Gelatinization temperature through alkali spreading	Medium (4-5)
44	Decorticated grain: Aroma	Present