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भौगोलिक उपदर्शन पत्रिका

GEOGRAPHICAL INDICATIONS JOURNAL



बौद्धिक सम्पदा
भारत
**INTELLECTUAL
PROPERTY INDIA**

भौगोलिक उपदर्शन पंजीकृति,
बौद्धिक सम्पदा अधिकार भवन,
जी.एस.टी. रोड, गिण्डी,
चेन्नै - ६०० ०३२.

**Geographical Indications Registry,
Intellectual Property Rights Building,
G.S.T. Road, Guindy, Chennai - 600 032.**



**GOVERNMENT OF INDIA
GEOGRAPHICAL INDICATIONS
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OFFICIAL NOTICES

Sub: Notice is given under Rule 41(1) of Geographical Indications of Goods (Registration & Protection) Rules, 2002.

1. As per the requirement of Rule 41(1) it is informed that the issue of Journal 88 of the Geographical Indications Journal dated 28th July, 2016 has been made available to the public from 28th July, 2016.

NEW G.I APPLICATION DETAILS

App.No.	Geographical Indications	Class	Goods
555	Gazhipur Jute Wall-hanging Craft	27	Handicraft
556	Varanasi Soft Stone Undercut Work	27	Handicraft
557	Chunar Sand Stone	19	Natural Goods
558	Boka Chaul	30	Agricultural

PUBLIC NOTICE

No.GIR/CG/JNL/2010

Dated 26th February, 2010

WHEREAS Rule 38(2) of Geographical Indications of Goods (Registration and Protection) Rules, 2002 provides as follows:

“The Registrar may after notification in the Journal put the published Geographical Indications Journal on the internet, website or any other electronic media.”

Now therefore, with effect from 1st April, 2010, The Geographical Indications Journal will be Published and hosted in the IPO official website www.ipindia.nic.in free of charge. Accordingly, sale of Hard Copy and CD-ROM of GI Journal will be discontinued with effect from 1st April, 2010.

Registrar of Geographical Indications

G.I. APPLICATION NUMBER – 473

Application Date: 26-03-2014

Application is made by **Bhiwapur Mirchi Utpadak Samuha Gat**, Chikhalpar, Taluka: Bhiwapur, District: Nagpur, Maharashtra, India for Registration in Part A of the Register of **BHIWAPUR CHILLI** under Application No: 473 in respect of Chilli falling in Class – 30 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) **Name of the Applicant** : Bhiwapur Mirchi Utpadak Samuha Gat
- B) **Address** : Bhiwapur Mirchi Utpadak Samuha Gat,
Chikhalpar, Taluka: Bhiwapur, District: Nagpur,
Maharashtra, India
- C) **Types of Goods** : **Class 30 – Chilli**

D) Specification:

Bhiwapur Chilli is known for its pungency. The colour is dark red. Outer covering is thick hence less chances of breakage and long shelf life. Its length approximately measures 1.5 inch which describes its short size. The red colour of Bhiwapur chilli is darker than other Chillies like Guntur chillies. The Chilli powder gives red colour to the respective food items without any side effects like acidity. This variety of chillies requires only one irrigation cycle and less crop protection measures. Due to its pungency, less quantity of Bhiwapur red Chilli powder is sufficient in food preparations and other uses.

E) Name of the Geographical Indication:

BHIWAPUR CHILLI



F) Description of the Goods:

Pepper or chilli (*Capsicum annum L.*) belongs to Solanaceae family. Bhiwapur, Umred and Kuhi talukas from Nagpur district are famous for dry red chilli production in Maharashtra and India. This special type of chilli was originated from Bhiwapur hence became famous as a Bhiwapur Chilli.

Following are the main features of Bhiwapur Chilli:

- Bhiwapur Chilli is known for its pungency.

- The color is dark red.
- Outer covering is thick hence less chances of breakage and long shelf life.
- Length is approximately 1.5 inch hence short in size.
- Chilli powder does not attract insects, pests and can be stored for longer duration i.e. up to one year.

In the year 1986-87 Dr. PDKV University, Akola had tested Local Bhiwapur Chillies under summer as well as in Kharif season.

In Kharif Season (1986-87):

- Height of the crop: 64.67 cm
- Yield (wet red chillies): 27.46 quintal per ha
- Length: 4.2 cm
- Girth: 1.7cm
- Fresh wt of 40 fruits: 181.00 g
- Dry wt of 50 fruits: 43.2 g
- Moisture: 76 %
- Wt of seeds of 50 fruits: 18.20 g
- No of fruits per plant: 59.28
- Days required for flowering: 77

In summer (1986-87):

- Days required for flowering: 78 days
- Height of the crop: 36.8 cm
- No of fruits per plant: 43.8
- Yield of green chillies: 11.38 quintal per ha

In summer (1987-89):

- Days required for flowering: 76 days
- Height: 42.4 cm
- No of fruits per plant: 43.1
- Yield of green chillies: 11.85 quintal per ha

G) Geographical area of Production and Map as shown in page no: 36

In Nagpur district Umred, Bhiwapur and Kuhi talukas are famous for Bhiwapur Chilli variety. The total production of Bhiwapur Chillies is 1-5% of the total production of chillies in Nagpur. The name – ‘Bhiwapur’ is derived from the name of goddess Bhima.

Total areas of Bhiwapur, Umred and Kuhi talukas are 61,822 hectare, 89116.55 hectare, 79495.88 hectare respectively; out of which 44,234 hectare land is Agricultural land in Bhiwapur.

Nagpur district lies between 20.35 to 21.44 degree North Latitude and 78.15 to 79.40 degree East Longitude. Bhiwapur: 20°50'08"N 79°30'04"E, Umred:20.85°N 79.33°E
Kuhi: 21.0108242°N 79.3524241°E

H) Proof of Origin (Historical records):

Over a long period of time Bhiwapur is famous for its distinct crop-‘Red chillies’. Records of Central Indian Provinces state that Bhiwapur Chilli is cultivated over

many generations in Bhiwapur, Kuhu and Umred talukas. Many farmers are cultivating Bhiwapur Chilli for more than 40-50 years. According to the information given in Nagpur Gazetteer, in 1961, about 25 red chilli brokers were in Bhiwapur market paying Rs.5 as license fee per annum (Nagpur).

The Nagpur Gazetteer (1966) also finds mention of the Bhiwapur Chilli and Bhiwapur being the largest Chilli market in the district.

I) Method of Production:

Total cultivation and processing period of Chilli is near about 240-270 days. Seeds of dried Chillies are sown in soil which is packed in small packets. Usually the seeds are sown in the month of July, which grows up to 6 inch till 1st week of August. These Small seedlings are then transplanted in a land specially prepared and nourished by using manure, cow dung and compost etc. Potash, Zink, PSB, Azetobacter, Rhizobium etc. are also added to soil for Chilli cultivation.

Crops become 15-20 inches tall till September after that within 45-50 days from transplantation the flowering period starts. 60 days after cultivation green Chillies start taking shape. Thereafter, fruits of Chillies mature and become red in color. It is kept on the plant itself until it turns red. Then farmers harvest these red Chillies before they get fully dried and this chilli is called as "toda" in local language. These Chillies are kept for sun drying and then Chilli powder is prepared from the dried red chillies.

No machinery is used while cultivation and this is the special characteristic of this chilli cultivation. Yield is relatively low as compared to the hybrid variety but market value is high because of the quality of the chilli.

A research study of adoption of recommended chilli cultivation practices was conducted in Bhiwapur region of Nagpur district. The majority of the farmers had medium level overall adoption of recommended chilli cultivation practices. The cent per cent of farmers in the area have fully adopted the recommended practice of harvesting of red chilli. In chilli nursery management majority of farmers fully adopted practices like age of seedling, type of soil, seed sowing depth and row distance, seed rate, size of seed bed and chilli varieties. In main chilli field majority of farmers fully adopted practices like time of transplanting, land preparation, intercultural operations, dipping of land preparation, intercultural operations, dipping of seedlings in chemical, spacing and doses of fertilizers.

J) Uniqueness

Geographical Significance:

1. Soil

Soil of Bhiwapur taluka has good water holding capacity, which is suitable for cultivation of Chillies. The soil is rich in the micro-nutrients. Good percent of Iron, Manganese and Copper is present in the soil which gives red colour to the Bhiwapur Chillies.

Soil Analysis report

Chemical	Concentration of chemical in ppm
Copper	0.20-1.16
Iron	4.50-1.34
Manganese	2.00-5.02
Zink	0.65-1.23

2. Rainfall

The average annual rainfall ranges between 1250-1350 mm. Average rainfall is 1154.62 mm. Monsoon is from June to October and the amount of rainfall is sufficient to grow chilli crop in Kharif season

3. Climate

Bhiwapur has tropical climate, which is hot and dry in summer. In the rainy season climate remains dry and humid. The average annual temperature in Bhiwapur is 30°C.

The hot and humid atmosphere required for chilli cultivation is there in Bhiwapur taluka. The climatic elements such as temperature, humidity, bright sunshine hours of these talukas are quite favorable for growth, development and yield of chilli. The quality of Bhiwapur Chilli leads to superior due to good climatic and soil factors.

Uniqueness of Bhiwapur Chilli:

Chilli owes its hot sensory taste to capsaicinoids as major group of organic compounds. Major capsaicinoids present in most varieties of the chili are capsaicin (tran-8-methyl-N-vanillyl-6-nonenamide) and dihydrocapsaicin (8-methyl-N-vanillylnonanamide). Chilli pungency is measured in Scoville Heat Units (SHU).

Capsaicinoids concentration was determined for available market chilli samples along with Bhiwapur Chilli. It was observed that the Capsaicinoids concentration among the samples ranged between 0.18 to 0.82%. Samples 1, 2, 3, 4, and 15 showed higher concentrations. These varieties were typical and were obtained from nearby chilli cultivation region of Bhiwapur.

Concentration of Capsaicinoids in Real Chilli Pepper Samples

Samples	Total Capsaicinoids (%)	SHU
Sample 1	0.77	115733
Sample 2	0.76	117098
Sample 3	0.78	117090
Sample 4	0.87	130498
Sample 5	0.27	40500
Sample 6	0.17	25500
Sample 7	0.18	26903
Sample 8	0.29	43050
Sample 9	0.29	44640
Sample 10	0.28	42660
Sample 11	0.35	52650

Sample 12	0.37	56385
Sample 13	0.36	53940
Sample 14	0.49	74235
Sample 15	0.82	124290

Capsaicinoid content in Bhiwapur Chilli is higher than other varieties. Colour value of Bhiwapur Chilli is more than Guntur variety. Even though Byadgy chilli is more red in colour but it does not have inherent pungency. Therefore, when Bhiwapur chillies are used in preparation of food items, it gives more colour than Guntur chillies which is more attractive to eyes and add pungent taste to the food than those of Byadgy chillies. The Chilli powder gives red colour to the respective food items without any side effects like acidity.

Size of this Chilli is small approximately 1-1.5 inch. Bhiwapur chilli is thicker than any other variety including hybrid varieties. Cover of Bhiwapur Chilli is thick hence it can be stored for longer duration and there are less chances of breakage.

Chilli powder does not attract insects, pests and can be stored for longer duration i.e. up to one year.

Comparison of most extensively used chillies in Maharashtra is given in the following table. Analysis of Scoville Heat Units (SHU) of Bhiwapur chillies, Guntur Chillies and Byadgi chillies shows that Guntur chilli is more pungent than Bhiwapur chilli because of higher SHU but colour value of Guntur chillies is less than Bhiwapur chillies. Even though Byadgy chilli is redder in colour it does not have inherent pungency. Therefore when Bhiwapur chillies are used in preparation of food items give more colour than Guntur chillies which is more attractive to eyes and add pungent taste to the food than those of Byadgy chillies.

Comparison for SHU of different Chilli

Commodity → Parameters ↓	Bhiwapur Chilli	Guntur Chilli	ByadgyChilli
Scoville Heat Units (SHU)	20,000	35,000 to 40,000	Nil
Capsaicin	0.12%	0.226%.	0.03%
ASTA colour value	36.3	32.11	150-200

*ASTA-American Spice Trade Association

K) Inspection Body

The quality of Bhiwapur Chilli will be monitored by an Internal Watchdog Mechanism in order to maintain the original physical and chemical characteristics as per GI registration.

The system of internal watchdog mechanism will consist of following committee members:

- i) Representative of Producer group of Bhiwapur Chilli
- ii) Three (3) farmers from the area under cultivation
- iii) GI Experts
- iv) Agriculture Expert.

Bhiwapur Mirchi Utpadak Samuha Gat has constituted an Inspection Structure to oversee the standards and quality assurance system for inspection of every step of production of Bhiwapur Chilli and statutory compliances thereof.

This Inspection Structure consists of President / Vice-President / Secretary / Treasurer of the Applicant Organization, Farmer Members, GI Experts, and Agriculture Experts. This committee will also help to regulate the use of Geographical Indications for the welfare of local farming community. The committee will frame the terms and conditions to use brand name of Bhiwapur Chilli by any of the marketing agency. The logo of Bhiwapur Chilli GI will be used to create brand image.

The names of the members of the Inspection Structure and Internal Watchdog Mechanism are available on applicants' record and can be furnished if required.

L) Others

- Medicinal value of Bhiwapur Chilli:
- Chilli has medicinal values on -
- Reduces Arthritis pain
- Zoster related pain
- Dialectic properties
- Neuropathy and headache
- Stimulation of the digestive system
- Burns the calories easily
- Vitamin A present in this Chilli reduces inflammation of lungs and emphysema caused due to cigarette smoking.
- This Chilli has Vitamin C and Vitamin A containing beta-carotenoids which are powerful antioxidants.

Food value of Bhiwapur Chilli:

Chillies are excellent source of-

- Vitamin A
- Vitamin B
- Vitamin B6
- Vitamin C
- Molybdenum
- Very high Potassium

- Magnesium

Nutritional Value of Bhiwapur Chilli: per 100 g

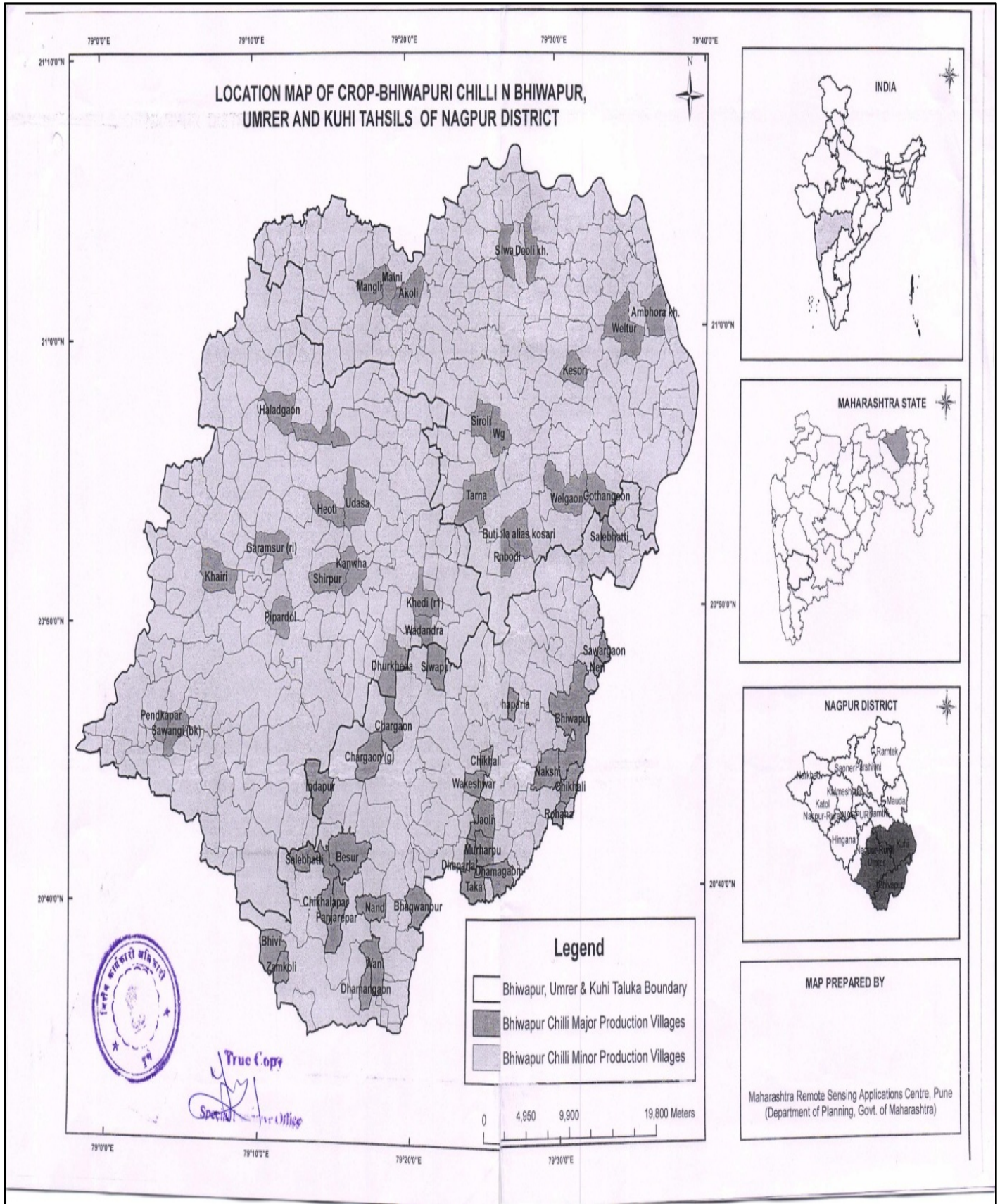
- Energy: 166 Calories
- Sugar: 5.3g
- Carbohydrates: 8.8g
- Dietary fibers: 1.5g
- Fats: 0.4g
- Proteins: 1.9g
- Rich in phosphorus (3.1 mg), 480 mg calcium
- Rich in Iron, Magnesium, Potassium.

Culinary use:

- As one of the main Spices in Indian Food.
- Oleoresin used in beverages and imparting colour to the meat.
- Vharadi Mirchi Thecha made from Bhiwapur Chillies.

Cosmetic Use:

Colour (Oleoresin) is one of valuable attributes of this chilli, valued for its use in food as well as in cosmetic industries. Oleoresins (red colour) are used in lipsticks, Nail polish and other cosmetics.



G.I. APPLICATION NUMBER – 478

Application Date: 26-03-2014

Application is made by **Mulshi Taluka Ambemohar Samvardhan Sangha**, at Post: Khechare, Taluka: Mulshi, District: Pune, Maharashtra, India for Registration in Part A of the Register of **AMBEMOHAR RICE** under Application No: 478 in respect of Rice falling in Class – 30 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) Name of the Applicant** : Mulshi Taluka Ambemohar Samvardhan Sangha
- B) Address** : Mulshi Taluka Ambemohar Samvardhan Sangha
at Post: Khechare, Taluka: Mulshi, District:
Pune, Maharashtra, India
- C) Types of Goods** : **Class 30 – Rice**
- D) Specification:**

For many centuries, aromatic rice has been preferred for consumption because of its pleasant aroma and unique taste. Scented rice constitutes a small but a special group of rice, considered as of best quality. The Indian subcontinent flourishes with hundreds of indigenous aromatic cultivars and landraces, and the diversity of scented rice of India is highest in the world. Scented rice is further classified as basmati and non-basmati types.

The non-Basmati varieties such as Ambemohar Rice excel like Basmati varieties as far as aroma and other characters are concerned and thus are traded popularly in the market.

The introduction of hybrid rice varieties has further contributed in reduction in area under cultivation of non-basmati scented rice. As a result, most of this valuable wealth has either already vanished or is on a decline. The cultivation of non-basmati scented rice is now confined to limited pockets where farmers grow them either for self-consumption or for special occasions. Since local varieties are a rich source of gene pool (Malik et al. 1994), it is vital to collect, characterize, document, and conserve these varieties.

Ambemohar rice is traditional variety of rice of Maval region in Pune District. Ambemohar rice is especially famous for its sweet taste and aroma. It is white in colour with short grain size. Aroma of this variety is like blossoms of mango, when cooked. This rice is preferred due to its softness and chew ability.

From Ambemohar, pure line selections Ambemohar-157, Ambemohar-159, and Ambemohar-102 were developed and released.

E) Name of the Geographical Indication:

AMBEMOHAR RICE



F) Description of the Goods:

Ambemohar rice is white in color. Grain size is short. Panicle size of the Ambemohar crop is long but the numbers of grains in a panicle are less. Ambemohar rice crop is tall around 6 feet in height. The cultivation period is 140-160 days. Aroma of this variety is like blossoms of mango, when cooked. This rice is preferred due to its softness and chew ability. Taste of this rice variety is sweet. Kernel size is small after cooking.

The grain characteristics of Ambemohar rice are as below:

Av. length (mm):	4.73 ± 0.13;
Av. breadth (mm):	2.37 ± 0.05;
L/B:	2.00;
Av. test weight (g):	13.47 ± 0.23.

Chemical Properties of Ambemohar rice are as below:

Apparent amylase	
Content ± SD (%):	22.56 ± 0.41;
Gel Length (mm):	39.5;
Alkali Spreading	
Value (ASV):	4.17.

Cooking characteristics of Ambemohar rice are as below:

Av. Lc ± SD (mm):	8.11 ± 0.44;
Av. Bc ± SD (mm):	2.97 ± 0.091;
CC:	2.18;
CE:	1.71;
CLF:	1.25;
Lc / Bc:	2.73.

{ Av.- Average; Lc- Length of cooked grain; Bc- Breadth of cooked grain, CC- Coefficient of cooking, CE- Coefficient of elongation, CLE- Coefficient of latitudinal expansion }

A study was carried out to find out the comparative effects of NaCl stress towards germination, plant growth and various biochemical parameters including total proteins, sugars and carbohydrates, starch and proline accumulation in two local highly popular indica scented non-basmati type rice genotypes, namely Ambemohar and Indrayani.

The findings of the study are summarized in the tables below, the control values shall be considered for the under the physico-chemical characteristics of Ambemohar Rice. Relevant values are highlighted herewith.

Table 1. Effect of different concentrations of NaCl on germination and growth parameters at seedling level in rice cultivars

Rice Cultivar	NaCl stress (mM)	Germination percentage	Root length (cm)	Shoot length (cm)	Root/shoot ratio
		Mean \pm S.E.	Mean \pm S.E.	Mean \pm S.E.	
Indrayani	0 (Control)	100 \pm 1.0	14.5 \pm 1.2	10.5 \pm 2.1	1.38
	50	100 \pm 2.2	12.0 \pm 1.3	8.1 \pm 1.3	1.48
	100	96 \pm 1.8	11.5 \pm 0.9	7.2 \pm 1.0	1.60
	150	88 \pm 2.2	6.8 \pm 0.6	3.8 \pm 0.4	1.79
	200	68 \pm 1.7	4.5 \pm 0.3	2.2 \pm 0.2	2.05
	300	48 \pm 1.6	1.8 \pm 0.1	0.8 \pm 0.1	2.25
Ambemohar	0 (Control)	100 \pm 0.8	10.3 \pm 1.5	11.0 \pm 1.2	0.94
	50	100 \pm 1.5	8.2 \pm 1.1	7.8 \pm 1.1	1.05
	100	100 \pm 2.0	8.7 \pm 0.8	7.2 \pm 0.9	1.21
	150	96 \pm 2.5	8.1 \pm 0.9	6.1 \pm 0.6	1.33
	200	88 \pm 1.6	7.5 \pm 1.0	3.9 \pm 0.4	1.92
	300	68 \pm 1.2	4.6 \pm 0.3	3.8 \pm 0.2	1.21

Table 2. Effect of different concentrations of NaCl on proline content at seedling level in rice cultivars

NaCl stress (mM)	Total proline content in rice cultivars (mg/g fresh weight)	
	Mean \pm S.E.	
	Indrayani	Ambemohar
0 (Control)	70.15 \pm 2.3 (100)	77.89 \pm 3.9 (100)
50	77.89 \pm 1.8 (111)	128.51 \pm 6.8 (165)
100	109.87 \pm 3.9 (156)	140.20 \pm 10.2 (180)
150	124.61 \pm 5.7 (178)	214.25 \pm 12.7 (275)
200	155.82 \pm 8.3 (222)	237.62 \pm 13.9 (305)

The values in parentheses shows the increase in proline content by considering proline content in control plants as 100%.

Table 3. Effect of different concentrations of NaCl stress on total proteins content at seedling level in the local cultivar of rice

NaCl stress (mM)	Total protein content (mg/g fresh weight)		Total Phenol content (mg/g fresh weight)	
	Mean \pm S.E.		Mean \pm S.E.	
	Indrayani	Ambemohar	Indrayani	Ambemohar
0 (Control)	461.70 \pm 3.9	287.48 \pm 5.2	11.58 \pm 0.7	19.74 \pm 1.2
50	349.42 \pm 7.8	424.37 \pm 8.9	13.16 \pm 1.5	16.45 \pm 1.8
100	299.50 \pm 5.7	349.40 \pm 13.5	16.45 \pm 2.3	19.16 \pm 2.1
150	249.64 \pm 6.6	312.26 \pm 12.1	19.74 \pm 2.5	22.08 \pm 0.5
200	212.13 \pm 7.2	249.67 \pm 7.3	26.32 \pm 2.9	23.01 \pm 0.4

Table 4. Effect of different concentrations of NaCl stress on reducing and non-reducing sugars, and starch content in rice cultivars

NaCl stress (mM)	Reducing sugar content (mg/g fresh weight) Mean ± S.E.		Non-reducing sugar content (mg/g fresh weight) Mean ± S.E.		Starch content (mg/g fresh weight) Mean ± S.E.	
	Indrayani	Ambemohar	Indrayani	Ambemohar	Indrayani	Ambemohar
0 (Control)	120.5 ± 4.2	40.17 ± 2.8	124.4 ± 5.9	305.4 ± 12.8	617.2 ± 25.2	283.9 ± 8.7
50	160.7 ± 8.4	50.22 ± 3.2	101.8 ± 3.9	271.4 ± 10.4	345.6 ± 15.6	382.7 ± 9.6
100	200.9 ± 12.5	70.31 ± 3.9	67.86 ± 4.2	124.4 ± 8.7	176.9 ± 12.8	481.4 ± 14.1
150	270.3 ± 10.8	80.35 ± 7.1	33.93 ± 2.8	101.8 ± 5.8	102.9 ± 8.9	580.2 ± 17.5
200	281.2 ± 10.9	90.39 ± 6.2	11.31 ± 0.9	45.24 ± 2.6	49.38 ± 2.4	650.1 ± 16.2

A Test Report of National Agriculture and Food Analysis and Research Institute shows Protein (6.18g/100g), Carbohydrate (81.8g/100g), Fat (0.69 g/100g), Sugar (6.19 g/100g), Iron (1.3 mg/100g), Calcium (3.22 mg/100g) values of Ambemohar rice in comparison with Indrayani rice.

In the study performed by University of Pune and Bhabha Atomic Research Center, genetic relationship among sixteen non-basmati scented rice accessions, five basmati rice accessions and two non-scented rice accessions has been assessed using RAPD and ISSR marker systems. In addition, six Ambemohar accessions were screened for presence of genotype specific band obtained during study. The analysed set varies with respect to aroma, grain shape, grain quality and cultivar type (landrace, selection and variety).

It was found that the genotype specific band was present specifically in all the accessions of Ambemohar Pandhara collected from various localities and Ambemohar 157, representing diversity in Ambemohar with respect to this locus. Ambemohar 157 is a pure line selection from the Maval tract of Pune district where Ambemohar landrace was popularly grown for the past several hundred years. Thus, the genotype specific band OPF-05600 could be used as a band specific to Ambemohar varieties from Wadgaon-Maval tract of Pune district in India.

G) Geographical area of Production and Map as shown in page no: 46

Area under cultivation:

Ambemohar rice is mainly cultivated in Maval region of Pune district. Maval region is towards the west of Pune area. It is hilly terrain and part of the Sahyadri range/western ghats.

H) Proof of Origin (Historical records):

Since the time of civilization, thousands of locally adapted aromatic rice genotypes have evolved as a consequence of natural and human selection. These landraces are the genetic reservoirs of useful genes. Despite the encroachment of high yielding varieties, landraces like “Ambemohar” have survived the onslaught of high yielding varieties owing to its characteristic aroma, taste and stability of yield in the niche areas.

Many farmers in Maval region of Pune district are cultivating Ambemohar rice for many generations. This region is towards the west of Pune area. It is hilly terrain and part of the Sahyadri range/western ghats. Evidences of Ambemohar rice used in the feast and celebrations go back in the period of “Peshwa regime”. During this period there was larger demand for luxurious items like fine rice and sugarcane. ‘Bajirao Peshawa’ gave meal to 175635 Brahmins in 1809. Especially for this feast Fine rice of Ambemohar variety was purchased from Maval-Mulshi region of Pune District.

D) Method of Production:

Soil:

Soil type usually depends on the type of bedrock, climate and weathering patterns. Two types of soils are found in the Kolwan valley of Mulshi taluka: red to reddish brown, silty soils (alfisols) and black, clayey soils (vertisols). The soils are acidic in nature having pH around 5.5-6.7. The soil is rich in Iron and Aluminum and deficient in Calcium.

Seed Selection:

Seed selection plays a vital role in maintaining originality of the crop. Farmers use previous year’s seeds. It is famous as Ambemohar variety among farmers.

Cultivation Practices:

The main practice of establishing rice plants is transplanting rice seedling. Seedbed is prepared in the month of June, i.e after the first rain. After preparation of seedbed, sowing of seeds is done. Within 15 days after sowing seeds, Urea fertilizer is provided as a top dressing. After 30 days seedlings are transplanted from a seedbed to the wet field. Puddling i.e. ploughing in wet field is done by wooden plough. Seedlings are transplanted by hand in the puddled field. Transplanting of the seedling is done in ‘Rumali’ type. It requires less seeds and is an effective method to control weeds, but requires more labour. Bio-fertilizers like compost or manure are used for crop establishment.

As Mulshi taluka is surrounded by Sahyadri ranges, this creates a suitable atmosphere for cultivation of aromatic Ambemohar rice. Half foot water in the rice field is required at least for first three months after sowing. It is totally a rain fed crop. The rain water coming down from the hills surrounding it, is useful for the crops. The Mula and Mutha rivers flowing through Mulshi taluka help in maintaining water level and dampness in the soil which is extremely necessary for cultivation of rice.

Next step in rice cultivation is harvesting which involves process of collecting the mature rice crop from the field. Ambemohar rice crop usually reaches maturity in approximately 140-160 days. Manual harvesting of rice is very common practice. It involves cutting the rice crop with simple hand tools like sickles and knives. After harvesting, rice is stored in an open place and rice panicles are stored in a way that not a single drop of water can damage inner rice grains. Then the rice is threshed to separate the grain from the stalk and cleaned. This is either done by hand or machine. After harvest, the rice grain undergoes a number of processes such methods include, drying, storing, milling, and processing.

J) Uniqueness

Geographical Significance

i. Soil

Soil type usually depends on the type of bedrock, climate and weathering patterns. Two types of soils are found in the Kolwan valley of Mulshi taluka: red to reddish brown, silty soils (alfisols) and black, clayey soils (vertisols). The soils are acidic in nature having pH around 5.5-6.7. The soil is rich in Iron and Aluminum and deficient in Calcium.

ii. Climate

Temperature: Average temperature of Mulshi Taluka is 17 degree C to 29 degree C. Rainfall and water: Average Rainfall for Mulshi Taluka is between 1866.00 mm. The valley receives most of the rainfall from the southwest monsoon, with the northern slopes bearing the direct brunt of the rainfall (they are exposed directly to the winds and the rains during the monsoon). The inner slopes of the southern ridges, which remain on the leeward side with respect to the direction from where the southwest monsoon precipitates rain, do not experience the direct impact of heavy downpours that characterize the rain in the region. Rivers and Dams help in maintaining water level and dampness in the surrounding soil. The post monsoon below ground water levels have been observed between 2 and 5 m in Mulshi.

Uniqueness of Ambemohar Rice

- Aroma of this variety is very strong and smells like blossoms of mango, when cooked. Heterocyclic compound 2-Acetyl-1-Pyrroline (ACPY) is responsible for aroma of the rice. Fungal strains like *Aspergillus awaori* present in soil produce ACPY from
- 2AP has been accepted as a universal aroma principle. The study revealed that the content of 2AP and other volatiles in Ambemohar rice are comparable and better in comparison with Basmati, Dubraj, Kalimuch etc. varieties of rice.
- This variety of rice is small and round in shape. On cooking the rice, it swells up and has a sticky texture.
- According to the well known nutritionist, Ambemohar rice is short grained rice and is rich in vitamin B complex and, potassium.
- Weight of rice grains is high. Wt for 100 grains is around 40 g.
- Taste of this rice variety is sweet. Starch content is up to 70%.
- It requires comparatively short time for cooking.
- Kernel size is small after cooking. Elongation Ratio is 1:2.
- The cooked grains have a tendency to break easily and stick together. Therefore it is preferred for children and also old persons.
- The study titled “Differential Response of Two Scented Indica Rice Cultivars under Salt Stress”, it was concluded that Ambemohar showed better tolerance to salt stress than Indrayani, with a lesser extent of antagonistic effect of NaCl on germination and biomass production at seedling stage. In addition Ambemohar showed higher proline, protein and starch content with lesser polyphenol levels

under varying salt stress level than Indrayani and all these biochemical parameters might have played an important role in its salt tolerance nature.

Comparison chart of Ambemohar Rice with GI registered rice

<u>Ambemohar rice</u>	<u>Registered GI Rice</u>			<u>Normal Properties of Rice</u>
	<u>Navara Rice</u>	<u>Palakkadam Matta Rice</u>	<u>Pokkali rice</u>	
<p>It's a traditional variety and also used for religious and marriage ceremonies. Taste of this rice variety is sweet.</p> <p>It requires comparatively short time for cooking. The short cooked grains have a tendency to break easily and stick together.</p> <p>It is used for making 'Vapholya'. A traditional food item prepared during Makarsankranti festival.</p>	<p>The Navara Rice is the indigenous medicinal plant of Kerala. It has unique medicinal characteristics and hence widely used in Ayurvedic treatments.</p>	<p>The rice is, coarse bold and red in color. The rice has got a unique taste.</p>	<p>It is a unique saline tolerant rice variety that is cultivated in an organic way in the water-logged coastal regions, spread in about 5000 hectares area</p>	<p>Rice is a major food staple and a mainstay for the rural population and their food security. It is mainly cultivated by small farmers in holdings of less than 1 hectare. Rice is also a wage commodity for workers in the cash crop or non-agricultural sectors. Rice is vital for the nutrition</p>
<p>It has strong fragrance reminiscent of mango blossoms, which is noticeable when the rice is cooked. 2AP content at about 0.115 to 0.365 mg/kg, responsible for aroma of Ambemohar rice.</p> <p>Ambemohar rice is also preferred for its softness and easy chewability.</p>	<p>Navara rice is easily digestible and hence a light food and has got a unique taste</p>	<p>The coarse rice with red pericarp by itself ensures high content of nutrients.</p>	<p>Its resistance to salinity is remarkable. The rice is cultivated from June to early November when the salinity level of the water in the fields is low.</p>	<p>Rice is the staple food of over half the world's population. It is the predominant dietary energy source. Rice provides 20% of the world's dietary energy supply.</p>

<p>Taste of this rice variety is sweet. Starch content is up to 70%.</p> <p>Cultivation period in 140-160 days. days.</p>	<p>The short span of about sixty days to mature is unique to Navara rice.</p>	<p>The grains is grown on unique black cotton, derived from rocks rich in lime peculiar to Palakkad also in “Poonthalpada m” where the soil is heavy, containing 60-80% of clay and silt and posses low permeability and high water holding capacity.</p>	<p>The tidal flows make the fields highly fertile, no manure or fertilizer need to be applied; the seedlings just grow the natural way.</p>	
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K) Inspection Body

‘Mulshi Taluka Ambemohar Samvardhan Sangha’ has constituted an Inspection structure to oversee the standards and quality assurance system for inspection of every step of production of Ambemohar Rice and statutory compliances thereof.

This Inspection Body consists of President / Vice-President / Secretary / Treasurer of the Applicant Organization, Farmer Members, GI Experts, and Agriculture Experts.

The quality of Ambemohar Rice will be monitored by an Internal Watchdog Mechanism in order to maintain the original physical and chemical characteristics as per GI registration.

The system of internal watchdog mechanism will consist of following committee members:

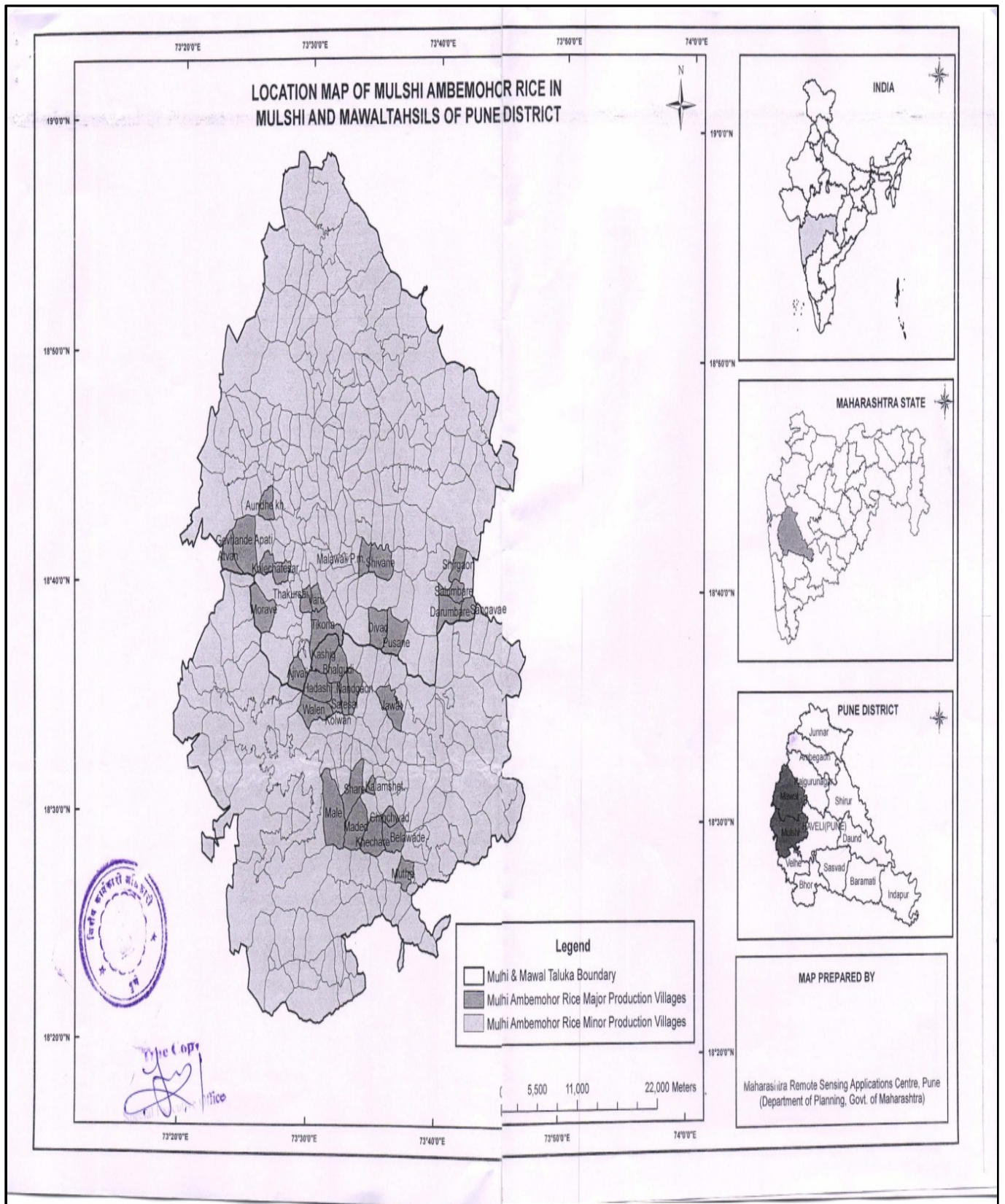
- i) Representative of Producer group of Ambemohar Rice
- ii) Three (3) Producers from the area
- iii) GI Experts

This committee will also help to regulate the use of Geographical Indications for the welfare of local producers’ community. The committee will frame the terms and conditions to use brand name of Ambemohar Rice by any of the marketing agency. The logo of Ambemohar Rice GI will be used to create brand image.

L) Others

Uses of Ambemohar Rice:

- Ambemohar rice is used to prepare a thick soup of rice and milk called 'Bhatachi Pej' locally, mainly for children, elderly people and patients. (Rice Kanji).
- It's a traditional variety and also used in religious and wedding ceremonies.
- It is used for making 'Vapholya' - A traditional food item prepared during Makarsankranti festival in Mulshi region.
- Ambemohar rice is used for making soft Idli and crispy dosa.
- Also used for rice puff making (Murmure).
- Rice bran is used for oil extraction.
- Rice bran is also used for Mushroom cultivation.



G.I. APPLICATION NUMBER – 493

Application Date: 11-08-2014

Application is made by **Maharashtra Rajya Chikoo Utpadak Sangh, Raghuv eer Sadan**, at.-Kankradi, Post: Waki, Taluka: Dahanu, District: Thane - 401602, Maharashtra, India for Registration in Part A of the Register of **DAHANU GHOLVAD CHIKOO** under Application No: 493 in respect of Chikoo falling in Class – 31 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) Name of the Applicant** : Maharashtra Rajya Chikoo Utpadak Sangh
- B) Address** : Maharashtra Rajya Chikoo Utpadak Sangh,
Raghuv eer Sadan, at.-Kankradi, Post: Waki,
Taluka: Dahanu, District: Thane - 401602,
Maharashtra, India
- C) Types of Goods** : **Class 31 – Chikoo**
- D) Specification:**

Gholvad is a village situated on the coastal highway towards Dahanu in Palghar district and a couple of hours drive from Mumbai. This place offers much to look forward to such as Chikoo Orchards, a serene beach and ancient Parsi-Irani bungalows.

Dahanu Gholvad Chikoo is the USP (unique selling point) of Dahanu. This tasty fruit has a lot for health. It is an instant source of energy because of its high fruit sugar content. It is a good source of calcium and fibre. ‘Chikoo Utsav’ was started in 2012 as an initiative of ‘Kokan Bhumi Krushi Paryatan Sahakari Sanstha’ in collaboration with MTDC, supported by State Agriculture department and local organizations and citizens. The main intention of this event is to promote theme based tourism in Dahanu and surrounding areas, bringing prosperity and dignity to its rural life. Chikoo Safari and Chikoo Marathon are major attraction of this event. Chikoo safari offers a journey along Chikoo orchards wherein visitors can observe Chikoo plucking, washing, cleaning and packing activities and can also get some hands on experience of Chikoo farming. The cultivation of Dahanu Gholvad Chikoo is natural and major part of which is done by organic farming.

The unique Sweet taste of Dahanu Gholvad Chikoo made this variety popular since more than 100 years. Calcium rich soil of Gholvad is apparently responsible for its outstanding taste . Abundant sunlight, warm and humid atmosphere of Gholvad region results into high yield of Dahanu Gholvad Chikoo. This variety has high yield. Approximately number of fruits per tree is more than 2000 while yield of other varieties are 1000 to 2000 per tree.

The color of Dahanu Gholvad Chikoo is Light brown and appealing. It is round in shape and medium sized i.e. 4-6 cm in diameter. It is heavier in weight than other varieties and produces high quantity of pulp. Its pulp is very soft and smooth and granular and it has 2-3 seeds inside. Dahanu Gholvad Chikoo has high nutritional

values. Chikoo is an instant source of energy because of its high fruit sugar content. It's a good source of calcium and fiber. Total sugar content of Dahanu Gholvad Chikoo is around 8.14% while the ascorbic acid content is 25.15%.

The skin of Dahanu Gholvad Chikoo is soft and well polished while other varieties are having rough skin. Its keeping quality is comparatively high with the shelf life of approximately 4-5 days. The chikoo fruit can be stored in polyethylene bag with 1.2% ventilation which may prolonged the shelf life of Kalipatti variety up to 9th day of storage.

E) Name of the Geographical Indication:

DAHANU GHOLVAD CHIKOO



F) Description of the Goods:

Dahanu Gholvad Chikoo is light brown in color and sweet in taste. The Chikoo plant can grow up to 9-14 meters. Individual fruit weighs about 70-80 gms. Pulp of the Chikoo fruit is soft, tasty and granular. The shelf life of the fruit is 4-5 days after plucking. The yield of this fruit is about 2000 fruits per tree.

Immature fruits are astringent, while ripe fruits are sweet and tasty. The pulp is used in preparation of a sweet paste known as halwa and dried. The bark of the tree is used for preparation of tonics and as a febrifuge while the sap is used for the preparation of chicle used in chewing gum.

G) Geographical area of Production and Map as shown in page no: 56

Gholvad is situated in Dahanu tehsil of Thane district. Geographical coordinate for Gholvad are:

Latitude: 20.085518°N
Longitude: 72.733342°E

Gholvad is situated in Dahanu tehsil of Thane district. The geographical coordinates of Gholvad are Latitude 20.085518°N and Longitude 72.733342°E. Dahanu Taluka is one of the last green areas remaining in western Maharashtra and Gujarat.

In Maharashtra state chikoo is majorly observed in coastal part of Thane district.

Bordi, Gholvad, Kosbad, Borigaon and Dahanu these are the highest chikoo producing area in Dahanu tehsil. The annual production of chikoo in this region is 400-500 tonnes.

Currently, the total land under chikoo cultivation is 4,126 hectares, constituting only 6% of the land in Dahanu, it has generated employment for the communities in Dahanu tehsil, both in terms of direct agricultural labour on farms as well as trading, packaging and transportation. Bio diversity, specialised eco systems tribal culture marine and horticultural wealth of Dahanu tehsil attracts various ways of employment like Agro-tourism, processing of fruits and increase the economy of this region.

Gholvad in Dahanu Tehsil is the highest chikoo producing village. Dahanu Gholvad Chikoo has high demand in domestic market such as Mumbai, Delhi, Jaipur and Udaipur as well as International market. The unique Sweet taste of Dahanu Gholvad Chikoo made this variety popular since more than 100 years.

To promote the uniqueness of Dahanu Gholvad Chikoo and increase the market potential of Dahanu Gholvad Chikoo, “Kokan Bhumi krishi Paryatan sahakari Sanstha” in collaboration with MTDC, KBP, supported by State Agriculture Dept and local organizations and citizens has started Chikoo Utsav in Gholvad at 2012.

H) Proof of Origin (Historical records):

Gholvad in Dahanu Tehsil is known as the ‘Chikoo bowl of Maharashtra’. More than one century, Dahanu Gholvad Chikoo is gaining attention of people due to its unique sweet taste, most appealing color and shape. Sweet, soft and granular pulp, Soft skin and good shelf life are its distinguishing unique characters make this variety superior than other varieties. Till the date, the economy of Dahanu, Gholvad and Bordi survives on its sapota (chikoo) plantations as seven out of ten chikoos of the country grow here.

The commercial cultivation of Kalipatti variety in Gholvad has the history of 125 years. Irani agriculturists played vital role in plantation and maintenance of ‘chikoo wadies’ in Gholvad. The first commercial (sapota) chikoo cultivation from Maharashtra was taken up in Gholvad area in 1888 (Cheema., Bhatt., Naik., 1954).

Other varieties like Kalipatti, Bhuripatti and cricket ball are also cultivated in this region.

The traditional Kalipatti variety grown in the orchards of Gholvad are grafted on the rootstock of Rayan or Khirnee (Manilkara hexandra or Mimusops hexandra).

I) Method of Production:

Chikoo is nutrient tropical fruit. In Gholvad, farmers used organic farming for chikoo cultivation. There are several traditional varieties of Sapota are available for cultivation. Major cultivars include Kalipatti, Cricket ball, Chhatri, Culcutta round, and Pala varieties. Apart from these, superior hybrid varieties are also available which are developed through plant breeding techniques in different parts of the country (Eg:- CO-1, CO-2 and PKM-1 from Tamilnadu Agricultural University, Coimbatore). However these hybrid varieties are not popular among the farmers of Dahanu, and the traditional Kalipatti remains the most widely cultivated variety in Dahanu.

The Plants grown in the orchards of Gholvad are Kalipatti variety grafted on the rootstock of Rayan or Khirnee (Manilkara hexandra or Mimusops hexandra). Mahua (Madhuca latifolia) is another potential rootstock plant for Sapota. However,

Manilkara hexandra is the most vigorous and productive rootstock plant widely used in the orchards here.

Two years old potted rayan plants with pencil thickness are utilized and grafting is done in December-January. The plants are ready for separation in June –July of following year. Pits are made in April –May exposed to sunlight for 15 days.

Well rotten compost or farmyard manure is used for pits filling. Rootstocks are planted and irrigated light water.

After 2-3 years plants are grown. Flowering may be started after 3 years. Traditionally Chikoo was considered to be a hardy species that need little attention from the farmers, as there were no serious problems of pests or diseases in the orchards. However presently the scenario has changed and there are increased levels of pest attacks and diseases in the farms. In the young orchards intercrops such as vegetables are grown along with the young chikoo plants, while, older plantations hardly allow any undergrowth due to the thick canopy cover (Plate 4 & 5).

Although chikoo trees yield all through the year, at Gholvad, it has two major harvesting seasons, winter and summer. It takes upto 12 years before a chikoo tree is ready to bear fruit that can be commercially sold. The chikoo fruit starts growing from the third year of the tree's life but this is not fit for the table. The fruit is plucked by hand. Farmers use a strange contraption for this job. It is a wire-basket on the end of a long stick. The trees are not very tall, they are about 15 feet, and the stick reaches upto the fruit and breaks it off the stem. The chikoos are washed and packed and then despatched to the local market and by train to Bombay. Dahanu Gholvad Chikoos send to Delhi, Jaipur and Udaipur.

General Good Practices:

Climate: The Sapota is a tropical fruit crop and can be grown from Sea level up to 1200 m. height. It prefers a warm and humid weather and grows in both dry and humid areas. Areas with an annual rainfall of 125-250 cm are highly suitable. The optimum temperatures ranges between 120C to 360C.

Soil requirement: The Sapota tree is a hardy perennial and evergreen tree and can be grown on a wide range of soils. Drainage is most important. There should not be a hard pan in the subsoil. Deep and porous soils make a good growth. The Sapota can tolerate the presence of salts in the soil or in irrigation water to some extent.

Varieties: The important and widely adopted varieties are Kali Patli and Cricket Ball (Calcutta Large). The other varieties are, pili patti, Bangalore, Baramati, Dwarapudi, Chhatri, etc.

Propagation: The Sapota can be propagated by seeds by grafting or by layering. However, commercially followed method is softwood grafting on rayan seedlings. This method has replaced the earlier method called as approach grafting. The Sapota when grafted on rayon has initially slow growth but the tree lasts longer. The layered plants grow vigorously and the method is cheaper as no root stock is required.

Planting and Season: The planting of grafts is done from June to October, for which pits of 1x1x1 m at the distance of 8 x 8 or 9 x 9 or 10 x 10 m are dug well before the

onset of monsoon. The pits are filled in with a well decomposed manure, 5:10:5 mixture, single super phosphate, neem cake and a mixture of micronutrients. Hundred to 120 plants are accommodated in a hectare.

Interculturing: The Sapota has a long pre-bearing age and a wider spacing allows enough interspace for growing certain crops for few seasons. The short duration fruit crops like banana, papaya, pineapple or vegetables, different types of lillies or groundnut, chilli, gram, etc. are suitably grown for some seasons. Frequent weeding or mulching is necessary for first few years.

Care of young orchard: A strong windbreak should be established by planting tall and thick growing trees on the windward or on all the sides of the orchard. Frequent removal of outgrowth on the stock is necessary in grafting plants. Gap filling and supporting with bamboo is to be done as early as possible. Young plants are likely to be damaged due to the scorching sun, dry and hot wind and frost. Necessary protective are adopted.

Special Horticultural Practices: Training and pruning: In Sapota, a strong central stem is necessary. The Sapota, in general, has a well balanced distribution of branches and the crown assumes a uniform shape. There is no necessity of pruning every year. All the growths those appear on the rootstock below the graft joint must be removed. After $\frac{3}{4}$ years of planting, the lowermost branches upto a height of 1 m may be removed. Similarly, over shaded and crowded branches are also removed. In Sapota, new growth and flowering occur simultaneously and it has a mixed type of bearing habit. Flowers and fruits appear in the leaf axils in the new growth and hence pruning of branches should not be done.

Irrigation: Though Sapota can tolerate drought conditions to some extent, yet it responds well to irrigation. As the tree is perennial, evergreen and almost growing cum fruiting stage every year, irrigation – whenever is necessary must be provided.

Nutrition: For healthy growth and good quality fruits manures are fertilizers should be applied regularly. The trees should be fertilized twice in a year during June and January. A well grown tree should be supplied with 100 kg FYM, 10 kg Biomeal 2.5 kg, 5:10:5; 1 kg ormichem or any other micronutrient mixture. The foliar sprays of NpK, Mg & Zn are useful to increase the fruitset and improve the size of fruit. Nitrophoska 8:12:24:4 at the rate of 100 gm/tree has proved beneficial. Nutritional trial at Ganeshkhind, Pune it was observed that, the use of vermicompost alone and supported with foliar sprays of biocil and biok, a bumper harvest was achieved at 3 year of application.

Plant Protection: The Sapota crop is affected by insect pests and diseases and also by some disorders. The important insect pests are as – Stem borer, Scale insects, Leaf webber, Mealy bug, Leaf minor, Bud eating caterpillar, Barkeating caterpillar and Fruit borer.

Important diseases on Sapota are Leaf spot, Sooty mould and Flatenned branches.

The suitable control measures are adopted. Clean and well nourished orchard is affected less. Caryaryl, Malathion, Dimithods, Bavistin, Kuman.L,etc. should be sprayed alternatively apart from following clean cultivation.

Harvesting and yield: Sapota is a climacteric fruit and it improves in quality after harvesting but immature fruits should never be harvested. A well grown and well nourished Sapota tree yields 2500 to 3000 fruits weighing about 150 kg every year, for 50 to 60 years during its productive age.

Post Harvest Handling: Well matured fruits ripen within 3/5 days after harvest and can be stored for 1012 days in 120C temperature. Graded fruits are packed in boxes and then transported to distant markets. For local markets, the fruits are washed in water and carried in baskets or gunny bags.

J) Uniqueness

Geographical Significance

Dahanu is declared as 'Ecologically Fragile area' by Central Government notification dated June 20, 1991. Salient features of Dahanu Notifications such as 'No change in land use of areas which are green and environmentally sensitive was permitted' and 'Restrictions were imposed on the setting up of industries categorised as 'Red' which included large-scale polluting or hazardous industries' declaration help to protect 'chikoo wadies' in Dahanu tehsil and more particularly in Gholvad.

The environmental factors like soil, climate, the proximity of the sea and mountains around Dahanu and Gholvad, are favoring the growth of chikoos in this region.

Soil:

The soil in the area is clay loamy which has high water retention capacity (inadequate drainage). The soil in parts of Gholvad region is blackish. Calcium content of this soil is high. According to research paper (Combined Evaluation of Ground Water of Khunwade and Bordi of Dahanu Taluka, Maharashtra, India On The Basis Of Electrical Conductivity And Sodium Adsorption Ratio) satisfactory chikoo plant growth is observed in this area due to good quality and quantity of ground water.

Rainfall:

The area receives an annual rainfall of around 1800mm in June to September. Predominant wind direction during the non-monsoon seasons was from North-east and during monsoon months it was generally from South-west.

Temperature:

The temperature of Gholvad is near about 120c-300C.

Humidity:

Climate of Dahanu is humid tropical with prominent southwest monsoon showers during the period of June-August.

The coastal plains with their warm and humid climate, adequate rainfall from June to September, Calcium rich black soil have created a lucrative and vibrant horticultural economy, with a highest and qualitative production of chikoo in Gholvad.

In Gholvad, 'Kali Patti' variety is popular for commercial plantation. The common man's fruit, Chikoo now competes with apples from Australia and kiwi from New Zealand. The sweet taste and most appealing colour and shape of Dahanu Gholvad Chikoo make this variety popular for more than one century.

- The unique Sweet and distinguishing taste of Dahanu Gholvad Chikoo made this variety superior than other varieties. Calcium rich soil of Gholvad is apparently responsible for its outstanding Dahanu Gholvad Chikoo taste.
- Abundant sunlight, warm and humid atmosphere of Gholvad region results into high yield of Dahanu Gholvad Chikoo. This variety has high yield. Approximately number of fruits per tree is 2400 while yield of other varieties are 1000 to 2000 per tree.
- The color of Dahanu Gholvad Chikoo is Light brown and appealing.
- The Dahanu Gholvad Chikoo are round in shape and medium sized i.e. 4-6 cm in diameter.
- The Dahanu Gholvad Chikoo is heavier in weight than other varieties. Its weight is approximately 50-80 gm while other varieties are 60-70gm. The Dahanu Gholvad Chikoo produces high quantity of pulp.
- The Dahanu Gholvad Chikoo Pulp is very soft and smooth and granular and it has 2-3 seeds inside.
- Dahanu Gholvad Chikoo has high nutritional values. Chikoo is an instant source of energy because of its high fruit sugar content. It's a good source of calcium and fiber.
- Chemical properties of Kalipatti variety of Dahanu Gholvad Chikoo
- Total sugar content: 8.14%
- ascorbic acid: 25.15 per cent
- The skin of Dahanu Gholvad Chikoo is soft and well polished while other varieties are having rough skin.
- The keeping quality of Dahanu Gholvad Chikoo is comparatively high. The shelf life of Dahanu Gholvad Chikoo is approximately 4-5 days. As the chikoo has a very short storage life, it needs to be preserved until reaches to the market and food processing plant for further processing. The chikoo fruit can be stored in polyethylene bag with 1.2 per cent ventilation, may prolonged the shelf life of Kalipatti variety up to 9th day of storage.
- The Dahanu Gholvad Chikoo cultivation is completely organic farming. Chikoo being a sturdy crop it did not require heavy doses of pesticide and fertilisers. It is around-the-year fruiting made it a very viable high-income crop.
- Agro-tourism is developed in Gholvad around the 'Chikoo wadi'. The key event is Chikoo Safari i.e. a journey along orchard-lined roads. In this one day trip, tourist enjoys the journey with 'Chikoo wadi' and gets attached with Chikoo uniqueness through information and discussion. They can get information about Chikoo plantations by the farmer himself. Safari-visitors can observe Chikoo plucking, washing, cleaning, and packing activities.
- This is unique branding and marketing strategy applied for Dahanu Gholvad Chikoo which also leads to increase the economy of Gholvad. This Agro tourism reflects rural and tribal culture of Gholvad.
- Chikoo Utsav have started in Gholvad at 2012 as an initiative of "Kokan Bhumi krishi Paryatan sahakari Sanstha" in collaboration with MTDC, KBP, supported by State Agriculture Dept and local organizations and citizens.

Comparison of Dahanu Gholvad Chikoo with other varieties

Varieties	Dahanu Gholvad Chikoo (Kalipatti variety)	Other varieties
Color of pulp	Light brown	Pala – Medium brown

		Cricket ball –Light brown
Taste	Sweetness is more	Sweetness is less
Shape	Medium in size and Fruit diameter: 4.60 cm Fruit length: 5.00cm Round in shape	Comparatively big in size (Cricket ball -Fruit diameter: 5.06cm Fruit length: 5.15cm)
Number of fruits per tree	2400	Cricket ball: 1150 Pala : 750
yield (Kg per Tree)	158.8g	Cricket ball: 87.5g Pala: 15.0g
Weight of fruit	Heavy in weight. Approximately weight is 72.67 g	light in weight e.g Pala:65.67 g
Fruit skin	Well polished and soft and appealing	Rough
Pulp Quality	Soft, sweet and more granular	Less sweetness and softness Pulp of other varieties are not much granular
Overall acceptability	Good	Medium
Quality of fruits	Good TSS : 22.70 (°B) Acidity: 0.195 (%)	Medium In Pala , TSS: 20.57(°B) Acidity :0.193 (%)

K) Inspection Body

Maharashtra Rajya Chikoo Utpadak Sangh, Dahanu, Thane has constituted an Inspection Body to oversee the standards and quality assurance system for inspection of every step of production and statutory compliances.

This Inspection Body consists of President / Vice-President / Secretary / Treasurer of the Applicant Organization, Farmer Members, GI Experts, and Agriculture Experts. The quality of Dahanu Gholvad Chikoo will be monitored by an Internal Watchdog Mechanism in order to maintain the original physical and chemical characteristics as per GI registration.

The system of internal watchdog mechanism will consist of following committee members:

- i) Representative of Producer group of Dahanu Gholvad Chikoo
- ii) Three (3) farmers from the area under cultivation
- iii) GI Experts
- iv) Agriculture Expert.

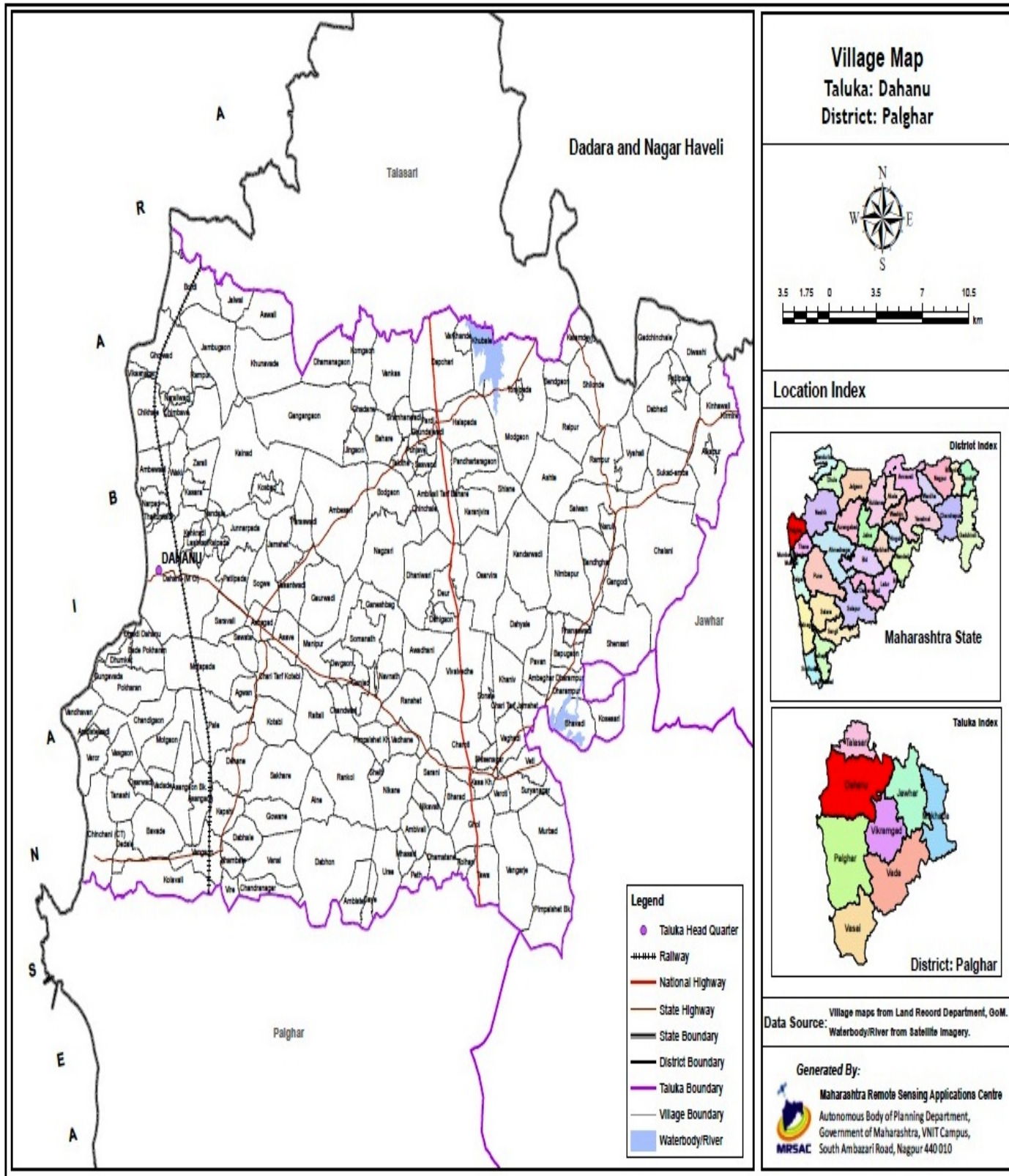
This committee will also help to regulate the use of Geographical Indications for the welfare of local farming community. The committee will frame the terms and conditions to use brand name of Dahanu Gholvad Chikoo by any of the marketing agency. The logo of Dahanu Gholvad Chikoo GI will be used to create brand image.

L) Others

Immature fruits are astringent, while ripe fruits are sweet and tasty. The pulp is used in preparation of a sweet paste known as halwa and dried. The bark of the tree is used for preparation of tonics and as a febrifuge while the sap is used for the preparation of chicle used in chewing gum

The self help groups of enterprising farmer women have developed several processed products from Dahanu Gholvad Chikoo such as ice cream, juice, chips, jams, pickles etc. These products have good demand during Chikoo Mahostav as well as in domestic market.

Chikki is also made from chikoo, coconut and sugar. Chikoo powder is used in chikoo-shakes through the year.



G.I. APPLICATION NUMBER – 498

Application Date: 26-08-2014

Application is made by **Nisargraja Krushi Vidnyan Kendra**, Tandalwadi, Taluka: Raver, District: Jalgaon - 425502, Maharashtra, India, for Registration in Part A of the Register of **JALGAON BANANA** under Application No: 498 in respect of Banana falling in Class – 31 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) Name of the Applicant** : Nisargraja Krushi Vidnyan Kendra
- B) Address** : Nisargraja Krushi Vidnyan Kendra,
Tandalwadi, Taluka: Raver, District: Jalgaon -
425502, Maharashtra, India,
- C) Types of Goods** : **Class 31 – Banana**
- D) Specification:**

Banana evolved in the humid tropical regions of South East Asia with India as one of its centres of origin. Modern edible varieties have evolved from the two species – *Musa acuminata* and *Musa balbisiana* and their natural hybrids.

In India banana ranks first in production and third in area among fruit crops. It accounts for 13% of the total area and 33% of the production of fruits. Production is highest in Maharashtra (3924.1 thousand tonnes). Within India, Maharashtra has the highest productivity of 65.70 metric tonnes /ha against national average of 30.5 tonnes/ha.

Jalgaon is known as “Banana Capital” of India as it contributes to 16% of banana production in the country. Jalgaon has shared 69% total area of banana production in Maharashtra and 61% of banana production in Maharashtra State. Even though the day temperature at Jalgaon goes up to 45-48°C during summer, presence of Satpuda Mountain and Tapi River makes Jalgaon district area more favourable for banana cultivation as banana is water loving crop.

Jalgaon district has black loamy soil with good drainage, adequate fertility and moisture which is suitable for banana cultivation. Average productivity of banana in Jalgaon district is 80 tons per hectare which is highest in the country. Average bunch weight of bananas comes to 20-25 kgs.

Area under banana cultivation in Jalgaon is 45000 hectare which is largest in Maharashtra. This is due to its favourable climatic conditions and ample water supply in the region of Raver, Chopda, Yaval and Bhusaval along with facility of drip irrigation.

Bananas from khandesh (Jalgaon is located within the productive irrigated agricultural region of Khandesh) are very famous for its unique taste. There is high demand for “Shrimanti” variety of bananas from Khandesh in the country for its unique taste and

high fruit quality as compared to other varieties. Banana fibre obtained from bananas of this region has high spinning ability and tensile strength.

E) Name of the Geographical Indication:

JALGAON BANANA



F) Description of the Goods:

The greenish yellow Dwarf Cavendish variety, dark green colored Robusta variety, yellowish green Grand Naine, and green Shrimanti variety are some of the cultivars of Jalgaon Banana cultivated in the region.

Height of Jalgaon Banana plant ranges from 9-14 meters. The weight of bunch of this fruit on the plant generally ranges from 20-35 kgs.

The pulp of Jalgaon Banana is soft flavoured and tastes sweet. Shelf life of this fruit is about 28 days after plucking.

Following are the Geographical coordinate for Jalgaon:

Latitude: 21.02°N and 21.22°N

Longitude: 75.44°E and 76.10°E

G) Geographical area of Production and Map as shown in page no: 46

Jalgaon district is located in north Maharashtra between 200 and 210 North latitudes and 740 55' to 760 28' East longitudes. The district consists of 15 talukas which include Jalgaon, Jamner, Erandol, Dharangaon, Bhusaval, Bodwad, Yawal, Raver, Muktainagar, Amalner, Chopda, Parola, Pachora, Chalisgaon and Bhadgaon. The administrative head quarter of the district is Jalgaon city.

Total irrigable land in district for banana cultivation is 49000 hectares while Average production per hectare is 65 metric tonnes. The area under banana cultivation is rapidly increasing in Jalgaon district. Out of total banana production in India, 16% banana production occurs in Jalgaon. So Jalgaon is known as the “Banana Capital” of India or “Banana City” of India.

H) Proof of Origin (Historical records):

Jalgaon is the city in western India, to the north of Maharashtra State which is located on the northern Deccan plateau. Jalgaon is located within the productive irrigated,

agricultural region of Khandesh. It is known as “Banana city” as it contributes to about half of the Maharashtra State’s Banana production.

Origin of Bananas is presumed to be from Malaysia around 4000 years ago from where they spread throughout Philippines and India.

Banana cultivation started in Jalgaon in the year 1925. This fruit was brought to Jalgaon from Konkan region by soldiers of Shivaji Maharaj while conquering the States in the south.

Average productivity of banana in Jalgaon district is 80 tons per hectare which is highest in the country.

Presence of Satpuda Mountain and Tapi River makes Jalgaon favourable for banana cultivation as banana is water loving plant. There are many varieties of banana that are grown in India but Jalgaon is popular for Dwarf Cavendish family, Shrimanti and Grand Naine variety of banana. ‘Basrai’ variety belonging to Dwarf Cavendish family is mainly cultivated in this region with average yield of 43-63 tonnes per hectare.

Basrai variety which is mainly grown in Jalgaon District is unique with greenish yellow color, fingers curved, soft pulp with distinct flavour. Shrimanti is another major variety grown in Jalgaon district which has long cylindrical shape, green color and unique taste as compared to other varieties. Other varieties grown in this region includes Robusta, Grand Naine (which is mutant of Dwarf Cavendish).

D) Method of Production:

Of the several varieties of banana, varieties of Dwarf Cavendish family is mainly cultivated in Jalgaon which included Basrai, Shrimanti, Madhukar, Grand Naine variety. There are two methods of propagation of bananas: 1) Traditional Vegetative Method 2) Tissue Culture method.

In traditional vegetative method, the ‘suckers’ or lateral baby shoots developing from the stem (rhizome) of the mother plant — which dies after producing bananas — are what the farmers uproot and transplant as ‘seed’ for their next crop.

In tissue culture, a mere 1-1.5 mm part from a disease-free sucker is taken, inoculated and placed in an artificial growth medium (containing minerals, vitamins, amino acids, sugar and hormones) for enlargement to 10-15 mm over roughly 12 weeks. The enlarged tissue is then cut into pieces and each of these transferred to separate media for multiplication and production of shoots, followed by root initiation. The micro-propagated rooted plantlets are further sent for primary and secondary hardening, before being ready for field planting.

The main advantage with tissue-cultured banana plants, apart from being based on disease-free and genetically pure material, is that the individual plants are of uniform age. This is not so with suckers, where each plant may have a 12-month lifecycle, but there’s no guarantee all would mature and yield fruit at the same time. Non-uniform growth also affects yields, as the smaller plants are denied light by the larger surrounding ones.

Under flood irrigation and sucker planting, it takes 18 months for an entire acre to be harvest-ready and yields are only 15-16 kg per plant. Even with 1,300 harvestable plants per acre, banana yields cannot cross 21 tonnes. But with drip irrigation and tissue culture, farmers harvest an acre within 12 months and yields are easily 30 kg per plant.

These methods are further detailed below:

➤ **Vegetative Method:**

Banana is cultivated by suckers or rhizomes. Basrai variety in Jalgaon is propagated by dormant rhizomes. Rhizomes are removed from soil after cutting of parent plant and further stored in cool and dry place for about 60 days. During this period, the pseudostem present at the bottom falls off, leaving behind prominent heart bud. Conical rhizomes are preferred while flat rhizomes are rejected. Average weight of rhizomes should be between 500-750 gms with uniform size. While planting rhizomes should be of age 3-4 months. Suckers or rhizomes should be selected from healthy plants having desirable bunch quality and high yielding ability.

Pits of 0.5 by 0.5 by 0.5m are dug for planting rhizomes but this is very expensive and not popularly adopted at present.

Furrow method is the common method adopted by most of the farmers in which furrows of 20-25 cms of depth are opened in the field either by tractor or ridger at the distance of 1.5 m and rhizomes are planted in the furrows. This method requires earthing up of soil frequently to cover the exposed rhizomes. The topsoil of furrows is mixed with 10 kg of FYM (well decomposed), 250 gm of neem cake and 20 gm of carbofuran. Furrows are left open for 15-20 days for sun radiation to kill all insects, soil borne diseases and for aeration.

Spacing required for Dwarf Cavendish variety is 1.7X1.7m or 1.8X1.8m.

➤ **Tissue culture:**

More than 60% farmers today in Jalgaon district use tissue culture as a method for propagation of bananas. The varieties cultivated through tissue culture include Grand Naine, Shrimanti, Gross Michael etc. Usually plantlets that are disease free with 3-4 leaves are provided in pots for raising secondary nursery. Initially plants are kept in 50% shade and as they begin to harden, shade is reduced gradually and further after 6 months plants can grow without shade. After two months of nursery plants are further planted in the field pits. Advantages of tissue culture compared to traditional vegetative method are more. Few of which include uniform bunch size, plantlets selected are disease free and yield of banana production is higher.

Farmers in Jalgaon are using high tech practices for cultivation of bananas due to which Jalgaon has also become banana bowl of India.

Planting season is June-July and October-November.

Whole banana plant is a false stem known as pseudostem which consists of broad leaves with long leaves closely rolled up one over the other. Together they look like a trunk but they form an apparent trunk. Inside the rolled leaves there is a bud which produces bud. After 7-8 months, the bud produces flowers. These flowers form a spike which turns downwards and opens. The female flowers press together closely in

hands shape. The spike further produces many bananas. The bananas on single spike is called bunch.

Further plants are irrigated specially through drip irrigation. Jalgaon plays a role model in India for production of banana under drip irrigation system . It was further noted that drip irrigation reduced 15% reduction in labour expenditure and fertilizer application.

Before harvesting, irrigation of banana must be stopped for drying up of soil. Only those bunches that have turned from dark green to light green, whole bunches, free from sun-burns and which have ripened three fourth are to be selected for harvesting. Bananas are harvested raw and then further grown artificially. Dwarf bananas can be harvested within 11-14 months from planting. Maturity of fruit is indicated by drying of top leaves, change in colour from dark green to light green and its floral end falls off by even slight touch. All the angles of mature fruits are grown completely.

After sorting fruits are dipped in a solution of etheryl (10 ml in 16 lit water). Nearly 100 ml etheryl is required for ripening of fruit for one truck load. After dipping fruits are kept on floor by making a heap for one day. Next day heap is covered with gunny bags and ice is kept on the covered heap to maintain the temperature. Fruit then ripens in four days.

Yield of Dwarf Cavendish variety is 30-40 t/ha, Robusta is 38-45t/ha and other varieties is 20-30 t/ha.

Export facility Centres have been established at Raver in Jalgaon for banana export. These centres have systems like automated cabling system, conveyor for mechanized transport, pre cooling, cold storage and ripening chamber.

Half of Jalgaon banana is being exported to Delhi. Export of bananas to other cities include Mumbai, Agra, Jhansi, Mathura, Lucknow, Kanpur, Gwalior, Bhopal, Allahabad, Naini, Jappolpore, Jaipur, Jodhpur, Bikaner Ajmer etc.

The main centres of banana export are Nimbhora, Savda, Waghoda. Raver. Bhusawal. Pachora, Shendurni. Chalisgaon, Kaj-gaon. Jalgaon. Bhadli. Varangaon. Duskheda, Jamner, Pahur and Mhasawad of which Savda. Nimbhora and Bhusawal are the most important exporting stations.

Different associations in Jalgaon related to banana cultivation:

❖ Jain Irrigation System:

Jain Irrigation system has provided high tech practices for Jalgaon farmers like tissue culture, fertigation, providing best quality drip irrigation systems along with development of training centres giving guidance related cultivation of bananas.

❖ Mahabanana:

It is an autonomous body which has been registered under cooperative act. The body includes 9 executives of which 3 are executive partners from which 1 is Chairman of mahabanana and remaining 6 members are the farmers representatives. The main activities are domestic marketing of bananas, export of bananas and supplying high quality ie disease free planting material.

❖ **Banana Research Station:**

This research station is situated in Jalgaon which consists of 17 staff members. Few activities include, effect of Azospirillum on production of bananas, nutrient management practices, pest and disease control practices as well as water management practices.

J) Uniqueness

Geographical Significance:

Raver tehsil in Jalgaon district has highest production of banana. Banana cultivation is only the occupation of the people in this region. Soil in this region is highly fertile with large number of ground water resources that are favourable for banana cultivation. Moreover Satpuda mountain are present in the northern part along with presence of Tapi river. As a result there is monotonous flat plain characterized by piedmont in between Saputara upland and Tapi river. Hatnur dam is constructed on Tapi river. Hence very large area near this dam is found under banana cultivation as banana is water loving plant.

Proportion of villages having significant banana cultivated land

No of Villages	% Banana area to Total Cropped Land	Status of villages on the basis of %	% Villages to Total
6	70	Very High	8.96
9	60	High	13.43
16	50	Significant	23.88
21	40	Medium	31.34
15	30	Low	22.39
67			100.0

Source: Tehsil Office of Raver

Table 1 is showing proportion of villages having significant banana cultivation in the study region. This table makes it clear that there are 6 villages those have cultivated more than 70% area under banana cultivation. It is to note that in the region about 8.96 % villages have very high concentration of banana crop (>70% total cropped land). Villages having more than 50% of land under banana are 31 (46.27%). In the study region more or less all villages are producing banana, however out of the total villages about 65% villages have cultivated more than 30% of land under banana. This is the core region of pioneer banana belt in Jalgaon district of Maharashtra state, exporting banana to other countries. Ample ground water, rich alluvial soil with high content of potash and nitrogen, monotonous flat plain etc are available in the study region. Owners of banana farms always prefer to work on their farms instead of services and business. Their family members also look after the banana farms personally. In the study region capacity of farmers to work hard, favorable physical and social conditions etc became suitable for banana cultivation.

50% of Jalgaon banana is being traded to Delhi. Export of bananas to other cities include Mumbai, Agra, Jhansi, Mathura, Lucknow, Kanpur, Gwalior, Bhopal, Allahabad, Naini, Jappolpore, Jaipur, Jodhpur, Bikaner Ajmer etc.

The main centres of banana export are Nimbhora, Savda, Waghoda. Raver. Bhusawal. Pachora, Shendurni. Chalisgaon, Kaj-gaon. Jalgaon. Bhadli. Varangaon. Duskheda, Jamner, Pahur and Mhasawad. of which Savda. Nimbhora and Bhusawal are the most important exporting stations.

The “Horticulture Train” which is specially designed with ventilated containers has been carrying more than 1000 tonnes of banana runs from banana growing regions of Maharashtra i.e. Bhusawal to Delhi has helped in reducing transportation and storage cost of both traders and farmers. This has helped to reduce the wastage of product.

Soil

The soil in this area is black loamy soil having good drainage, adequate fertility and moisture with pH range 6.5 -7.5. Presence of Tapi river in this area has created monotonous flat plain characterized by piedmont.

Analysis of Soils of Jalgaon District

Particulars	Medium black	Deep black	Forest	Loam	Sandy
(1)	(2)	(3)	(4)	(5)	(6)
Local names	Madhyam Kali	Bhari Kali	Jungle soil	Galwat or Malai	Barad.
Colour	Brownish black	Black	Dark brown to black	Gray	Reddish or yellowish
Depth	3' to 6'	6'	3' to 6'	6'	0.5' to 2'.
Drainage	Good	Impeded	Good	Good	Excessive.
Slope	Flat	Flat	Undulating	Flat	Slopy.
Erosion	Slightly	Nil.	Nil.	Nil.	Heavy.
Sand (per cent)	45—50	30—40	40—50	24—30	65—75
Silt (per cent)	15—20	25—35	20—25	35—45	10—15
Clay (per cent)	25—35	30—45	25—30	25—30	10—15

Lime (caco ₃) (per cent)	0—5	0—5	5—8	1—3	1—5
pH value	7.5—8.5	8.0—8.5	6.0—7.0	6.5—7.5	6.5—7.5
Nitrogen (per cent)	0.05—0.08	0.06—0.09	0.01—0.15	0.08—0.09	0.03—0.05
Phosphoric acid (mg/per cent) (P205) available.	15.00—20.00	15.00—25.00	15.00—20.00	20.00—25.00	5.00—10.00
Potash (mg/per cent) (K20) available.	15.00—20.00	20.00—25.00	20.00—25.00	20.00—25.00	5.00—15.00

Rainfall

The annual rainfall in the district varies from about 660.40mm-763.40mm

Temperature

The temperature of Jalgaon ranges from 10.8-42.20C.

Climate of Jalgaon is hot and humid. The climate of district is characterized by a hot summer and general dryness throughout the year except during the south-west monsoon season ie from June to Sep.

- Jalgaon is the world's seventh largest banana producer if it were a country and its bananas are wholly produced by independent growers.
- Jalgaon is long known to cultivate bananas owing to its strategic location and the Bhusawal railway station enabling access to the North Indian market.
- Jalgaon's major disadvantage was its dry weather and lack of humidity required by bananas. The breakthrough happened with the spread of drip irrigation that made efficient use of scarce water possible.
- The second innovation was high-density planting — at 1,200-1,500 plants per acre, as against the 800-1,000 plants norm in coastal regions.
- The dense canopy created the right humid microclimate inside the farm, by arresting moisture evaporation as well as blocking hot air from outside. Simultaneously, drip irrigation ensured that the plant roots got enough water. Hot and dry weather turned into an advantage, as the crop was less susceptible to Sigatoka Leaf Spot and Fusarium Wilt fungal diseases.
- Jalgaon's entire 48,000-hectare (1,19,000 acres) banana cultivation area is currently under drip irrigation. This is yet another reason for less of disease incidence. With flood irrigation, the likelihood of soil-borne pathogens migrating from plant to plant and field to field goes up. The third significant intervention, besides drip irrigation and high-density planting, came via tissue culture.

Varieties of bananas grown in Jalgaon are Dwarf Cavendish (Basrai variety), Robusta, Grand Naine, Shrimanti, Madhukar etc. The common man's fruit, banana is now competing other fruits.

- 1) Basrai variety which is mainly grown in Jalgaon District is unique with greenish yellow color, fingers curved, soft pulp with distinct flavour.
- 2) Jalgaon district has loamy soil with good drainage, adequate fertility and moisture which is the most suitable for banana cultivation.
- 3) The peel of Dwarf Cavendish i.e. basrai is thin as a result of which pulp:peel ratio is more.
- 4) Average productivity of banana in Jalgaon district is 80 tons per hectare which is highest in the country.
- 5) There is high demand for "Shrimanti" variety of bananas from khandesh in the country for its unique taste and high fruit quality as compared to other varieties.
- 6) Bananas from khandesh (Jalgaon is located within the productive irrigated agricultural region of Khandesh) are very famous for its unique taste.
- 7) Area under banana cultivation is 45000 hectare which is largest in Maharashtra. This is due to its favourable climatic conditions and ample water supply in the region of Raver, Chopda, Yaval and Bhusawal along with facility of drip irrigation.
- 8) Banana fibre obtained from bananas of this region has high spinning ability and tensile strength.

Figure 1: Comparative Performance of Different Banana Varieties

Parameters	Pseudostem height (cm)	Pseudostem girth (cm)	Total no. of leaves per plant	Days for flowering	Days for harvesting	No. of hands/bunch	No. of fingers/bunch	Length of finger (cm)	Girth of finger (cm)	Bunch weight (kg)
Varieties										
Basrai	165.43	63.95	36.64	354.91	456.47	8.14	122.66	19.89	11.05	11.84
Shrimanti	168.72	66.52	37.60	351.89	455.08	8.35	137.43	21.50	11.63	13.25
Padalse	186.16	77.29	39.10	462.24	562.41	11.79	184.33	18.93	11.28	14.62
Mengaon	180.12	64.08	37.00	366.22	476.64	8.45	130.64	20.14	11.43	12.55
Ardhapuri	165.16	62.26	36.85	368.18	469.12	7.93	124.97	19.55	11.45	12.09
Shendurni	164.97	58.58	35.18	228.70	446.37	8.37	133.20	21.36	11.55	12.85
Ambiamohor	168.50	63.00	36.43	367.75	468.31	7.93	124.48	19.65	11.15	11.87
SE±	1.44	0.81	0.15	3.46	4.07	0.14	3.27	0.15	0.19	0.264
CD at 5% level	4.26	2.40	0.46	10.27	12.09	0.42	9.73	0.46	N.S.	0.786

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K) Inspection Body

Nisargraja Krushi Vidnyan Kendra, has constituted an Inspection structure to oversee the standards and quality assurance system for inspection of every step of production of Jalgaon Banana and statutory compliances thereof.

This Inspection Body consists of President / Vice-President / Secretary / Treasurer of the Applicant Organization, Farmer Members, GI Experts, and Agriculture Experts.

The quality of Jalgaon Banana will be monitored by an Internal Watchdog Mechanism in order to maintain the original physical and chemical characteristics as per GI registration.

The system of internal watchdog mechanism will consist of following committee members:

- i) Representative of Producer group of Jalgaon Banana
- ii) Three (3) farmers from the area under cultivation
- iii) GI Experts
- iv) Agriculture Expert.

This committee will also help to regulate the use of Geographical Indications for the welfare of local farming community. The committee will frame the terms and conditions to use brand name of Jalgaon Banana by any of the marketing agency. The logo of Jalgaon Banana GI will be used to create brand image.

L) Others

Medicinal Uses

- As banana fruit is rich in fructose, glucose and sucrose, it is rich source of energy.
- Iron richness of banana helps in preventing anaemia.
- High fibre content of banana helps in relieving in constipation and diarrhoea.
- Osteoporosis can be controlled by intake of banana as it promotes absorption of calcium in the body.
- High potassium content controls high blood pressure and helps in maintaining electrolyte balance of the body.
- Consumption of banana helps to maintain kidney healthy which leads to prevention of kidney cancer.
- Eating banana gives relief in hyperacidity and heart burn and reduces the risk of stroke by 40%.

Culinary Uses:

No of products such as chips, banana puree, banana powder, banana juice, jam and vinegar can be processed from banana. Banana is perishable fruit, so to avoid spoilage and wastage, commercialization of by-products is must.

- For preparation of banana chips, bananas are cut into pieces and then fried in vegetable oil and then small quantities of chilly powder and salt are mixed. Further chips are packed in air tight bags and sold in market.

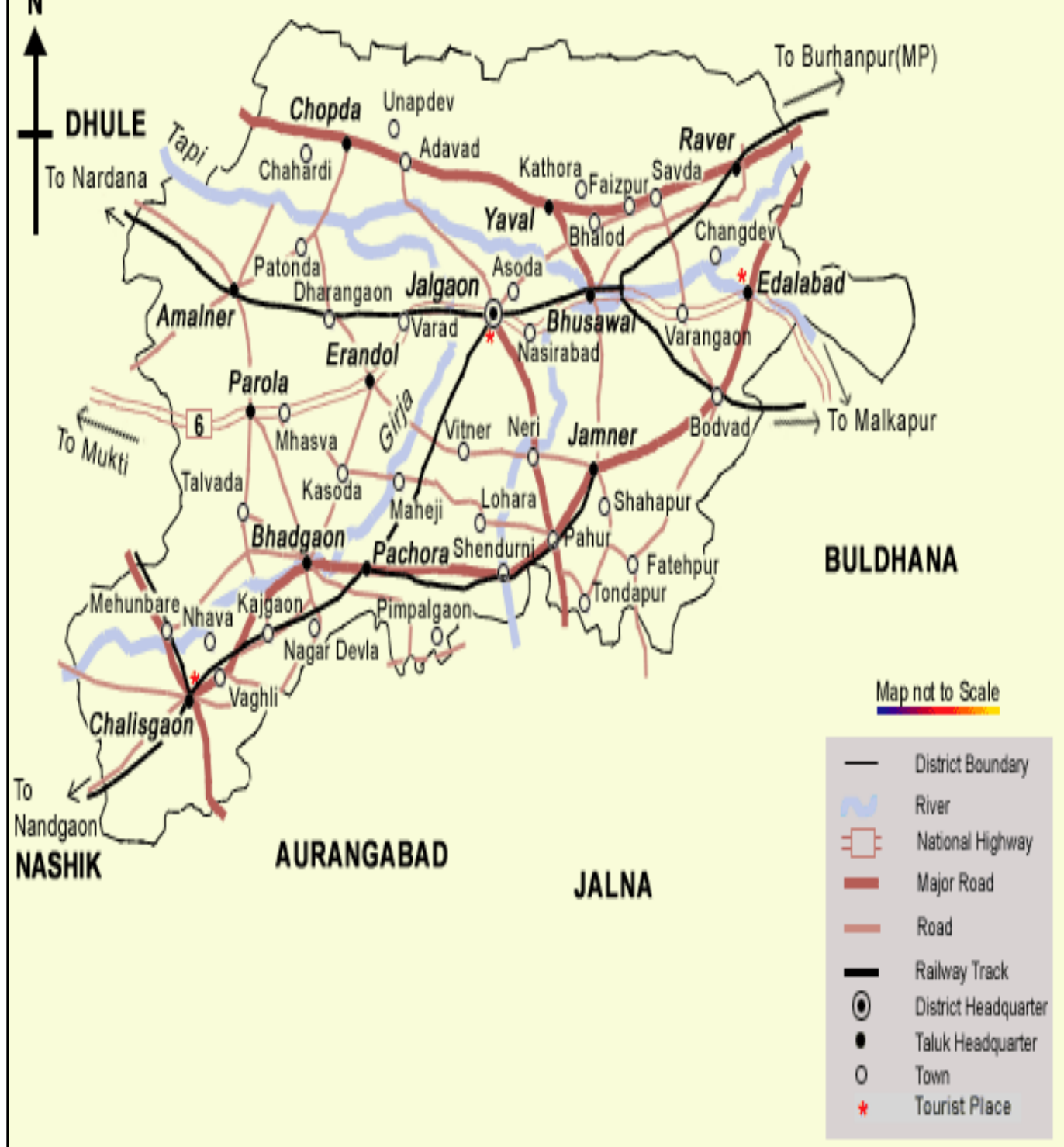
- For production of banana puree, bananas are harvested at the point of maturity and then blanched with steam or boiling water till centre temperature reaches to 93°C. After peeling, cooled bananas are passed through machines. Banana puree with attractive color and fine texture can be obtained.
- For banana powder preparation, banana puree is dried and powder is prepared.
- For preparation of banana vinegar banana juice is fermented. Vinegar is used in food industry as preservative. Banana vinegar has great demand in market.

Other uses:

Banana fibre obtained from banana has light weight, good lustre and has high moisture absorption ability is used for spinning of cotton.

JALGAON (Maharashtra)

Madhya Pradesh



G.I. APPLICATION NUMBER – 499

Application Date: 30-09-2014

Application is made by **Mango Growers Association**, Ajay Engineering Company, Premises, 5-14-42, Adalat Road, Aurangabad - 431005, Maharashtra, India for Registration in Part A of the Register of **MARATHWADA KESAR MANGO** under Application No: 499 in respect of Mango falling in Class – 31 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) **Name of the Applicant** : Mango Growers Association
- B) **Address** : Mango Growers Association,
Ajay Engineering Company, Premises,
5-14-42, Adalat Road, Aurangabad - 431005,
Maharashtra, India
- C) **Types of Goods** : **Class 31 – Mango**
- D) **Specification:**

Kesar Mango cultivation takes place in Marathwada division of Maharashtra. Kesar Mango in Marathwada contains higher amount of total soluble solids i.e. 240Brix which is highest among all mango varieties in India. An increase in sugars is accompanied by an increase in TSS hence the sweetness of Kesar Mango in Marathwada is highest. Kesar Mango in Marathwada possesses color and taste similar to Saffron hence the variety is known as Kesar mango which is the unique for Marathwada division. Ample amount of Kesar mango fruit yield which is about 3 to 4 times higher than Alphonso Mango. Marathwada Kesar mango is large size mango fruit. Under normal circumstances, the ripening period of Marathwada Kesar Mango is 8 days with the Shelf life of 14 days.

- E) **Name of the Geographical Indication:**

MARATHWADA KESAR MANGO



- F) **Description of the Goods:**

Kesar is one of the finest varieties of Indian mangoes and is rated to be the best at the home and abroad. The fruits are very attractive, large sized and oval in shape. The

taste is superb with an excellent sugar/acid blend. It is favorite fruit of the processing industries since; it retains its characteristics flavour even after processing

Himayat Bagh is a 17th-century garden that now houses the Fruit Research Station and Nursery. Fruit Research Station was established in Himayat Bagh, Aurangabad district under Marathwada Agricultural University.

Israel is a world leader in advanced agriculture technologies. Israel's success lies in the determination and ingenuity of farmers and scientists, and in the close cooperation between R&D and industry. Amongst the many fields in which Israel and India collaborate, agriculture has always been front and centre.

Due to suitable climatic conditions, rainfall and soil 'Centre for Excellence for Kesar Mango' started in 'Fruit Research Station, Aurangabad' under Indo-Israel agriculture cooperation project for Kesar Mango in Marathwada division. Following points are describing the Marathwada Kesar Mango in particular. Shape: Long and Oval

Color: Saffron

Taste: Sweet

Overall acceptability: Very Good

The reducing sugar content in Marathwada Kesar Mango was estimated by the procedure recommended by Oser (1979) and was found to be 9.9 gm/100gm pulp.

In a study conducted by Dept. of Chemical Technology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS, India), Kesar Mango fruit of defined physiological maturity were harvested and subjected to analysis for parameters such as Physiological Loss in Weight (PLW), Respiration Rate, Total Soluble Solids (TSS), Titrable Acidity, Fruit Sugars, β -Carotene Content, Ascorbic Acid etc.

The results of the study are summarized below:

S1. No	Parameter	Day 4	Day 8	Day 12	Day 16
1	Changes in PLW during storage	3.8	8.2	13.3	16.0
2	Effect on Respiration Rate (mgCO ₂ /kg/hr) during storage	35.65	85.66	120.00	160.00
3	Changes in TSS during Storage	15.1	19.0	19.5	19.4
4	Changes in % Titrable Acidity	1.40	0.75	0.26	0.18
5	Effect on Total Sugars During Storage	8.60	12.26	12.30	12.35
6	Effect on β -Carotene Content (μ g/100g pulp)	775	1160	1470	1520
7	Ascorbic Acid (mg/100g)	55.1	46.0	28.0	22.0
8	Effect on Organoleptic Score for Color	5.60	6.62	9.20	9.32
9	Effect on Organoleptic Score	6.72	7.93	9.16	8.87

	for Taste				
10	Effect on Organoleptic Score for flavor	5.30	6.45	9.50	9.35
11	Overall Acceptability during Storage	5.80	8.42	9.60	9.42

G) Geographical area of Production and Map as shown in page no: 78

The name Marathwada (Marathi: मराठवाडा) identifies one of the five regions in Maharashtra state of India. The region coincides with the Aurangabad Division. Aurangabad is the headquarters of Marathwada. It derived its name from Aurangzeb, who ruled it for a brief period.

Districts in Marathwada Division:

• **Aurangabad**

The Aurangabad district's North Longitude is 190 and 200 and East Longitude is 740 to 760. The Aurangabad District's total area is 10,100 Sq. Kilo Mtrs. Out of which 141.1 Sq. Km is urban area and 99,587 Sq. Km is Rural Area. Aurangabad District is bordered by the districts of Nashik to the west, Jalgaon to the north, Jalna to the east, and Ahmednagar to the south. Aurangabad is the headquarters and principal city. The district covers an area of 10,100 km², out of which 141.1 km² is urban area and 9,958.9 km² is rural.

• **Nanded**

The District of Nanded lies between 18 015 ' to 19 055' North latitudes and 770 to 78025' East longitudes. It covers area of above 10,332 per Sq. Km. It is located in the south eastern part of the state. The area presents undulating topography with uneven hills, plateau, gentle slopes and valley planes. Physio-graphically, the district can be divided in to 2 major parts, the hilly region on the North and North East and low lying area on the banks of the rivers Godavari, Manjra, Manyad, Penganga etc.

• **Parbhani**

Parbhani, earlier also known as "Prabhavatinagar", is one of the Eight districts in the Marathawada region of Marashtra State. Parbhani district lies between 18045' and 20010' North Latitudes and 76013' and 77039' East Longitude. The district is bounded on the north by Hingoli district on the east by Nanded district, on the South by Latur and on the West by Beed and Jalna districts.

• **Latur**

The Latur district is in the south-eastern part of the Maharashtra state. Latur town is situated on the 1807 Latitude and 73025 Longitude. The district is situated on the Maharashtra- Karnataka boundary. On the eastern side of the Latur is Bidar district of Karnataka, whereas Nanded is on the northeast, Parbhani on the northern side, Beed on the Northwest and Osmanabad on the western and southern side. The entire district of Latur is situated on the Balaghat plateau, 540 to 630m from mean sea level.

• **Beed**

Beed is situated on the 18.3-19.30 North Latitude and 74.5-76.60 East Longitude. Beed district is an administrative district in the state of Maharashtra in India. The district occupies an area of 10,693 km.

➤ **Hingoli**

Hingoli is situated at the northern part of Marathwada in Maharashtra. Borders of Hingoli are surrounded by Akola and Yevotmal in northern side, Parbhani in western side and Nanded at south-eastern side. The district came into existence by division of Parbhani district on 1st may 1999. Latitude of Hingoli District is 19.430 North and Longitude is 77.110East.

➤ **Jalna**

Jalna district is approximately situated at the center part of the Maharashtra state of Republic of India and in the northern direction of Marathwada region. Specifically district lies between 1901 North to 2103 North Latitudes and 7504 East to 7604 East Longitude. The boundaries of Jalna district are adjacent to Parbhani and Buldhana on east, Aurangabad on west Jalgaon on North and Beed on South. Jalna district covers an area 7,612 Sq.Kms, which is 2.47% of the total state area. The city is situated on the banks of Kundalika river.

➤ **Osmanabad**

Osmanabad district lies in the southern part of the state. The height of the district is 600mm above sea level. The district is located on the east side of Marathwada region within North latitude 17.35-18.400 and East latitude 75.16-76.400.

Kesar Mango cultivation in districts of Marathwada division (in hectares):

- Nanded -29,329
- Aurangabad -21,098
- Osmanabad -19,065
- Latur -17,473
- Beads -16,771
- Parbhani – 16,456
- Jalna – 14,824
- Hingoli - 5,451

H) Proof of Origin (Historical records):

Mango (*Mangifera indica* L.) originated in South – East Asia, one of the most important fruit crop grown in India. Mango is indigenous to India. It is as old as Indian civilization and mango has been cultivated in India since antiquity and records show that Huien-Tsang (606 – 647 AD) has testified its cultivation during the time of his visit to India. India occupies a prominent place in the cultivation of mango. Its cultivation is distributed throughout the warmer countries and is confined regions between 30 N and 30 S of the equator.

Kesar is one of the finest varieties of Indian mangoes and is rated to be the best at the home and abroad. The fruits are very attractive, large sized and oval in shape. The taste is superb with an excellent sugar / acid blend. It is favorite fruit of the processing industries since it retains its characteristics flavour even after processing.

Kesar variety was released from Balashad district of Gujarat. Origin of Kesar Mango is Junagadh in Gujrat which came in Marathwada and became King of export. Marathwada is one of the important mango growing regions of Maharashtra. There are two types of fruit plants, first fruit plants which grow and develop on rainwater only and second types of fruit plants which are known as dry land fruit plants which

grow on artificial irrigated water system. Dryland fruit plants possess tap root which goes deep in land and absorb the lowest ground water. Such fruit plants can survive in drought years. Such trees, our ancestors had thought too. So Mahanubhav sect founder Chakradhar Swami in Twelfth centuries preached his followers that they should be planted in Marathwada throughout Kesar Mango stones. Kesar Mango orchards should create. Followers obeyed the Preceptor's order and planted Kesar mango stones in Marathwada . These orchards have been hundreds of years to survive and they worked because it persists mango tree roots absorb moisture and distribute deeply in soil.

Latur is an important kesar mango growing district. This district accounts about 15 per cent of total area of Marathwada region under kesar mango. The long, warm to hot, dry summer and medium cool winter prevailing in this district are most suited for best the quality mango production. Very recently, the state government has also developed facilities for pre-cooling, grading, packaging of mango fruits at Latur. This situation has favored for export of mango . First time 5 tonnes of Kesar mango from Marathwada exported to England in 1998. Afterwards, for next three years Kesar Mango was exported to England and Hongkong and then Japan. The export of mango is increasing day by day on account of higher price realized by the farmers and export facilities developed.

D) Method of Production:

Soil for Kesar Mango cultivation should be a meter deep drain well, and then down to the soft black. Soil pH should be 6.5 to 8.0. However, percentage of limestone should not be more than 10. According to the texture of land, pits of 1 X 1 X 1 should be dug at a distance of 8 X 8m or 10 X 10 m. Bottom of the pits should be covered with 20-25cm layer of dry leaves or hay. While doing this, spread 50gm Carbaril powder. Afterwards add mixture of 3 buckets of dung, 1Kg Super Phosphate, black fertile soil and 100gm Carbaril powder in the pits.

Solid Planting Method of Kesar Mango:

Kesar Mango cultivation is recommended at a distance of 10 X 10 meters. But now the Kesar mango plantations in Marathwada is taken at a distance of 5 x 5 and 5 x 6 meters which has been shown to be more beneficial as there is more production of Kesar Mango fruits per tree. 10 X 10 plantation method posses 100 plants in each hectare while 5 X 5 posses 400 plants per hectares hence the production is higher and beneficial. These methods keep circumference and height of the trees limited. In the last five years, 2 x 4 m, 3 x 5 m Kesar mango is grown in Latur.

Advantages of Solid Planting method of Kesar Mango in Marathwada:

- High production in the specific sector.
- Small height trees hence spraying, harvesting of the fruits become easier.
- Harvesting of Kesar mangoes from 5-10 years old Kesar mango trees are with hand without using Zhela. (A tool called 'Zhela' in the local language. It is a loose nylon-net basket held by metal ring, and attached to a bamboo pole which has a sharp V-shaped cutting tool at the front of the ring)
- Various measures to improve fruit quality and brand are easily possible.
- Mango plantation modern In-situ method in Jalna, Marathwada:
- In-situ method means first sowing of the Kesar Mango stone in the land followed by grafting. Advantages of this method are:

- Stones of Kesar mango are sowed directly in the land hence without any obstacles tap root of the Kesar Mango plant goes deep in the land.
- Kesar Mango tree growth is higher due to in-situ method.
- By adopting this innovative method, in Jirwad area of Ghanasawangi tehsil from Jalna district, highest plantation of kesar mango is possible.

Planting Grafts:

As stone can be planted in land, likewise 10-12 months of kesar mango grafts can be planted. During these planting of grafts, around the grafts 3 Kesar mango stones should be planted and afterwards at the correct time period that is in September-October or February, support should be given to the plant so that strength in roots of kesar mango increases.

Growth and Care of Kesar Mango plant:

After rainy season at the mid of September, pits should be covered with hay or sugarcane straws around the grafts of Kesar Mango having height of 5-6 inches. While covering the pit, Linden powder should be added. Water with interval of 20 days should be given one full year after plantation. 10gm of Urea should be added in the soil which helps in the growth of the plant. Support must be given to the grafts. Shed must be created for each Kesar Mango plant in the summer. In the second year of planting, after 1st rain dung and chemical fertilizers should be given and growth of the plants should be checked for next 2-3 years by protecting plants from various pests, insects, birds and animals. Drip irrigation system should be arranged and in each season everyday 7-8 liters of water must be given to each plant. First two years after plantation, water must be given after every 3 days of intervals so those roots become able to go deep in the soil.

Harvesting:

Marathwada Kesar Mango fruit harvests mostly after 70-80% of maturation of the fruit and starts after 15th May. Fruits are harvested by hands when trees are 5-10 years old. The fruit is harvested using a tool called 'Zhela' in the local language of the trees having age more than 15 years. It is a loose nylon-net basket held by metal ring, and attached to a bamboo pole which has a sharp V-shaped cutting tool at the front of the ring. The harvester tugs at the Zhela in a specific and careful manner, which does not disturb other fruits held from the same branch, does not result in any pull for the branch and yet cuts the stem from which the fruit is held, ensuring that a significant part of the fruit stem is still intact with the fruit. The fruits are taken out, and laid into a crate and immediately moved into a cool, shady place so as to shield the fruits from sunlight and heat.

J) Uniqueness

Geographical significance:

➤ Topography:

The location of Marathwada is on 70.5⁰ – 78.5⁰ East longitude and 17.5⁰ – 20.5⁰ North latitude forms the part of the vast Deccan plateau all of India and is one of the six divisions of Maharashtra State. The total area of Marathwada region is of 64,813sq.km. and is bounded by the Vidarbha region on the North, by Andhra Pradesh on the East and Southeast, by Karnataka on the South and by Western Maharashtra on the West. The entire region is situated at an average height of about 300-650 m. above Mean Sea Level gradually sloping from West to East, and is

traversed by hill ranges origination from the Sahyadris in the West and the Satpudas in the North. Different ranges derive their names from local sources, the northern being Ajanta-Satmala ranges and the Southern the Balaghat ranges. In addition to these there are scattered hillocks of varying heights throughout the region, the highest peak, Surpal Nath (960 m. above MSL) being situated near Kannad in Aurangabad district.

➤ **Geology and Soil:**

The geological formations of the regions are characterized by the Deccan traps (Upper cretaceous to lower Eocene). The granitic rocks have given rise to red as well as black cotton soils. Major part of the region has deep black soil derived from the trap rock which is suitable for Kesar mango cultivation. Certain variations occur due to exposure and protection. A mixture of late rite and black soil, for example, is encountered in the eastern parts together with sandy soil along river banks. Most of the hill tops are bare or covered by coarse gravel while the low lying area accumulates clay and loam.

➤ **Climate and Rainfall:**

The weather, in general, can be said to be dry and moderately extreme hence the sweetness is higher in Kesar Mango from Marathwada division. The average day temperature ranges from 27.70C to 380C while it falls from 26.90C to 200C during night. Similarly summer and winter temperature also varies greatly. The highest during summer day being about 43.30C while the lowest during winter nights about 60C. Relative humidity is extremely low for major part of the year (between 35 to 50%) while it is highest (85%) during monsoon. The rainy season is considered from middle of June to the end of September which is followed by a sultry period from about the end of September to the middle of November. The winter season commences from the middle of November and ends by the end of the January followed by a dry hot summer from February to middle of June. Summers are in general full of gusty winds. The normal average rainfall is about 90 cm but is rather variable form year to year. It has decreased considerable in the recent years. The major amount of South West Monsoon precipitation is received on the West Coast of India due to the Sahyadris and only a small amount escapes through high a hill which is received by the Deccan Plateau. The region thus falls in the rain shadow of the Sahyadris.

Uniqueness of Marathwada Kesar Mango:

❖ **Highest TSS (Total Soluble Solids)**

Kesar Mango in Marathwada contains higher amount of total soluble solids i.e. 240 Brix which is highest among all mango varieties in India. Total soluble solids constitute about 80 % sugars, 10% acids and 10 % nitrogenous compounds.

Total Soluble Solids (TSS) content in different varieties of Mango in India

Mango Varieties	TSS (⁰Brix)
Marathwada Kesar Mango	24
Gir kesar Mango	18.1

Kutch-Bhuj Mango	18.0
South Gujrat mango	17.25
Laxman Bhog Mango	14.4
Himsagar Mango	16
Malda Fazli Mango	13.52
Mango Malihabadi Dusseheri	20.2

❖ **Sweet Taste**

An increase in sugars is accompanied by an increase in TSS hence the sweetness of Kesar Mango in Marathwada is highest.

❖ **Excellent color and taste**

Kesar Mango in Marathwada possesses color and taste similar to Saffron due to hot and dry climatic conditions and soil. Hence the variety is known as Kesar mango which is the unique for Marathwada division.

❖ **Big size**

Marathwada Kesar mango is largest size mango fruit as compared to other mango varieties which is unique with the Kesar Mango variety in that division.

❖ **Ample fruit yield**

Ample amount of Kesar mango yield which is about 3 to 4 times higher than Alphonso Mango. Hence the cultivation of Kesar mango is economically also beneficial to Marathwada division.

❖ **High content of Vitamins and minerals**

Marathwada Kesar Mango contains high amount of vitamins and minerals which are very important factors for human diet.

K) Inspection Body

Mango Growers Association, Aurangabad has constituted an Inspection structure to oversee the standards and quality assurance system for inspection of every step of production of Marathwada Kesar Mango and statutory compliances thereof.

This Inspection Body consists of President / Vice-President / Secretary / Treasurer of the Applicant Organization, Farmer Members, GI Experts, and Agriculture Experts.

The quality of Marathwada Kesar Mango will be monitored by an Internal Watchdog Mechanism in order to maintain the original physical and chemical characteristics as per GI registration.

The system of internal watchdog mechanism will consist of following committee members:

- i) Representative of Producer group of Marathwada Kesar Mango
- ii) Three (3) farmers from the area under cultivation
- iii) GI Experts

iv) Agriculture Expert.

This committee will also help to regulate the use of Geographical Indications for the welfare of local farming community. The committee will frame the terms and conditions to use brand name of Marathwada Kesar Mango by any of the marketing agency. The logo of Marathwada Kesar Mango GI will be used to create brand image.

L) Others

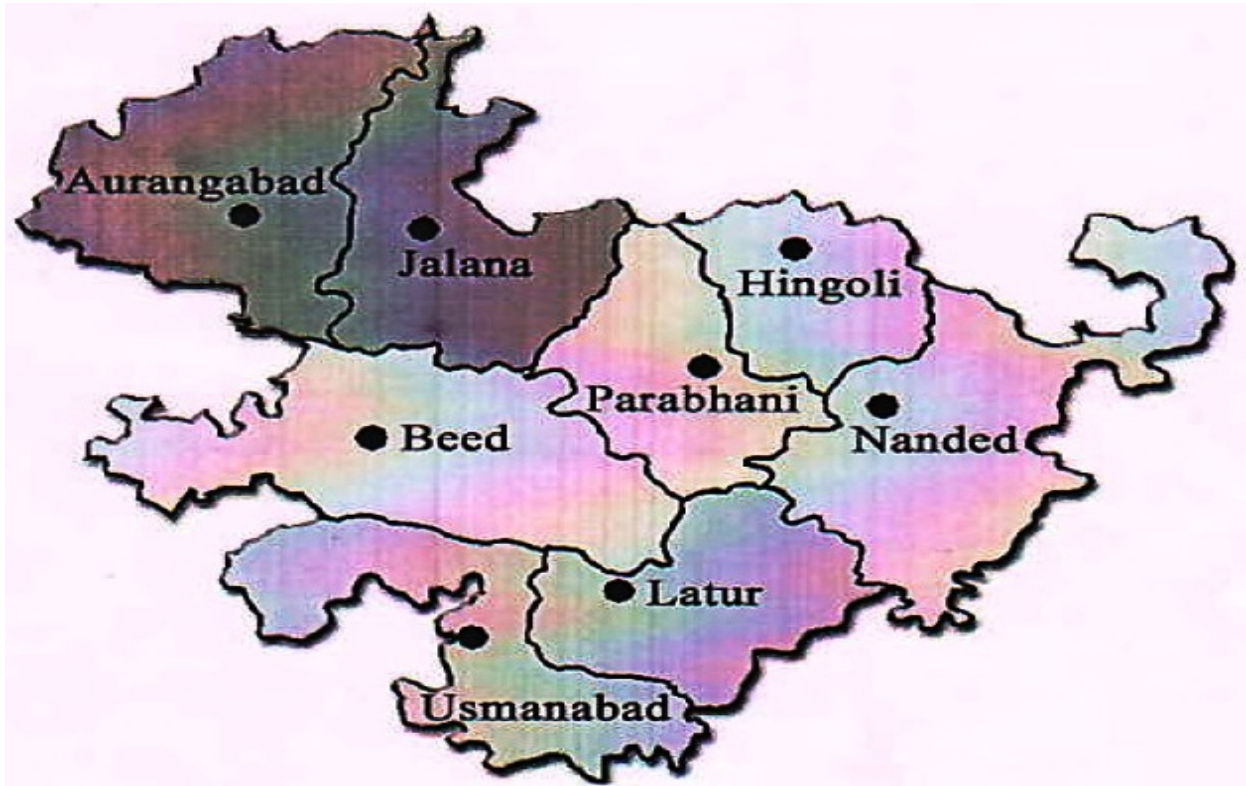
Uses of Marathwada Kesar Mango

Maximum demand is for consumption of directly the Kesar Mango fruit itself by the consumers. Mango Lassi is popular throughout South Asia prepared by mixing ripe mangoes or mango pulp with buttermilk and sugar. Ripe mangoes are also used to make curries Mango is used to make juices, smoothies, ice cream, fruit bars, Pies.

Delicious and nutritionally enriched soymilk based Kesar mango Ready-To-Serve beverages, as a one of the value added products with better acceptability. Soymilk as a base for production of beverages remained deprived of commercial exploitation because of its low acceptability associated with unpleasant beany flavor, astringent and bitter aftertaste. Fortification of Kesar mango pulp in soymilk improves the nutritional as well as therapeutic value of beverage. Kesar Mango pulp is added to soymilk to enhance its vitamin A, C and mineral contents. It also provides sweetness and masks the beany flavor of soymilk to some extent.

Whey based Ready-To-Serve Beverage from Kesar Mango products are available which are having high nutritive value.

Map of Marathwada Division



Renewal Details of Registered Geographical Indications

Sl. No	GI Application No	GI Name	Valid Upto
1	57	Brass Broidered Coconut Shell Crafts of Kerala	25.07.2026
2	58	Screw Pine Crafts of Kerala	25.07.2026
3	59	Maddalam of Palakkad	25.07.2026
4	60	Ganjifa of Cards of Mysore	25.07.2026
5	61	Navalgund Durries	25.07.2026
6	62	Karnataka Bronzeware	25.07.2026
7	63	Thanjavur Art Plate	25.07.2026
8	64	Swamimalai Bronze Icons	25.07.2026
9	65	Temple Jewellery of Nagercoil	25.07.2026
10	66	Blue Pottery of Jaipur	13.08.2026
11	67	Molela Clay Work	30.08.2026
12	68	Kathputlis of Rajasthan	30.08.2026
13	73	Applique (Khatwa) Work of Bihar	20.09.2026
14	74	Sujini Embroidery Work of Bihar	20.09.2026
15	75	Sikki Grass Work of Bihar	20.09.2026

General Information

What is a Geographical Indication?

- It is an indication,
- It is used to identify agricultural, natural, or manufactured goods originating in the said area,
- It originates from a definite territory in India,
- It should have a special quality or characteristics unique to the geographical indication.

Examples of possible Geographical Indications in India:

Some of the examples of Geographical Indications in India include Basmati Rice, Darjeeling Tea, Kancheepuram silk saree, Alphonso Mango, Nagpur Orange, Kolhapuri Chappal, Bikaneri Bhujia etc.

What are the benefits of registration of Geographical Indications?

- It confers legal protection to Geographical Indications in India,
- It prevents unauthorized use of a registered Geographical Indication by others.
- It boosts exports of Indian Geographical indications by providing legal Protection.
- It promotes economic Prosperity of Producers.
- It enables seeking legal protection in other WTO member countries.

Who can apply for the registration of a Geographical Indication?

Any association of persons, producers, organization or authority established by or under the law can apply.

The applicant must represent the interest of the producers.

The application should be in writing in the prescribed form.

The application should be addressed to the Registrar of Geographical Indications along with prescribed fee.

Who is the Registered Proprietor of a Geographical Indication?

Any association of persons, producers, organisation or authority established by or under the law can be a registered proprietor. Their name should be entered in the Register of Geographical Indications as registered proprietor for the Geographical Indication applied for.

Who is an authorized user?

A producer of goods can apply for registration as an authorized user, with respect to a registered Geographical Indication. He should apply in writing in the prescribed form along with prescribed fee.

Who is a producer in relation to a Geographical Indication?

A producer is a person dealing with three categories of goods

- Agricultural Goods including the production, processing, trading or dealing.
- Natural Goods including exploiting, trading or dealing.
- Handicrafts or industrial goods including making, manufacturing, trading or dealing.

Is registration of a Geographical Indication compulsory?

While registration of Geographical indication is not compulsory, it offers better legal protection for action for infringement.

What are the advantages of registering?

- Registration affords better legal protection to facilitate an action for infringement.
- The registered proprietor and authorized users can initiate infringement actions.
- The authorized users can exercise right to use the Geographical indication.

Who can use the registered Geographical Indication?

Only an authorized user has the exclusive rights to use the Geographical indication in relation to goods in respect of which it is registered.

How long is the registration of Geographical Indication valid? Can it be renewed?

The registration of a Geographical Indication is for a period of ten years.

Yes, renewal is possible for further periods of 10 years each.

If a registered Geographical Indication is not renewed, it is liable to be removed from the register.

When a Registered Geographical Indication is said to be infringed?

- When unauthorized use indicates or suggests that such goods originate in a geographical area other than the true place of origin of such goods in a manner which misleads the public as to their geographical origins.
- When use of Geographical Indication results in unfair competition including passing off in respect of registered Geographical indication.
- When the use of another Geographical Indication results in a false representation to the public that goods originate in a territory in respect of which a Geographical Indication relates.

Who can initiate an infringement action?

The registered proprietor or authorized users of a registered Geographical indication can initiate an infringement action.

Can a registered Geographical Indication be assigned, transmitted etc?

No, A Geographical Indication is a public property belonging to the producers of the concerned goods. It shall not be the subject matter of assignment, transmission, licensing, pledge, mortgage or such other agreement. However, when an authorized user dies, his right devolves on his successor in title.

Can a registered Geographical Indication or authorized user be removed from the register?

Yes, The Appellate Board or the Registrar of Geographical Indication has the power to remove the Geographical Indication or authorized user from the register. The aggrieved person can file an appeal within three months from the date of communication of the order.

How a Geographical Indication differs from a trade mark?

A trade mark is a sign which is used in the course of trade and it distinguishes goods or services of one enterprise from those of other enterprises. Whereas a Geographical Indication is used to identify goods having special characteristics originating from a definite geographical territory.

THE REGISTRATION PROCESS

In December 1999, Parliament passed the Geographical Indications of Goods (Registration and Protection) Act 1999. This Act seeks to provide for the registration and protection of Geographical Indications relating to goods in India. This Act is administered by the Controller General of Patents, Designs and Trade Marks, who is the Registrar of Geographical Indications. The Geographical Indications Registry is located at Chennai.

The Registrar of Geographical Indication is divided into two parts. Part 'A' consists of particulars relating to registered Geographical indications and Part 'B' consists of particulars of the registered authorized users.

The registration process is similar to both for registration of geographical indication and an authorized user which is illustrated below:

