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भौगोलिक उपदर्शन पत्रिका

GEOGRAPHICAL INDICATIONS JOURNAL



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भारत
**INTELLECTUAL
PROPERTY INDIA**

भौगोलिक उपदर्शन पंजीकृति,
बौद्धिक सम्पदा अधिकार भवन,
जी.एस.टी. रोड, गिण्डी,
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**Geographical Indications Registry,
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**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 78 of the Geographical Indications Journal dated 28th January, 2016 / Magha 08th, Saka 1937 has been made available to the public from 28th January, 2016.

NEW G.I APPLICATION DETAILS

App.No.	Geographical Indications	Class	Goods
535	Thikkinampallil Aranmula Kannadi	20	Handicraft
536	Sikki Grass Products of Bihar (Logo)	20	Handicraft
537	Applique (Khatwa) Work of Bihar (Logo)	24 & 26	Handicraft
538	Sujini Embroidery Work of Bihar (Logo)	24 & 26	Handicraft
539	Molela Clay Work (Logo)	21	Handicraft
540	Blue Pottery of Jaipur (Logo)	21	Handicraft
541	Kathputlis of Rajasthan (Logo)	28	Handicraft
542	Chakhesang Shawls	24 & 27	Textiles
543	Nilambur Teak	31	Agriculture

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

Advertised under Rule 41 (1) of Geographical Indications of Goods (Registration & Protection) Rules, 2002 in the Geographical Indications Journal 79 dated 28th January, 2016

G.I. APPLICATION NUMBER – 398

Application Date - 24-01-2013

Application is made by The Banaras Metal Craft Development Society, represented by Secretary, CK.62/37, Kashipura, Varanasi, Uttar Pradesh, India facilitated by Human Welfare Association, represented by General Secretary, Human Welfare Association, S.15/116,2-AC, Mawaiya, Sarnath, Varanasi, Uttar Pradesh, India for Registration in Part A of the Register of **Banaras Metal Repouse Craft** under Application No - 398 in respect of Metal Repouse Craft falling in Class – 27 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 : The Banaras Metal Craft Development Society,

B) Address : The Banaras Metal Craft Development Society,
represented by Mr. Anil Kumar, Secretary,
CK.62/37, Kashipura, Varanasi, Uttar Pradesh,
India

Facilitated by Human Welfare Association,
represented by Dr. Rajani Kant, General
Secretary, Human Welfare Association, S.15/116,
2-AC, Mawaiya, Sarnath, Varanasi, Uttar Pradesh,
India

C) Types of Goods : **Class 27** – Metal Repouse Craft

D) Specification:

1. Banaras Metal repousse, the art of moulding showpieces, too, has its share of admirers across the globe. Repousse is raising a design in relief on metal from the back or inside using hammers and punches. Details are then generally done on the design from the front, using chasing or repousee. The whole technique is sometimes referred to as 'chasing', or embossing (Khal – Ubhar KaKam). The art has been preserved in the by lanes of Varanasi for generations by Kasera community.
2. The word repousse is French and means "pushed up", ultimately from Latin pulsare, which means "to push". Repoussage is actually the correct noun to refer to the technique, with repousse being an adjective referring to a piece to which the technique has been applied (e.g. "repoussé work", "repoussé piece"); however, in English it has become common to use repoussé as a noun,
The techniques of repousse date from Antiquity and have been used widely with gold and silver for fine detailed work and with copper, tin, and bronze for larger sculptures.
2. Repousse is done on all manner of articles, which are first moulded into the required shape and burnished; the engraver traces the design with a chisel, filling up the open ground with dots and spots produced by punching. The work is very light, and often little more outlines drawing; and the design is generally as common place as the

execution is hasty and careless. It is certain that formerly much more skill was exhibited by the Benares engravers,

4. The Banaras Metal repousse may be roughly divided into the religious, ritualistic items and objects of utility. The metals used are brass, copper and bell metal. From the limited domestic use it has moved to various directions, especially into the prestigious ritualistic field.

E) Name of the Geographical Indication:

Banaras Metal Repouse Craft



F) Description of the Goods:

Repousse is a metal working technique in which a malleable metal is ornamented or shaped by hammering from the reverse side. There are few techniques that offer such diversity of expression while still being relatively economical. It is used to work on the reverse of the metal to form a raised design on the front. The techniques of repousse utilize the plasticity of metal, forming shapes by degrees. There is no loss of metal in the process, as it is stretched locally and the surface remains continuous. The process is relatively slow, but a maximum of form is achieved, with one continuous surface of sheet metal of essentially the same thickness. Direct contact of the tools used is usually visible in the result, a condition not always apparent in other techniques, where all evidence of the working method is eliminated.

The city of Varanasi of Uttar Pradesh is famous for its Unique Metal Repousee Craft

- Traditional metal Products (Hauda, Chawar, Chhatra, Nalki-Palki, Door-plate, Walplates, Temple decoratives, Mukut, Trisul, Talwar and various type of products.
- Religious Figure of God & Goddess of on Metal Sheet:
- Decorative items
- Utensils

Banaras Metal repousse, the art of moulding showpieces, too, has its share of admirers across the globe. Repousse is raising a design in relief on metal from the back or inside using hammers and punches. Details are then generally done on the design from the front, using chasing or repousee. The whole technique is sometimes referred to as 'chasing', or embossing (Khal – Ubhar KaKam). The art has been preserved in the by lanes of Varanasi for generations by Kasera community.

The word repousse is French and means "pushed up", ultimately from Latin pulsare, which means "to push". Repoussage is actually the correct noun to refer to the technique, with repousse being an adjective referring to a piece to which the technique has been

applied (e.g. "repoussé work", "repoussé piece"); however, in English it has become common to use repoussé as a noun,

The techniques of repoussé date from Antiquity and have been used widely with gold and silver for fine detailed work and with copper, tin, and bronze for larger sculptures.

Repoussé is done on all manner of articles, which are first moulded into the required shape and burnished; the engraver traces the design with a chisel, filling up the open ground with dots and spots produced by punching. The work is very light, and often little more outlines drawing; and the design is generally as common place as the execution is hasty and careless. It is certain that formerly much more skill was exhibited by the Benares engravers,

G) Geographical Area of Production and Map as shown in page no.: 12

The product is produced in the Varanasi district of Uttar Pradesh. The Banaras city is considered as the origin point and the most important production centre of metal repoussé craft. However, with the increase in demand of the products, the artisan from neighbouring district Mirzapur & Chandauli are also engaged in this craft.

Varanasi is situated 83.00 E longitude and 25.200 N latitude.

Mirzapur is situated 82.580 E longitudes and 25.150 N latitude.

Chandauli is situated 83.160 E longitudes and 26.00 N latitude.

H) Proof of Origin (Historical records):

1. Winder fame has been gained by the brass work of Benares. There are over six hundred factories in the city, the large concerns employing twenty or more men; the owners are chiefly rich Baniyas or Kascras, who supply the operatives with materials and tools. In most cases there is considerable differentiation of labour, costing, burnishing, repoussé and polishing being done by different craftsmen. The skilled artisans command high wages, and are paid according to the amount of work done. The raw material is generally imported and the alloys made on the spot, the best markers religiously preserve the secret of the proportions of copper, zinc and other metals used to produce brass, and also of the fluxes, coloring matter and solders employed. Details are then generally done on the design from the front, using chasing or repoussé. The whole technique is sometimes referred to as 'chasing', or embossing (Khal - Ubhar Ka Kam). The art has been preserved in the by lanes of Varanasi for generations by Kaseria community.
2. Repoussé is done on all manner of articles, which are first moulded into the required shape and burnished; the engraver traces the design with a chisel, filling up the open ground with dots and spots produced by punching. The work is very light, and often little more outlines drawing; and the design is generally as common place as the execution is hasty and careless. It is certain that formerly much more skill was exhibited by the Benares engravers, and the decay of their art may be attributed partly to the influence of western ideas and partly for the ready sale which inferior brass work finds at Railway stations and similar places.
3. Various world famous temples and idols of Varanasi like Vishalakshi temple and idol of Goddess Vishalakshi of one quintle gold, gold idols of Goddess Annapurna, coral Ganesh idol, golden sun and silver moon surrounding the temple of Laxmanbalaji at

Balaghat, seven feet golden throne of Goddess Pitambara at siddheshwari alley, nine quintle golden dome on the apex of Kahsi Vishvnath temple.

4. The Indian handicraft and culture is as old as the inception of Indian civilization (even the famous archaeologist Rakhal Das Banerjee) had found so many evidence of handicraft products like dancing statue of Nataraj, big granaries etc in Harappan and Mohenjadaro in civilization. After the upcoming of Aryans the handicraft culture flourished in new horizons, such as use of iron in metal products.

(I) Method of Production:

The process of metal repouse craft has started up to the end is completely handmade using with the traditional tools in a home based atmosphere, it is a complete home based work where the artisans are working since generation.

1. Drawing making of traditional and modern designs by hand on the paper.
2. Preparation and cutting of metal sheet from 18 to 26 gauge thickness (gold, silver, copper brass, white metal). In the ancient time, the artisans prepare the sheet by using heavy iron hammers, but now a days the readymade sheet are available in the market or they are using belay technique for sheet making especially for silver and gold.
3. Preparation of lah (an organic powder prepared manually with the help of heat) for the base of metal work.
4. Putting the sheet on lah base.
5. Transferring the paper design to metal sheet with the use of traditional small tools.
6. Removing the paper design from metal sheet.
7. Starting the Khalai work (chasing work).
8. Using fire for removing the lah from the metal sheet
9. Reverse the sheet and work for embossing (Ubhar Ka Kam)
10. Again using fire for removing the lah from the metal sheet.
11. The same process repeated 3 to 4 times for a perfect product
12. After that the product has washed by acid through traditional technique for cleaning.
13. Then the specialised artisan of police work involved for policing of the product.
14. Then the product goes to the trader, then show room, then consumer.

(J) Uniqueness:

The basic characteristics of the Banaras metal repousee crafts distinguish it from other contemporary products and make it unique.

All the steps are made by hand only means the human skill has involve in this craft from beginning to end,

Traditional motifs of flowers, sikargah, figures and various type of symbols used on the products

- Heavy metal repousee work on very thin sheet of metal.
- Figures have minute details on the copper sheet.

5th generation is working this time in this craft – Genealogy: A number of people have been indulging in metal repousee art since 4th generation adopting it their major resource of livelihood and the current 4th or 5th generation is indulging in this art currently.

A silver tribute to lord jagannath, siblings: Rajkumar, State Awardee artisan of Varanasi was assigned the job of putting back the ancient Kalinga designs in silver before the holy trinity returns to Srimandir in Puri.

Banaras metal artisans contributed their repousee gold tribute to Lord Shiva temple(world famous Kashi Vishvnath Temple) for preparing the apex part with 100 Kgs. gold metal donated by king – Ranjeet Singh after the victory on Kabul (presently in Afganistan).

Various artisans of Varanasi has worked in the prestigious temples, gurudwaras in the country and recognised by the media and certified by the concerned places.

For taking the royal bath in Mahakumbh, a lot of mathadhish, mahamandleshwar and akhara heads ordered the Banaras metal repousee artisans for preparing prong (trishul), damru (drum) and throne before 4 or 5 months and they have taken first royal bath in it.

K) Inspection Body:

To regulate the use of GI in the territory, it is proposed that the Inspection Committee shall consist of the following members:

1. The Department of Industries, Government of Uttar Pradesh;
2. O/o Development Commissioner (Handicraft), Govt. of India having office at Varanasi;
3. One representative from Human Welfare Association;
4. Two National/State Award winner - Banaras Metal repousee Craft;
5. One Banaras Metal repousee Craft– Master craftsman;

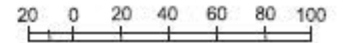
L) Others:

The Banaras Metal repousee craft is socio - culturally associated with the people of Banaras due to its generational legacy. About 500 families of artisans are earning their livelihood through the production of these unique products.

Geographical Area of Production of Banaras Metal Repouse Craft

UTTAR PRADESH

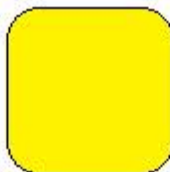
KILOMETRES



- JPN - JYOTIBA PHULE NAGAR
- GBN - GAUTAM BUDDHA NAGAR
- KRN - KANSHIRAM NAGAR
- AMB - AMBEDKAR NAGAR
- SID - SIDDHARTH NAGAR
- SKN - SANT KABIR NAGAR
- KUS - KUSHINAGAR
- SRNB - SANT RAVDAS NAGAR (BHADOHI)

BOUNDARIES:

- INTERNATIONAL.....
- STATE.....
- DISTRICT.....
- TAHSIL.....



Geographical Area of Production of Banaras Metal Repouse Craft

HEADQUARTERS:

- STATE.....*
- DISTRICT.....*
- TAHSIL.....*

- * Varanasi is situated 25.20° North Latitude and 83.00° East Longitude
- * Mirzapur is situated 25.15° North Latitude and 82.58° East Longitude
- * Chandauli is situated 26.00° North Latitude and 83.16° East Longitude

G.I. APPLICATION NUMBER – 494

Application Date: 26-08-2014

Application is made by **Balaghat Sitaphal Sangh**, Talegaon, Taluka: Dharur, District: Beed – 431 124, Maharashtra, India for Registration in Part A of the Register of **BEED CUSTARD APPLE** under Application No: 494 in respect of Custard Apple 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** : Balaghat Sitaphal Sangh
- B) Address** : Balaghat Sitaphal Sangh,
Talegaon, Taluka: Dharur, District: Beed –
431 124, Maharashtra, India
- C) Types of Goods** : **Class 31** – Custard Apple
- D) Specification:**

The Beed custard apple having phenomenal sweet taste is the most delicious gift of Balaghat ranges to the dry land Beed district, for more than four centuries.

1. Beed custard apple grown in Balaghat ranges of Beed district is having phenomenal sweet taste. The high potassium content and micro nutrient in the rocky terrain with shallow, gravelly, well-drained soil of Balaghat ranges around the Beed district especially in Dharur, Ambajogai, Ashti is more prominently responsible for Dharur Custard Apple's unique and distinct taste.
2. The delicious Beed custard apple is having high demand due to its sweet juicy and sugary pulp. It has high Total Sugar(20.12%) and reducing sugar content (17.97%) while other varieties are having less reducing sugar content - Mammoth (16.6%), Washington (15.7%), British Guiana (20.3%).
3. Hot and dry temperature, less rainfall of Ambajogai, Dharur are favourable for high yield custard apple. The yield of Beed custard apple is 10.89 Kg/Plant.
4. The perfect round shape, attractive shiny green external fruit colour having pleasant texture and flavour, the distinct creamy white or yellowish color of inter-areolar wide space appearing on maturity are the key features to identify the custard apple from Dharur.
5. The Beed custard apple is heavy in weight and produces high quantity of pulp. The pulp is juicy, white creamy in colour, granular, edible, soft and fleshy with mild flavour with slight acidity (0.24%).

The weight of Beed custard apple is 240 to 380gm (378.38 gm)

6. Beed custard apple is having high TSS value -24.490Brix as compared to other custard apple varieties.
7. The Beed custard apple is highly nutritive fruit having high value of carbohydrates and good source of protein in its custard apple pulp
 - Carbohydrates 23.9 %
 - Protein 1.6 %

8. The Beed custard apple is the high yielding variety having fruit yield per tree is 10 Kg to 50 Kg. The number of fruits per tree is 48- 60.
9. The custard apple is highly perishable dry land fruit having 24 hours as shelf life after harvesting .The shelf life of custard apple pulp is near about 5-6 months when stored at -20 to 400C.
10. Beed custard apple is robust, disease resistant and sturdy variety. 0-5 % traces of Anthracnose found in Custard apple of Beed while other custard apple from other districts like Jalna, Nanded, Parbhani have 5-20% traces of diseases.
11. The nutritive value of custard apple carbonated beverages made from custard apple collected from Beed district is very high.
 - Carbohydrates (12.9%)
 - Protein (0.7%)
 - Fat (0.18%).

E) Name of the Geographical Indication:

BEED CUSTARD APPLE



F) Description of the Goods:

BEED CUSTARD APPLE

- Variety: Dharur
- Shape : Perfect round
- Color: Shiny green
- Taste: Sweet

Yield and Quality characters

- Yield :10.89 Kg/Plant
- Weight of fruit: 378.38g
- Weight of peel:165.50g
- Colour of Pulp: Creamy white with high quantity
- Weight of Pulp:177.99g
- %of Pulp:47.44
- Number of seeds :47.44(24-50)
- Weight of seed:30.65g

Physio chemical characters

- TSS- 24.490Brix
- Reducing Sugar- 17.97%
- Non Reducing Sugar- 2.15%
- Total Sugar:20.12%
- Acidity- 0.24%

G) Geographical area of Production and Map as shown in page no: 22

Beed District

Beed District is situated at the Central West of the Aurangabad.

latitude: 18.28 and 19.28

longitude: 74.54 and 76.57

Custard apple from Balaghat ranges of Beed district is the most delicious, sweet natural gift to this dry land region. More than four centuries, the Balaghat ranges with rocky terrain of the Beed district are providing natural habitat for this wild fruit - custard apple. This delicious, naturally grown fruit now a new identity of Beed district.

Beed District is the part of Marathwada region and situated at the Central West of the Aurangabad. The geographical coordinates of Beed district is between 18.28 and 19.28 latitude and between 74.54 and 76.57 longitude.

Beed is situated in the Deccan black basalt stone and having the ranges of Balaghat to the border of district Beed in the East.

Beed custard apple is naturally grown in the Balaghat ranges. But now a days commercial cultivation of custard apple has been started in this region. The area under cultivation of custard apple in the year 2012-13 of Beed district was 689.27 Ha . Major custard apple producing areas in Beed district are Kaij, Dharur, Manjarsumba, Ambajogai, Balaghat Ranges. (Ref: Table 1).

The area under custard apple cultivation of following tehsils in Beed district mentioned in below table 1.

Table 1: Area under Custard Apple cultivation in Beed District:2012-13

Sl. No.	Name of Tehsils	Area under Custard Apple cultivation(2012 -13)(Ha)
1	Beed	111
2	Kaij	225.59
3	Dharur	70.61
4	Wadwani	129.83
5	Ashti	74.50
6	Ambajogai	14.60

Beed custard apple has good domestic as well as International market. Since custard apple is highly perishable fruit, farmers are now started storing custard apple pulp and also initiate processing of custard apple like custard apple powder, beverages, ice cream as per market demand.

Deficient rainfall for the last two years in Marathwada region has severely affected horticulture and associated activities, which are main source of livelihood and employment in this region. Government has Rejuvenating Custard Apple Cultivation in Beed through various activities like Research, Conferences, Seminar,

Processing, Training, Exhibition on custard apple cultivation, branding and marketing.

Now, custard apple is no longer poor man's fruit as it fetches higher price than several other fruits. The cultivation of custard apple has gained momentum in Beed district.

H) Proof of Origin (Historical records):

The Beed custard apple having phenomenal sweet taste is the most delicious gift of Balaghat ranges to the dry land Beed district, for more than four centuries.

Custard apple is a famous sub tropical dry land fruit .The mythology said that 'Sita', wife of Lord Rama during her vanvaas used to eat this fruit. So the fruit became popular as 'Sitafal'. But according to some researchers, the origin of this word is in Sanskrit i.e. "sheet" means cold and "phal" means fruit. Custard apple has cooling effect on human body and excess of its consumption may cause cold hence the name is 'Sitaphal'.

The historical evidences of custard apple in India were found in the famous historical book "Ain-i-Akbari" wrote by Abul Fazi in Mughal Emperor period.

The custard-apple was introduced by the Portuguese into India in the Sixteenth century. It was stated that, this subtropical fruit grew well in the Deccan Plateau.

Beed district in Maharashtra is situated on Deccan Plateau. Beed is having ranges of Balaghat which are the most favourable place for the growth of custard apple. Till the date, custard apple trees are flourishing naturally in Balaghat forest of Beed without influence of scarcity of water and lowland soil. Thus the custard apple from Balaghat ranges near Beed district have created its identity and maintained its popularity for more than 400 years.

I) Method of Production:

The soil, climate and rainfall of Beed district are favourable for custard apple cultivation. Custard apple needs less attention, low-maintenance cost and low investment. Beed is having ranges of Balaghat which are the most favourable place for the growth of custard apple. Till the date, custard apple trees are flourishing naturally in Balaghat forest of Beed without influence of scarcity of water and lowland soil.

Presently commercial cultivation of custard apple has been started in Beed district. Balanagar variety is popular among the farmers of Beed district.

The following method is applied for cultivation of custard apple in Beed.

- Seed taken from matured and healthy custard apple are kept in sunlight for minimum 20 days.
- Beds are prepared for plant seedlings. Seeds are germinated in polythene bags.
- The polythene bags contain the mixture of 20 to 30% of black soil, 70% sand and rock soil, organic compost manure, sufficient water and the custard apple seed used for germination is placed in the centre.
- Germination of seed takes place and plant grows within 25-30 days.

- 4*4 Pits are prepared for transplanting .The pits are filled by compost manure and fertilisers. After 25-30 days 6-8 inches plants transplant into the pits.
- Plants fully grown upto 3-4 m in two years and it is perennial and having age upto 25 years.
- Till the fifth year after plantation fertilisation is needed. Organic fertilisers are added in the soil at the shadow area of the tree.
- Inflorescence appeared in third year and tree is ready to give sweet pulpy fruit.
- Custard apple requires less rainfall 500 -750mm.
- The distinct creamy or yellowish colour of inter-areolar space appeared on external fruit cover is the maturity syndrome of custard apple. The Custard apple leaves has insecticidal effect i.e causes toxic effect to animals. So no need to protect it from animals and birds. Though custard apple tree does not require more attention but after fruit maturity period there is need to protect fruits from animals and birds.
- Harvesting of custard apple is done manually and need careful handling since it is very delicate fruit.
- After 5 years the yield of fruits per tree is near about 15 kg. It gradually increases upto 50 kg.
- It is dry land fruit so less irrigation is required. Irrigation is done twice in year i.e. November and February.

J) Uniqueness

1. Geographical Significance

Custard Apple can grow on rocky, marginal and even waste lands. However, for the best yield, a well-drained fertile soil with neutral pH will be ideal. The plants are shallow rooted and hence a deep soil is not necessary.

The high potassium content and micro nutrient in the rocky terrain with shallow, gravelly, well-drained soil of Balaghat ranges in Beed District is more prominently responsible for its unique and distinct taste.

For the good growth of Custard apple 500 -750mm rainfall is required while the annual average rainfall in this region is 678.180 mm from South West direction which is suitable for custard apple cultivation. Hot and dry temperature, less rainfall of Ambajogai, Dharur are favourable for high yield custard apple.

In the major part of Beed district rocky and thin layered soils are observed. Balaghat range is between heights of 2000 and 2200 feet. Most of the rain water drained out from these ranges due to slope.

Soil:

In the Beed district, rocky and thin layered soils are observed in major part of the district except on the banks of Godavari and Sindphana Rivers. The nutrient levels in almost all the soils are low.

The district can be broadly divided into 3 physio graphic units namely;

- i. Lowland Beed - Low lying northern part comprising a part of Godavari

- valley and is also known as 'Gangathari'. It has the heights between 1200 and 1500 feet from the sea-level.
- ii. Highland Beed - Highland Beed occupies the southern part forming a part of "Balaghat Plateau".
 - iii. Sina basin - Low lying undulating area southwest and west of Highland Beed comprising almost whole of Ashti taluka.

The highland Beed unit has many hills exceed 2500 feet mark from the sea-level Balaghat range is between heights of 2000 and 2200 feet.

Beed is situated in the Deccan black basalt stone, ranges of Balaghat that constitutes main range from Ahmednagar in the west, to the border of district Beed in the East. The height of Ashti Tehsil is between 1750 and 2000 feet from the sea-level.

In the Georai and Majalgaon tehsils the soils are very deep and deep black while the parts of Ambajogai, Kaij, Patoda and Ashti tehsils have got laterite soil. The potassium content in the soil is high.

Rainfall and Temperature:

Beed district lies in Marathwada region of Maharashtra. The annual average rainfall of the district is 678.180 mm. Ambajogai is the part of The Eastern Zone of Beed district having more or less assured rainfall. Ambajogai and Kaij tehsils are scarcity-free zones of the district while parts of Beed, Patoda and Ashti tehsils are frequently confronted with scarcity conditions

Temperature:

Temperature of Beed District: in summer i.e. 43o C and minimum in winter i.e. 12oC. Thus Soil, rainfall, climate of Beed district is favourable for Beed custard apple cultivation.

Uniqueness of Beed Custard Apple

The Balanagar variety of Custard apple is naturally grown and most popular in the Beed district.

1. The Beed custard apple having phenomenal sweet taste is the most delicious gift of Balaghat ranges to the dry land Beed district, for more than four centuries. The high potassium content and micro nutrient in the rocky terrain with shallow, gravelly, well-drained soil of Balaghat ranges around the Beed district especially in Dharur, Ambajogai, Ashti is more prominently responsible for Beed Custard Apple's unique and distinct taste.
2. The sweetness of Beed custard apple is more due to high Total Sugar (20.12%) and reducing sugar content (17.97%) while other varieties are having less reducing sugar content - Mammoth (16.6%), Washington (15.7%).
3. Hot and dry temperature, less rainfall of Ambajogai, Dharur are favourable for high yield custard apple. The yield of Beed custard apple is 10.89 Kg/Plant.
4. The perfect round shape, attractive shiny green external fruit colour having pleasant texture and flavour, the distinct creamy white or yellowish color of inter-areolar wide space appearing on maturity are the key features to identify the custard apple from Beed.

5. The Beed custard apple is heavy in weight and produces high quantity of pulp. The pulp is juicy, white creamy in colour and fleshy. The high quality and quantity of pulp are the distinguishing features of the Beed custard apple.

The Beed custard apple produces 177.99g pulp with less number of seeds approximately 47.44(24-50). In general, the fruit contain 47.44% pulp which is high quantity of pulp as compared to other varieties like Mammoth(44.5%pulp), Washington(38.1%pulp), British Guiana(37.9% pulp).

The weight of Beed custard apple is 240 to 380gm (378.38 gm)
While other varieties have Mammoth -183gm, Red Sitaphal-231gm, Washington-165gm, British Guiana-181gm.

Morphological characters of Beed custard apple (Cv.Dharur-6)

- Yield: 10.89 Kg/Plant
 - Weight of fruit: 378.38g
 - Weight of peel: 165.50g
 - Colour of Pulp: Creamy white with high quantity
 - Weight of Pulp: 177.99g
 - % of Pulp: 47.44
 - Number of seeds : 47.44(24-50)
 - Weight of seed: 30.65g
 -
6. Beed custard apple is having high TSS value -24.490Brix as compared to other varieties like Washington-20.80Brix, Udaipur (17.000Brix)
 - Physio chemical characters of Beed Custard Apple (Cv.Dharur-6)
 - TSS- 24.490Brix
 - Reducing Sugar- 17.97%
 - Non Reducing Sugar- 2.15%
 - Total Sugar: 20.12%
 - Acidity- 0.24%
 7. The Beed custard apple is highly nutritive fruit having high value of carbohydrates and good source of protein in its custard apple pulp .
 - Carbohydrates 23.9 %
 - Protein 1.6 %
 8. The Beed custard apple is the high yielding variety having fruit yield per tree is 10 Kg to 50 Kg. The number of fruits per tree is 48- 60 while other varieties like British Guiana having fruits per tree is 35.
 9. The nutritive value of custard apple carbonated beverages made from Beed custard apple is very high.
 - Carbohydrates (12.9%)
 - Protein (0.7%)
 - Fat (0.18%)
 10. The custard apple is highly perishable dry land fruit having 24 hours as shelf life after harvesting .The shelf life of custard apple pulp is near about 5-6 months when stored at -20 to 400C.

11. This variety is robust, disease resistant and sturdy. According to survey and surveillance of key diseases of custard apple in Marathwada region, it was observed that only 0-5 % traces of Anthracnose found in custard apple from Dharur and other region of Beed e.g. other regions like Jalna, Nanded, Parbhani have 5-20% traces of diseases.

Comparison of Beed Custard Apple with other landraces of custard apple in Maharashtra and Rajasthan

Varieties	Beed Custard Apple (Cv. Dharur 6)	Deola, Udaipur (Rajasthan)	NahargarhBaran (Rajasthan)	Daulatabad (Maharashtra)
Weight of fruit (g)	378.38	110	149.75	289.85
Pulp weight (g)	177.99	37.17	47	118.92
No. of seeds/fruit	47.95	42	35	38.82
Seed weight (g)	30.65	13.25	12.25	23.18
Acidity (%)	0.24	0.32	0.30	0.25
TSS(⁰ Brix)	24.49	17	17.87	23.18

Comparison of Beed Custard Apple with other varieties grown in different agro-climatic regions of the country

Varieties	Beed Custard Apple (Cv. Dharur 6)	Mammoth	Red Sitaphal	Washington	British Guiana
Pulp % ³	47.44	44.5	-	38.1	37.9
Weight of fruit (g)	378.38	183	231	165	181
Acidity (%)	0.24	0.19	0.21	0.22	0.31
TSS (Brix)	24.49	20	22.3	20.8	-

K) Inspection Body

‘Balaghat Sitaphal Sangh, Talegaon, Tal.- Dharur, Dist.-Beed’ has constituted an Inspection Body to oversee the standards and quality assurance system for inspection of every step of production of Beed Custard Apple 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 Beed Custard Apple 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 Beed Custard Apple
- 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 Beed Custard Apple by any of the marketing agency. The logo of Beed Custard Apple GI will be used to create brand image.

L) Others

It is a major concern for the country like India where per capita availability of fresh fruits and processed fruit products is far below the normal recommendation.

The increasing demand of fruits and value added products plays an important role to give momentum to the Beed district's economy through custard apple cultivation.

The Traditional pulp extraction method is non-hygienic, less shelf life, poor in quality and costly. Presently, the technology reduces manual effort in pulp extraction. It reduces the cost of pulp extraction and enhances the quality of pulp.

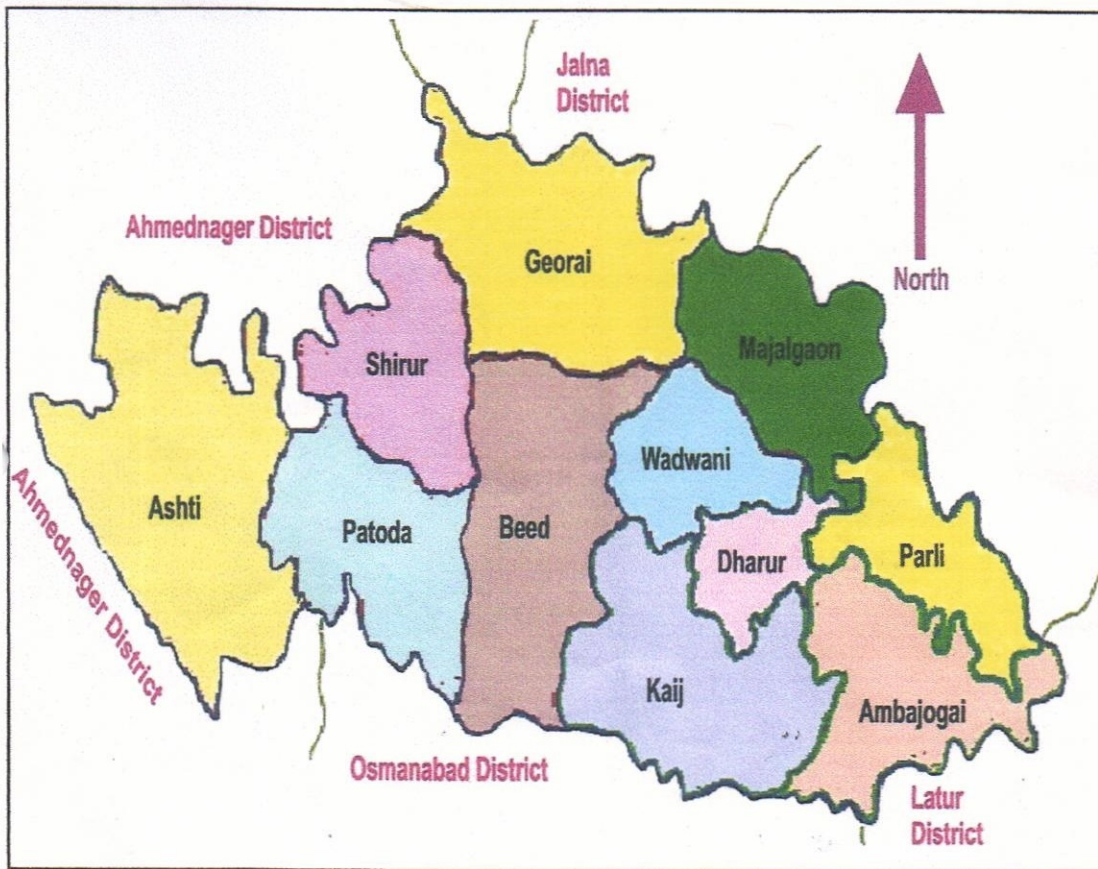
Uses of Dharur Custard Apple:

- Custard apple pulp is used in desserts like 'Basundi', 'Rabadi' and ice cream, jam and jelly
- Custard apple pulp is used in beverages
- The seeds, leaves and young fruits are insecticidal. The leaf juice kills lice.
- Custard apple is used for making custard apple powder.

Medicinal uses:

- Custard apples contain anti-oxidants like Vitamin C, which helps to fight free radicals in our body.
- These are also rich in potassium and magnesium that protect us from cardiac diseases.
- Custard apples control our blood pressure.
- Custard apples contain Vitamin A, which keeps skin and hair healthy. This fruit is good for the eyes.
- It cures indigestion.
- It has the copper content helps to cure constipation. As the fruit is high in magnesium, it maintains the water balance in our body, which helps in removing acids from the joints and reduces the symptoms of rheumatism and arthritis. The potassium present in custard apple will help to fight muscle weakness.
- Custard apple contains natural sugar, and hence makes a great nutritious snack and can even be added to desserts. It also helps to put on weight.

MAP 1: BEED DISTRICT¹



Beed District

latitude :18.28 and 19.28

longitude :74.54 and 76.57

G.I. APPLICATION NUMBER – 495

Application Date: 26-08-2014

Application is made by **Jalna Jilha Phale & Mosambi Bagayatdar Sangh**, C/o Pragat Shetkari Kendra, Subhash Road, Mama Chowk, District: Jalna – 431 203, Maharashtra, India for Registration in Part A of the Register of **JALNA SWEET ORANGE** under Application No: 495 in respect of Orange 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** : Jalna Jilha Phale & Mosambi Bagayatdar Sangh
- B) Address** : Jalna Jilha Phale & Mosambi Bagayatdar Sangh,
C/o Pragat Shetkari Kendra, Subhash Road,
Mama Chowk, District: Jalna – 431 203,
Maharashtra, India
- C) Types of Goods** : **Class 31 – Orange**
- D) Specification:**

- ❖ Jalna sweet orange is traditional variety of sweet orange in Jalna district.
- ❖ Jalna Sweet Orange variety is known as Nucellar variety which is famous for higher peel (rind) thickness which gives highest protection to the pulp due to higher potassium and nitrogen content.
- ❖ Earlier maturity to the sweet orange fruit in Jalna is due to highest TSS/acid ratio.
- ❖ Juice of Jalna sweet orange is sweet in taste due to high TSS content.
- ❖ Largest spread of Jalna Sweet Orange trees gives highest fruit yield per tree.
- ❖ Fresh juice of Jalna sweet orange is an important nutritious product providing 45 kcal, moderate quantity of vitamin C, potassium, bioflavonoid and folic acid and essential items of breakfast.
- ❖ The peel of sweet orange from Jalna contains sugars, edible fibers.

- E) Name of the Geographical Indication:**

JALNA SWEET ORANGE



JALNA SWEET ORANGE

F) Description of the Goods:

In Jalna, due to fantastic atmosphere, soil and climate for sweet orange crop, Sweet orange Research Station was established in Badnapur tehsil of Jalna district. Following points are describing the Jalna sweet orange in particular.

Appearance: Truncated shape of apex.

Shape: Oblate to spherical.

Skin: Rough surface with prominent streaks on the rind.

Number of segments: 9 to 12

Color: Greenish yellow.

Taste: Sweet

Overall acceptability: Very good.

G) Geographical area of Production and Map as shown in page no: 31

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 19°01' North to 21°03' North Latitudes and 75°04' East to 76°04' 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.

Jalna district comprises of 8 tehsils. The majority of its population engaged in agricultural occupations. Jalna district is leading in Sweet Orange orchards. Maximum Sweet Orange orchards are in Ghansawangi and Ambad tehsil. District has the largest area (7,169 Ha) in the State under sweet lime cultivation.

Ghansawangi

Ghansawangi is a Tahsil place in Jalna District. Ghansawangi covers an area of 11,071 hectares. From the broken tanks and numerous dilapidated tombs which surround it, Ghansawangi appears to have been a place of much importance in the olden days. Weekly market is held on Saturday.

Ambad

Ambad situated between a ridge of hills in 19°35'15" North Latitude and 75°50'7" East Longitude is the headquarters of the tahsil of the same name. It is located along Jalna-Gevai road the former place being the principal commercial centre in the Marathwada region.

Area under cultivation of Jalna Sweet Orange for the district is indicated in the following table:

Sl. No.	Taluka	Area Under Cultivation (ha)
1	Jalna	4111
2	Badnapur	3771
3	Bhokardan	419
4	Jafrabad	250
5	Partur	498

6	Ambad	7999
7	Ghansavangi	3612
8	Mantha	403
	Total	21063

H) **Proof of Origin (Historical records):**

Sweet orange (*Citrus sinensis* Osbeck) is considered as second important citrus species after mandarin orange in India and it shares 23% of production among all the citrus cultivars. Sweet orange contributes 71% of the total citrus production in the world.

The origin of citrus fruit is identified with a history full of controversy and interesting legends. Some researchers believe that citrus is native to the subtropical and tropical areas of Asia, originating in certain parts of Southeast Asia including China, India, and the Malay Archipelago. Lemon was originally grown in India and sweet oranges and mandarins are indigenous to China.

Brazil is largest producer of sweet orange. India has 3rd rank in the production of sweet orange with annual production of 4266.9 million tonnes. Citrus is grown practically all over India. However the states of Andhra Pradesh, and Maharashtra have the largest share. The most significant part of the Jalna district is that about 85% of the geographical area is under agricultural use. Out of the total 7,61,200 Hectares of the geographical area, 6,51,553 Hectare of land is under agricultural use. There are various varieties of sweet orange in India like Mosambi in Maharashtra, Malta (Red blood Malta) in Punjab & Haryana and Sathgudi in Andhra Pradesh. Among the various factors responsible for sustainable production and tree longevity, use of suitable rootstock is considered to be the foremost ones. A number of rootstocks have been recommended for different sweet orange cultivars in various states. It is an established fact that a rootstock – scion combination, which is suitable for one locality, may or may not be the suitable in other areas. So, a perfect combination of rootstock – scion is to be standardized for specific agro-ecological condition.

In Jalna district, Nucellar mosambi, Kagdi Mosambi and Rajapimpri are the major cultivars of sweet orange. Kagdi Mosambi is a traditional variety cultivated in Jalna. Kagdi Mosambi variety has small fruit size, thin peel, less fruit yield per tree and tree growth is also not so good hence trees become prone to many diseases. Therefore, to overcome with these problems, cultivation of new variety i.e. Nucellar variety started in last few decades. Nucellar variety produced in Jalna by grafting method. Rangpur lime stock from Rangpur, Bangladesh found to be the best suitable for sweet orange in Jalna. Nucellar variety possesses large fruit size, thick peel and also gives highest fruit yield per tree.

I) **Method of Production:**

Sweet Orange Planting:

Sweet orange planting in Jalna is generally done during monsoon in north-western and western parts of the country, i.e. Punjab, Haryana, Rajasthan and Maharashtra, while in southern India; it is done at the onset of rainy season. Land should be ploughed in a cross manner to soften the upper surface. The pits of 60 cm x 60 cm x 60 cm size should be dug. They are filled up first with clay soil, murrum, soil, farmyard manure mixture and micronutrients. A planting distance of 6m from plant-to-plant and 6m from row-to-row is generally followed in square system of planting.

However, planting distance as well as planting density depends upon the cultivar, rootstock used and agro climatic conditions. In Jalna, sweet orange plants budded on Rangpur lime planted at a distance of 6m x 6m, accommodating 270 plants/ha.

Training and pruning:

The trees are trained to a single system and any shoot emerging from the portion below the bud union should be nipped off regularly. Only 4-6 branches having wide angle with the main trunk, should be allowed to grow up to 3-4 m. thereafter no training is required. Training of plants should be completed in first 3 years so that plants attain a mechanically strong canopy. Pruning of bearing trees differs with variety. It consists of removal of dead, diseased, criss-cross and weak branches. Removal of water sprouts and suckers from each rootstock below the bud union is also essential and should be attended to regularly along with thinning of the shoots for better penetration of sunlight and aeration. The best time for pruning in bearing trees is after harvesting during late winter or early spring.

Manure and fertilization:

Fertilizer requirement of the plants is influenced by various factors like age of the plants, rootstock used, soil and climate along with the crop load in bearing trees. No uniform fertilizer recommendation can be made for all sweet orange cultivars in different agro climatic regions. The fertilizers should be applied in a ring from below the canopy of the trees depending on age. For a mature tree, fertilizers are applied in a 30-40 cm wide ring made at a radial distance of 100-200 cm from the trunk as maximum feeder roots are located below the tree canopy. Though the requirement of major elements is met and large met by supplementing N,P,K fertilizers, farmers usually forget to apply micronutrients, the most essential part of citrus nutrition.

Aftercare:

Most of the sweet orange cultivars are planted 6-8 m apart, leaving much area unutilized. The interspaces can profitably be utilized for growing some short duration crops. The additional crop not only provides additional income to the orchardists, but also helps to check weed growth, conserve soil moisture and prevents soil erosion.

Weed control:

In order to eliminate competition for nutrition by weeds in sweet orange orchard, control of weed is very essential. Apart from Interculture operations, that check weed growth chemical weed control is also necessary during certain period of the year to avoid disturbances to feeding roots.

Irrigation:

Sweet orange require more water because sap circulation never entirely ceases and transpiration takes place throughout the year. Being an evergreen plant, sweet orange requires good amount of water. Water deficiency, moisture stress at critical periods such as fruit development check the growth, reduces fruit size and quality. Thus moisture stress during the period of growth, flowering and fruit development should always be avoided. The frequency of irrigation is influenced by soil, climate, variety and age of plants. Water is applied at every 6-8 days interval from March to June and at every 10-12 days interval during November-February. In young plants up to the age of 8 years, the irrigation should be given through basis system of irrigation. In grown-up and old orchards, flood system of irrigation may be adopted avoiding water content with tree trunks.

Harvesting and Postharvest Management:

Sweet oranges mature in 9-12 months. Being a non-climacteric fruit, there is no improvement in colour, taste and flavour after harvesting. Therefore, fruits should be harvested when they are fully ripe and attain proper size, attractive colour and acceptable sugar: acid ratio. Sweet oranges can be allowed to remain on their trees on reaching maturity for several weeks without deterioration. November-January for 'Ambe bahar' and March and March-May for 'Mrig bahar' are time for harvesting. Fruits should preferably be harvested by clipping with secateurs. Sweet oranges are tight-skinned fruits possessing comparatively better shelf life than loose-skinned mandarins.

Washing, drying, sorting, grading and wrapping in tissue paper is usually adopted for postharvest handling and packaging. Sweet oranges can be stored at temperature of 5°C and 85-90% relative humidity for 3 months.

J) Uniqueness

1. Geographical Significance

Topography

Jalna district is situated in the upper Godavari Basin. The central hill range known as Jalna Hill is an upland, plateau and is drained by Purna river and its tributaries. Southern portion is comparatively low land, flat area terminating at Bank of Godavari River in the South. Jalna covers maximum flat land area which is ideal requirement for cultivation of sweet orange. District slopes towards south and average elevation above sea level is 534 meters.

Climate

The climate of the district can be divided into three seasons as: a) Moderately warm wet season during June to Sept., b) Cool dry season from Oct. to Feb., and c) Hot dry season from March to May. Temperature requirement for plantation of sweet orange trees ranges from 12°C to 35°C and overall dry climate conditions. The average temperature of the district is ranging from 20°C during winter to 41°C during summer with dry conditions perfectly suitable for sweet orange. During greater part of the year, the climate is quite pleasant. It receives rainfall mostly from South-West monsoon. Rainfall is not uniform in all parts of the district as the sweet orange trees require very less rainfall. The average rainfall ranges between 600mm to 700mm.

Soil

The soils of the district are black with considerable variation in texture and depth and are consists of light, medium and heavy soils. The soils along the river banks especially in Ambad and Partur blocks are deep black and quite fertile hence the cultivation of sweet orange is higher in Ambad. The soils in northern parts of the district i.e. in Jalna, Bhokardan and Jaffrabad blocks are coarser.

Rivers

Rainfall of the district is not uniform hence the important source of water for sweet orange crop is river. The most important river in Jalna district is Godavari, which flows for about 60 km along the Southern boundary of the district. Its principle tributaries are Dudhana, which flow from Central part of the district and Galhati, which passes through Ambad tehsil. The river Purna, which is one of the tributaries of

Godavari flows through the Northern part of the district. The other tributaries of Purna and Khelna are Girija and Dudhana respectively.

Uniqueness of Jalna Sweet Orange:

❖ High TSS/acid ratio:

Sweet orange are considered mature when their juice content and total soluble solids: acidity ratio have attained certain minimum limits for palatability. Total soluble solids constitute about 80 % sugars, 10% acids and 10 % nitrogenous compounds. An increase in sugars is accompanied by an increase in TSS; there is a very strong correlation between TSS and acidity. Maturity is determined mainly on the basis of the ratio of TSS to titratable acidity. Hence the maturity time is earlier (November) in sweet orange Jalna variety than other varieties in India.

Maturity time, TSS: acid ratio for harvesting different sweet oranges

Variety	TSS: acid ratio	Maturity time
Mosambi	30:1	November
Pineapple	14:1	December
Jaffa	14:1	December
Blood Red	14: 1	December-January
Valencia	10:1	February-March

❖ Superior in TSS content

Total soluble solids constitute about 80 % sugars, 10% acids and 10 % nitrogenous compounds. An increase in sugars is accompanied by an increase in TSS. Rangpur lime stock used in Nucellar variety of Jalna sweet orange gives highest TSS to the fruit. Hence the maximum content of sugar gives Sweet taste to this variety.

❖ High Nitrogen content

Nitrogen, phosphorus and Potassium are the very important nutrients present in all fruits. Presence of higher Nitrogen leads to Increases juice content, total soluble solids (TSS), and acid concentration. Also peel thickness increases due to higher nitrogen and fruit color is green during harvest. These all characteristics are found exclusively in Jalna Sweet orange nucellar variety as it uses Rangpur lime stock which gives richness to the Nucellar variety quality.

❖ Content of Potassium is highest

Higher potassium and nitrogen leads to greater thickness of the peel. As the thick peel is the specific characteristic of sweet oranges in Jalna, this peel thickness in the nucellar variety is due to Rangpur lime stock. Tight and thick peel gives maximum protection to the pulp inside the fruit.

❖ **Maximum fruit yield**

Spread of the Jalna sweet orange tree is largest as compared to other sweet orange varieties. Largest spread of the tree leads to the highest fruit yield per tree. Hence the yield of Nucellar sweet orange variety in Jalna is highest.

K) Inspection Body

Jalna Jilha Phale & Mosambi Bagayatdar Sangh, Jalna has constituted an Inspection Body has been duly constituted to oversee the standards and quality assurance system for inspection of every step of production of Jalna Sweet Orange 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 Jalna Sweet Orange 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 Jalna Sweet Orange
- 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 Jalna Sweet Orange by any of the marketing agency. The logo of Jalna Sweet Orange GI will be used to create brand image.

L) Others

Analysis of Jalna Sweet Orange (Mosambi)

Properties	Sweet Orange (Jalna)
pH	3.7
Moisture	88.4%
Protein	0.6%
Fat	0.05%
Carbohydrates	10.5%
Fibre	0.12%
Ash	0.3%
Water	86-92%
Sugar	5-8%
pectin	1-2%
Glycosides	0.1-1.5%
Pentosans	0.8-1.2%
Citric acid	0.4-1.5%
Fibre	0.6-0.9%
Minerals	0.5-0.9%
Essential Oils	0.2-0.5%

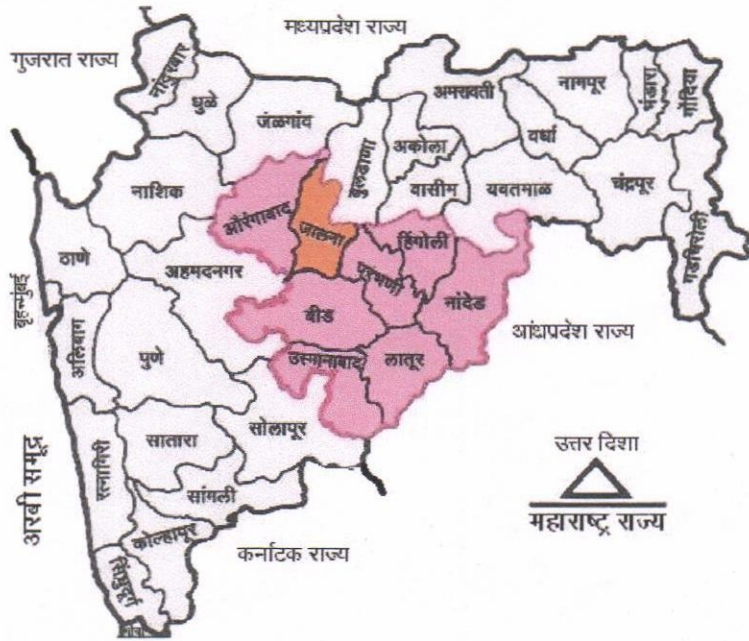
USES OF JALNA SWEET ORANGE

The sweet orange fruit is processed commercially in to various forms mainly juice, frozen concentrates, squash, RTS drinks, nectar, dry mixes, canned segments, juice blends, marmalades and other value added products like pectin and essential oil from peel, natural colors, candied peel, feed yeast etc. Fresh juice of sweet orange is an important nutritious product providing 45 kc al, moderate quantity of vitamin C, potassium, bioflavonoid and folic acid and essential items of breakfast. It is refreshing, thirst quenching and energizing drink that improves health and nutritional requirements. The sweet orange peel contain sugars, edible fiber and many other components that offer excellent opportunities as value-added products, particularly those components that have biological activities (antioxidant, anti-cancer, cardio-protective, and food/drug-interactions) or other attributes that are useful in the development of high-value food products from citrus peel.

Expressed sweet orange oil is primarily used for flavoring beverages, soft drinks, ice cream, sweets, pharmaceutical preparations, and also perfumes.

Map of Jalna District

19°1 North to 21°3 North Latitudes
75°4 East to 76°4 East Longitude



[Signature]
Dy. Director Horticulture
Maharashtra State, Pune-411 005
January 28, 2016

G.I. APPLICATION NUMBER – 520

Application Date: 27-01-2015

Application is made by **Tejpat Utpadak Samiti**, Parmar Bhawan, Mandir Marg, Gopeshwar, District: Chamoli – 246 401, Uttarakhand, India for Registration in Part A of the Register of **UTTARAKHAND TEJPAT** under Application No: 520 in respect of Tejpat 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** : Tejpat Utpadak Samiti
- B) Address** : Tejpat Utpadak Samiti,
Parmar Bhawan, Mandir Marg, Gopeshwar,
District: Chamoli – 246 401, Uttarakhand, India
- C) Types of Goods** : **Class 30** – Tejpat
- D) Specification:**

‘Uttarakhand Tejpat’, can be described as a ‘Tejpat’ (Indian Bay leaf) found in Himalayan region, from 500 m to 2400 m altitude in the State of Uttarkhand.

The botanical name of ‘Tejpat’ is *Cinnamomum Tamala* (Lauraceae) (Buch – Ham) Nees & Eberm.

Tejpat belongs to genus *Cinnamomum* belonging to the family Lauraceae. The etymology is derived from the Greek word “*Kinnamomon*” meaning ‘spice’. The Greeks borrowed the word from Phoenicians, indicating that they traded with the East from early times, the specific epithet ‘tamala’ is after a local name of the plant in India. It is also called as ‘Indian Cassia’ or ‘Bay leaf’.

The Uttarakhand Tejpat primarily belongs to chemotype known as ‘Cinnamaldehyde’ type. Due to the presence of ‘Cinnamaldehyde’, this variety of Tejpat from Uttarakhand is best known as ‘Meetha Tejpat’, and it is predominately used in manufacture of ‘chavanprash’ and other medicines and also in spice industry.

Uttarakhand Tejpat is collected from both wild and cultivated plantations.

Botanical description / Scientific Classification of ‘Uttarakhand Tejpat’ is:

Kingdom	:	Plantae
Family	:	Lauraceae
Genus	:	<i>Cinnamomum</i>
Species	:	<i>C. tamala</i>
Botanical name	:	<i>Cinnamomum Tamala</i> (Buch – Ham) Nees & Eberm.

Plant Description:

- Tree:** It is a perennial or small evergreen tree, attaining 8 – 12 meters height and a girth of 110 - 150 cms. Central trunk of 30 – 40 cms, Diameter at Breast Height (DBH) when mature. Tree longevity is very long and at times, some are over 100 years old, and they continue bearing in old age.
- Stem:** Rough with grey – brown, mucilaginous
- Bark:** Dark brown / blackish, blaze 13 cms., slightly rough, soft wrinkled, which produces mucilage, pinkish or reddish brown with whitish streaks towards the exterior.
- Bud:** Terminal and small, sericeous, 2 bud scale
- Leaf / Leaves:** Large, 12 – 20 cms long and 5 – 8 inches by 2 - 3 inches; Broad, dark green / olive green, acute, ovate – oblong, lanceolate, thick leathery, acuminate, the acumen often falcate, coriaceous, glabrous, shining green above and glaucous beneath, opposite, sub – opposite or alternate and short stalked, nerved from the base, the mid-rib dividing some distance above the base into 3 longitudinal nerves from close above the base almost to the apex, long pointed, joined by distinct reticulate veins; short stout petiole slender 0.8 – 1.8 cms. Long; panicles shorter than leaves; The young leaves are lanceolate, acute and initially slightly pinkish tinged.
- Flowering:** Bisexual flowers, but on the same plant (monoecious); Flowers – 7.5 mm long, pale whitish / yellowish, numerous, small, in axillary cymes and terminal lax silky pubescent, breaking off transversely below the middle after flowering; panicles 5 – 15 cms. long, pedicels are as long as calyx; perianth – lobes 6, oblong, perfect stamens 9, filaments villous. Bloom in the last week of March or first week of April, commonly pollinated by insects such as honey bees.
- Fruit:** It is small, pulpy and is ellipsoidal drupe. Quantitatively, the fruit grows in an alternative manner (one year more and next year less). Ripe fruits are dark purple in colour and contain a single brown seed
- Seed:** It requires 1 (one) year to attain maturity.
- Fruiting Time:** Fruit ripens after 1 (one) year during March – April. It is due to this reason that the new flowers which belong to the previous year and those of the same year, can be seen at a single time. Therefore, flowers and fruits co-exist from April to May.

Harvesting time: Collection starts from October – December or upto February – March, during dry periods.

Yield (annual): From a tree, 9 - 25 kgs., leaves can be collected.

Other Characteristics:

Odour / Aroma / Fragrance of leaves	Fragrance and intensity varies with chemotype – sharp, strong clove like taste to mild sweetish; faintly pepper like odour and long lasting
Taste of leaves	Leaf taste also has wide variations; bitter, sweetish, oriental spicy; heating, alexiteric, sharp; useful in ‘vata’
Bark	Coarser and less aromatic
Bark Oil	It possesses the delicate aroma of the spice and sweet and pungent taste
Leaf Oil	The leaves yield an essential oil on distillation. It is pale yellow and it contains 70 – 85 % cinnamaldehyde. It has a warm, spicy, but rather harsh odour and it is called as ‘Tejpat oil’.
Active Components	Leaves contains Linalool, Limonene, Cymene, karyophyllene and Cinnamaldehyde

Macroscopic and Organoleptic Characters:

Characters	C. Tamala
Size whole leaf (cm)	8 – 18 x 2.3 – 4.5
petiole (mm) shape	7.5 – 13 Elliptic lanceolate to ovate lanceolate
Base	Acute
Tip	Acute - acuminate
Texture	Glabrous smooth and shining above, slightly rough and pubescent below
Venation	Lateral nerves not reaching the tip, insertion basal to suprabasal, secondary veins distinct sub-parallel
Petiole	Slightly corrugated, moderately hairy, upper surface flat
Colour	Brownish – green above, pale below
Taste	Astringent, sweetish to slightly pungent
Odour	Aromatic

‘Uttarakhand Tejpat’ is described as a spice in the region of Uttarakhand. It is a dried leaf of *Cinnamomum Tamala* (Lauraceae). The chemotype of this particular leaf is of cinnamaldehyde rich type.

It is used for hundred of years as a medicinal and culinary supplement.

E) Name of the Geographical Indication:

UTTARAKHAND TEJPAT



F) Description of the Goods:

‘Uttarakhand Tejpat’, described as a spice, is found in Himalayan region, from 500 m to 2400 m altitude.

The botanical name of ‘Uttarakhand Tejpat’ is *Cinnamomum Tamala* (Laureceae) (Buch – Ham) Nees & Eberm.

It is basically Indian Cassia, also called as the ‘Indian Bay Leaf’.

Vernacular names in different Indian languages:

Assamese (3)	:	Tejpat / Mahpat / Dopattip
Bengali	:	Tejpata
Gujrati (1)	:	Tamalpatra
Hindi (20)	:	Barahmi / Dalchini / Dalchunu / Darchini / Khikhelu / K ikoa / K irkiria / S ilkanti / S inkami / Tajkalam / T ajkalmi / T ajpat / T alispatar / T alispatri / Tamal Patra / Tej patra / Tējapattā / tejpatta / Tezpat / Tomal Patra
Kannada (6)	:	Dalchini / lavangadapatti / lavangaparthri / lavangapatri / lavangapatte / Patraka
Malyalam (4)	:	Ilavannam / Karuntoli / Paccila / Talispatram
Marathi (6)	:	Daalchinitiki / Dalchinitiki / Ranachadal / Sambhraapana / Tamalpatra / Tejpat
Oriya (1)	:	Tejpatra
Punjabi (2)	:	Tejpatra / Tezpatta
Tamil (2)	:	Talishappattiri / Katu kurnnap
Telugu (8)	:	Biryani aaku / bagharakku / Patta akulu / Talisha / Talisha – Patri / Tallishapatri / Thaalishapathri / Telisapatri
Urdu (3)	:	Sazaj Hindi / Tez pat / Zarnab (telispattar)
Sanskrit (42)	:	Ankusha / Chhadana / Coca / Dala / Dalavhaya / Gandhajata / Gomedha / Gopana / Ishtagandha / Kalaskandah / Lasha / Nagakesaran / Nalika / Naluka / Pakranjana / Palasha / Patra / Patraka / Patrakhya / P atram / R oma / R omasha / S hitarasa / Sukumaraka / Suranirgandha / Surasa / Tamal / Tamala / Tamalaka / Tamalapatra / Tamalpatram / Tapasa /

In Kumaon & Garhwal region : Tapiccha / Tejapatra / Tespatra / Tvak / Tvakapatra / Tvakpatra / Twak / Vasa / Vasnavhya / Vastra
 Medical Literature : Kirkiriya / Dalchini
 : Folia malabathri

Plant Description:

Tree: It is a perennial or small evergreen tree, attaining 8 – 12 meters height and a girth of 110 - 150 cms. Central trunk of 30 – 40 cms, Diameter at Breast Height (DBH) when mature.
 Tree longevity is very long and at times, some are over 100 years old, and they continue bearing in old age.

Stem: Rough with grey – brown, mucilaginous

Bark: Dark brown / blackish, blaze 13 c ms., slightly rough, soft wrinkled, which produces mucilage, pinkish or reddish brown with whitish streaks towards the exterior.

Bud: Terminal and small, sericeous, 2 bud scale

Leaf / Leaves: Large, 12 – 20 cms long and 5 – 8 inches by 2 - 3 inches; Broad, dark green / olive green, acute, ovate – oblong, lanceolate, thick leathery, acuminate, the acumen often falcate, coriaceous, glabrous, shining green above and glaucous beneath, opposite, sub – opposite or alternate and short stalked, nerved from the base, the mid-rib dividing some distance above the base into 3 longitudinal nerves from close above the base almost to the apex, long pointed, joined by distinct reticulate veins; short stout petiole slender 0.8 – 1.8 cms. Long; panicles shorter than leaves;
 The young leaves are lanceolate, acute and initially slightly pinkish tinged.

Flowering: Bisexual flowers, but on the same plant (monoecious);
 Flowers – 7.5 mm long, pale whitish / yellowish, numerous, small, in axillary cymes and terminal lax silky pubescent, breaking off transversely below the middle after flowering; panicles 5 – 15 cms. long, pedicels are as long as calyx; perianth – lobes 6, oblong, perfect stamens 9, filaments villous. Bloom in the last week of March or first week of April, commonly pollinated by insects such as honey bees.

Fruit: It is small, pulpy and is ellipsoidal drupe. Quantitatively, the fruit grows in an alternative manner (one year more and next year less).
 Ripe fruits are dark purple in colour and contain a single brown seed

Seed: It requires 1 (one) year to attain maturity.

Fruiting Time: Fruit ripens after 1 (one) year during March – April. It is due to this reason that the new flowers which belong to the previous year and those of the same year, can be seen at a single time. Therefore, flowers and fruits co-exist from April to May.

Harvesting time: Collection starts from October – December or upto February – March, during dry periods.

Yield (annual): From a tree, 9 - 25 kgs., leaves can be collected.

Other Characteristics:

Odour / Aroma / Fragrance of leaves	Fragrance and intensity varies with chemotype – sharp, strong clove like taste to mild sweetish; faintly pepper like odour and long lasting
Taste of leaves	Leaf taste also has wide variations; bitter, sweetish, oriental spicy; heating, alexiteric, sharp; useful in ‘vata’
Bark	Coarser and less aromatic
Bark Oil	It possesses the delicate aroma of the spice and sweet and pungent taste
Leaf Oil	The leaves yield an essential oil on distillation. It is pale yellow and it contains 70 – 85 % cinnamaldehyde. It has a warm, spicy, but rather harsh odour and it is called as ‘Tejpat oil’.
Active Components	Leaves contains Linalool, Limonene, Cymene, kariyophylene and Cinnamaldehyde

Uses:

Industrials Uses:

- Leaves are widely used as a spice in the flavouring industry particularly for meats, fast food seasonings and savoury snacks, sausage, sauces and pickles, baked goods, confectionery, beverages, cola – type drinks, tobacco flavours. It is also used as a natural food preservative for pineapple juice;
- Leaf oil and bark oil used as an analgesic in dental preparations (due to the presence of eugenol) and in pharmaceutical industries
- Bark is also used as a spice for flavouring food;
- Leaves / bark / oil is used in perfumery;
- Essential oil is used in the flavouring and formulation of liquors and confectionaries;
- Oil extensively used as fragrance component in soaps, detergents, cosmetics, toothpastes, insecticides, insect repellent and industrial fragrances;
- Used as a clarifier with *Emblica officinalis* fruits for tanning and dyeing leather;
- Used as food, fodder, medicine and timber;
- Provides excellent habitat for a large number of frugivorous birds and small mammals, which facilitate its regeneration in turn.

Non Industrial Uses:

The Indian Bay leaves are a popular spice in households across the country. In Northern India, it is an essential ingredient of Mughal Cuisine along with cloves and cardamom. It is generously used in a food preparation called 'biryani' and hence, is also known as 'Biryani leaf', locally in some parts of the country.

In Uttarakhand's cuisine and cuisine of Terai, which is milder than North India, bay leaf forms an important ingredient. The sweet chemotype of Uttarakhand Tejpat, adds to the mildness and deep flavour the leaves impart.

This important cuisine ingredient is also exported to many countries in the world such as UK, USA, Japan, Europe, Australia, Russia, Sub continent countries such as Pakistan, Sri Lanka, Middle East, etc.

Medicinal Properties:

Leaf / leaves:

- Astringent
- Digestive
- Stimulant
- Forms an ingredient of many formulations prescribed for gastro - intestinal disorders
- Carminative
- Anti – flatulent, anti oxygenic, anti inflammatory, acaricidal, anti – dermatophytic, anti – hyper cholestrolaemic, anti – ulcer, anti – carcinogenic,
- Diuretic
- Used to cure colic pain, diarrhoea, rheumatism, irritation, boils, conjunctivitis, itching (scabies), anorexia, bladder disorders, dryness of mouth, coryza, nausea and spermatohoea.
- For a part of many Ayurvedic / herbal preparations like Sitopaladi, churna, Sudarshan churna, Talisadi churna, Khodirarishta, Chandraprabhavati, Chavanprash, Ashwagandharishta, Spy cream (Serotex – marketed to treat poor erection, impotency and premature ejaculation) etc. and many weight loss capsules
- Hepatoprotective
- Diseases of the anus and rectum, 'tirsdosha', piles, heart problems, ozoena, bad taster (Ayurveda)
- Tonic to the brain, anthelmintic, good for the liver and spleen, useful in inflammation, sore eyes, stops salivation

Leaf Oil:

- Carminative
- Anti – flatulent
- Anti – fungal
- Anti – microbial
- Diuretic
- Cardiac disorders

- Fever, fractures, eye disease, foul odour of body, diseases of oral cavity, dropsy, herpes, and in disorders of breast milk
- C. tamala is one of the three ingredients of 'trijata' with Cinnamomum zeylanicum (tavak or dalchini) and Elettaria cardamom, mentioned by Bhavaprakasa. (Trijata is commonly used in Ayurvedic pharmacy in asava and arista preparation to augment the fragrance and to promote the appetite and digestion.

Bark:

- Treatment of Gonorrhoea
- Anti dermatophytic
- Anti microbial
- Anti bacterial
- Inhibit growth of 2 ringworm fungi
- Exhibit potent activities against Bacillus subtilis, Escherichia coli and Saccharomyces cerevisiae, Streptococcus pyogenes and Staphylococcus aureus
- Anti hyper glycaemic and anti hyper lipidemic
- Acaricidal

The ease with which essential oils can be obtained from this plants materials, make it ideal for cash crop farming, with less of environmental risks.

Ayurvedic Properties:

Rasa → Katu (pungent), tikta (bitter), madhur (sweet)

Guna → Laghu (light), ruksha (dry), tiksna (sharp)

Vipak → Katu (pungent)

Virya → Ushna (hot)

GC – MS (Gas Chromatography – Mass Spectrometry) Test Results for Bay Leaf Oil form India:

Component Name	Low Altitude (%)	High Altitude (%)
α – pinene	1.37	1.41
Camphene	0.55	0.26
Benzaldehyde	0.32	0.54
β – pinene	0.74	0.71
L – phellandrene	0.56	0.37
P – cymene	0.99	1.20
DL – limonene	0.32	2.08
1,8 cineole	0.27	0.30
Linalool	50.40	34.82
3 – phenyl propanal	0.43	0.91
α – terpineol	0.39	0.60
Cinnamaldehyde	34.12	46.87
Bornyl acetate	1.11	0.59
Trans – caryophyllene	0.89	0.87
Cinamyl Acetene	0.43	1.16

Spathulenol	0.13	0.67
Caryophyllene oxide	0.49	0.73
Total	93.51	94.09

Chemo – Taxonomic:

The chemical composition of C. tamala oils is of cinnamaldehyde type and this is found to be the highest.

G) Geographical area of Production and Map as shown in page no: 49

Geographical distribution of Uttarakhand Tejpat:

Sl. No	Name of District	Tahsils included	Tahsils excluded
1	Almora	Bhikiasain, Ranikhet, Almora, Salt, Chaukhutia, Someshwar, Dwarhat, Bhanoli, Jainti	
2	Bageshwar	Kapkot, Bageshwar, Garud, Kanda	
3	Chamoli	Joshimath, Chamoli, Pokhari, Karnaprayag, Tharali, Gairsain	
4	Champawat	Champawat, Pati, Poornagiri, Lohaghat	
5	Dehradun	Chakrata, Vikasnagar, Kalsi	Dehradun, Rishikesh, Tyuni
6	Haridwar		Whole district
7	Nainital	Kosyakutoli, Nainital, Dhari, Haldwani, Ramnagar, Kaladhungi, Betalghat.	Lalkuan
8	Pauri Garhwal	Srinagar, Pauri, Thali, Dhoomakot, Lansdowne, Kotdwara, Yamkeshwar, Chaubattakhal, Satpuli	
9	Pithauragarh	Munsyari, Dharchula, Didihat, Gangolihat, Pithoragarh, Berinag	
10	Rudraprayag	Ukhimath, Rudraprayag, Jakholi	
11	Tehri	Ghansali, Devprayag, Pratapnagar, Narendranagar, Jakhnidhar, Dhanaulti	
12	Udham Singh Nagar	-	Whole district
13	Uttarkashi	Purola, Rajgarhi, Dunda, Bhatwari, Badkot, Mori, Chinyalisaur	

H) Proof of Origin (Historical records):

Cinnamomum Tamala – Tejpat, a common shrub in Kumaun belonging to the natural order Lauraceae, of which the bark and leaves are exported for culinary purposes and for use in medicinal preparations. The average annual export of the bark of this tree from Kumaon forest division alone amounts to 25 tons and of the leaves to 35 tons.

Tejpat trees are available in plenty in the forests of Uttarakhand. The leaves are long and pointed (like the crown on the head); these are aromatic.

Historically, it is one of the oldest known and used spices. *C. tamala* which is an evergreen tree up to 8 m in height, is also cultivated. Natural habitat is in the tropical and sub-tropical Himalayas at altitudes of 500 – 2400 m. Due to its aroma, the leaves are kept in clothes and also chewed to disguise bad mouth odour. Its dried leaves are used as a common ingredient of Indian cooking. The leaves of this tree have a clove like taste and a faintly pepper like odour. The specific epithet 'tamala' is after a local name of the plant in India. This plant is frequently mentioned in various Ayurvedic literatures for its various medicinal values. It is also used in Indian system of traditional medicines. Leaves and bark have aromatic, astringent, stimulant and carminative qualities and used in rheumatism, colic, diarrhoea, nausea and vomiting. Ancient literature has revealed that in the first century A.D., dried leaves and bark of this plant were prescribed for fever, anemia and body odour. Its seeds were crushed and mixed with honey or sugar and administered to children for dysentery or cough.

Cinnamomum Tamala Nees and Eberm, called 'Bay leaf tree' and 'Tejpatta' in India and Nepal, belongs to family Lauraceae, is a moderated sized evergreen tree which occurs in the wild and are cultivated as well. Its natural habitat is the tropical and subtropical Himalayas at altitudes of 500 to 2400 meters. In India, it is found in Uttarakhand and Himachal Pradesh along the Western Himalayas, and also in Sikkim, Assam, Mizoram and Meghalaya and is cultivated in Nainital (Uttarakhand), Kangra (Himachal Pradesh) and North East India for its leaves and bark.

In India, *Cinnamomum* (family Lauraceae) is represented by twenty species (1 - 2). *Cinnamomum tamala* Nees et Eberm. is a medium sized tree, up to 8 m high, and frequently occurs in the north western Himalaya, Sikkim, Assam, Mizoram and Meghalaya regions (2). Apart from this, *C. tamala* is the sole species cultivated for its Tejpat leaves in the whole region of Kumaon for the production of spice and related products (3). The essential oil isolated from the leaves, known as Tejpat oil, is medicinally used as carminative, antifatulent and diuretic.

Distribution:

C. tamala is native to India and is reported to have originated in the Himalayas. Indian cassia is distributed in the Indian sub continent, Indo - China region, Bangladesh and Nepal. In tropical and sub-tropical Himalayas, it is distributed upto an altitude of 900 - 2500 metres. Occurs in the north western, eastern and Sikkim Himalayas. It is also found in Meghalaya (Khasi Hills and Jaintia Hills), Assam (North, Cachar Hills); Jammu and Kashmir (Basantgarh and Rajouri); Himachal Pradesh (Drang Forest in Dauladhar ranges, Hamirpur, Shimla, Kangra, Chamba, Mandi, Solan, Nahan, Palampur) and Uttar Pradesh (Jaunsar, Tehri Garwal and Kumaon). Commercial cultivation of *C. tamala* is, very limited and is reported in certain parts of the country. Plantations occur in Khasi and Jaintia Hills, Garo Hills, Mikir Hills, Manipur and Arunachal Pradesh, and in limited areas in Nainital district (U.P) and Kangra district (Himachal Pradesh).

Indian bay leaves might still have been available during the early Middle Ages; some medieval recipes for beer brewing mention folia, but the identification is really unclear. In any case, at some point of time between late antique and High Middle Ages, they fell victim to the multitude of new spices then available, and were forgotten. They were re-discovered only in the Age of Exploration, when Western scholars for the first time arrived in India and studied its products. In the 16th Century, Garcia de Orta encountered the leaves while travelling in India and identified them with the spice known only from ancient records.

Today, Indian bay-leaves are a spice used almost exclusively in the kitchens of Northern India, especially in the famous Moghul cuisine that was developed at the Imperial courts in Delhi and Agra. In accordance with the origins of the Moghul dynasty, Moghul cooking contains elements derived from Arabic and Persian cooking.

In Moghul cooking style, much use is made of sweet and aromatic spices; besides Indian bay leaves, cinnamon, cloves and cardamom are considered the most important spices for delicious rice dishes (like Biryani). Indian bay leaves are found not only in biryanis, but also in Moghul kormas, for which today the Northern Indian city of Lucknow is famous.

Indian bay-leaves also form part of the Northern Indian spice mixture called 'garam masala', which is almost the only time when they are used in ground form.

In the everyday cooking of Northern India, Indian bay-leaves are one of the most common spices, and even more widely used than most other aromatic spices. They appear in almost every slow-cooked food of the North and are particularly loved in Muslim-style meat curries. In South India, they are much less known; sometimes, they get replaced by similar leaves like cinnamon or allspice, but this is not standard.

D) Method of Production:

i) Cultivation Process:

- Selection of site and soil:
- Filling of Pits : For cropping holes of size 45 x 45 x 45 cms.;
- Plotting and Spacing :
- Planting : Plant to plant distance must be 10 cms. x 10 cms. feet /
3 x 2 m. or 3 x 3 m.;
- Plant Number: If a distance of 10 cms. x 10 cms. is kept then, 1100 plants per hectare are required;
- Irrigation : Tejpat needs irrigation at a time period of twice a week, because it needs high moisture content. After cropping for 8 years, weed control and harrowing is required;
- Fertiliser requirements : The fields are usually not manured;
- Pruning and Trimming : Large trees are generally pruned. Cutting of old branches is usually done when the plants have attained a height of about 4 – 6 mts.;
- Weeding : This is repeated 2 – 3 times, when the trees are 3 – 5 yrs. Old; but for the older plants, weeding is done every once a year.

ii) Agro – Climatic Conditions:

Soil:

Loamy soil and with high moisture content. At times, these also grow in poor and degraded soils.

Altitude:

Tejpat cultivation place must be at 500 - 2200 meters ASL.

Climate:

Temperature 15 - 30 degree Celsius, with humidity content 150 - 250 cm is ideal for its cultivation.

iii) Distribution:

It is also often been cultivated as an ornamental also.

C. tamala is native to India. It is an important species in the transitional evergreen broad-leaf forest between 500 – 2400 m MSL. It commonly occurs in moist – shady ravine slopes, distributed in tropical and sub – tropical Himalayas. Natural stands of *C. tamala* are mostly found in shady moist habitats, especially bordering the streams.

iv) Pollination:

Commonly pollinated by insects such as honey bees.

v) Propagation:

Propagation of ‘Uttarakhand Tejpat’ can be done from both vegetative cuttings and seed; however seed method is most commonly used for propagation. The success rate from cutting method is only 10 – 15 %, whereas seeds produce plantlets with 75 – 80 % success rate.

Seed collection and sowing:

For getting elite quality of seeds, disease free plants of mid age are selected, which are further used to have seeds during months of March - April.

Ripen seeds are collected during March – April. After collection of seeds, apicarp of seed is removed by rubbing between palms and after that they are dried in sunshine for 4 - 5 days. The viability of seeds is approximately for 3 (three) months. After drying, its immediate sowing is recommended.

Also, it is advised to farmers / growers, not to use previous year old seeds.

For sowing, 15 April - 15 May, is the ideal time, just before the onset of monsoon.

Most farmers / growers collect seeds from nearby forest areas. A common practice well known as passed down information is mentioned below –

The farmers / growers let the birds eat the seeds of CT. Most part of the seed is not digested by bird’s digestive system and this results in the outer hard covering of the seed being softened. The undigested seed(s) is expelled out with bird excreta and these are used by farmers for sowing.

Germplasm Management:

After 20 - 25 days of sowing, the seeds start germinating; seedlings appear 30 - 45 days after sowing.

Seed Propagation:

The seeds are primarily dispersed by frugivorous birds, which feed on them for the nutritious pulp and digest the seeds intact. In addition, strong winds, hail storms and sometimes arboreal mammals such as primates may help in mechanical dispersal of fruits. Seeds are also secondarily dispersed by rodents and other small mammals.

Vegetative Propagation:

5000 ppm Indole Butyric Acid is commonly used with a success rate of 10 - 15 %. Due to less success rate this method is less preferred by farmers.

vi) Planting:

Upon germination, the plant upon its growth, should be transplanted 4 - 5 years later.

Sufficient shade is provided in the early stages of growth. Thereafter, shade trees that are planted or trees, are retained in new clearings for the first 8 – 10 years.

Transfer of seedlings:

For transfer of seedlings, July is the ideal time during this period. During this period, a seedling possesses 3 - 4 leaves. For planting, 300 cc root trainers or 6 x 4 inch polythene bag, must be preferred.

In case of polythene bag, it is filled with forest soil, farm yard manure (FYM) and sand (3:3:1) and kept in a nursery till they attain sufficient growth.

However, it has been reported that plants growing in poly bags, gives a better yield, in comparison to those growing in root trainers.

vii) Required Nutrients:

The fields are usually not manured or otherwise cared for, but undergrowth is occasionally removed.

viii) Management of Pests / Diseases:

- Very few diseases have been reported on *C. tamala*.
- Rust caused by *Aecidium cinnamomi* occurs during the onset of the south west monsoon attacking leaves and young twigs;
- Leaf blight caused by *Glomerella cingulata*;
- *Exobasidium cinnamomi* Petch and *colletotrichum gloeosporioides* cause leaf spot;
- *Pestalotia cinnamomi* Petch and *Cerdospora* sp. cause shot holes and leaf spot disease on plants grown in shaded and crowded situations.

ix) Bearing Age / Age of Cultivar:

Tejpat is perennial crop, but only after 3 - 4 years, harvest can be collected for the next 50 - 60 years.

x) Yield:

Depends upon the age of the plant and also the size of the tree. The productions from small and big trees range from 30 – 40 and 55 – 65 kg. / tree / harvest, respectively.

xi) Harvesting:

Stage of Maturity:

Trees are usually not harvested for bark, and the first leaf harvest is around 3 – 4 years of age and continues annually until the tree dies.

Time of Harvesting:

Harvesting can be done when the trees have put on sufficient vegetative growth.

Leaves are harvested after the main monsoon rains have ceased, in dry and mild weather from October (Ashoj) – December or upto February (Magh) - March during dry periods, as rain reduces the aroma of the leaves and depresses the oil content and thus, their value as a spice.

Timely collection of leaf is important since early and late collection may result in poor quality of the leaves or essential oil.

Method of harvesting:

Mature leaves are collected from October to March i.e., before flowering stage / during budding stage. Timely collection of leaf is important, since early and late collection may result in poor quality of the leaves or essential oil.

The leaves and stems are harvested after a gap of 1 (one) year and an average 15 year plant, usually yields 20 – 25 kgs. of dry leaves.

Leaves are collected every year from vigorous plants and in alternate years, from old and weak ones.

Post Harvest Management:

Collection:

Normally, it is collected from the wild and traded. However, it is now cultivated to a limited extent in certain parts of Uttarakhand.

Factors such as age and height of tree and leaf collection time are considered for leaf harvesting. The leaves are usually collected every year from healthy branches.

Under the former system, the whole branches were cut and the bark was stripped, thus endangering not only the trees but also putting their long term income at risk. This resulted in the trees in the forest being infected and lower mortality and lessened the availability of raw material.

Now there is a lot of emphasis on collection of the leaves by using diverse sustainable practices, such as cutting only small twigs, gathering leaves from alternative branches, and restricting the number of collectors to 1 (one) per household and only 1 (one) headload per day.

In most cases, hand picking is preferred for leaf collection because the tools could injure the trees.

Drying:

Small branches with leaves and the collected leaves, are shade dried during sunlight on a tarpaulin / cement floor for 3 – 4 days and protect them from fog and frost, so that a green colour of leaves could sustain.

Packing:

Upon drying, these are then tied up in bundles and put in gunny bags.

Storage:

The packed gunny bags are stored in well aerated place like storage depots, to avoid fungal attack.

Sorting:

As per conventional practice, the leaves are sieved on a long standing sieve. The whole / broken dried leaves get filtered from the extraneous matter (which would include stones, dust, other dirt and all organic and vegetable matter not of Tejpat origin).

Grading and Standards:

The leaves are graded / sorted in the following manner:

- Shrivelled, damaged and discoloured (Shrivelled, damaged and discoloured would mean leaves that are damaged or discoloured or not properly developed which materially affect the quality; shrivelled leaves do not include small and tender leaves),
- Cut leaves (cut leaves would mean which are broken and are not wholesome),
- Insect bored and diseased leaves (Insect bored and diseased leaves would mean that are partly / wholly bored or eaten by insects or diseased which materially affect the quality),
- Twigs and leaf stalk (Twigs and leaf stalk would mean small branches and stalks attached with the Tejpat leaves),
- Moisture content.

The quality is checked to see that the dried leaves are free from: musty colour, off – flavour, mould growth, insect infestation, fungus contamination, deleterious substances, rodent contamination and other impurities, and undesirable / obnoxious smell.

Grade I – this would be dried leaves (without stalk) which need to be clean, wholesome, fresh and generally conform to the shape, size, colour, aroma according to the characteristics of the leaves.

Grade II – this would be (with stalk) and also includes that which are not wholesome, but free from extraneous matter, as mentioned above.

Marketing:

Uttarakhand is very significant for the marketing of Tejpat in the country. Most of the produce from Uttarakhand region comes to Tanakpur in Chamoli Dist. where the produce is sent off to its major export destinations to Gujarat and Maharashtra. A sizeable quantity of Tejpat is routed through Tanakpur. It is from here that the leaves are sent out to markets elsewhere including the big market players located at Delhi.

As a traditional practice, the packed gunny bags are taken to 'mandis' which are the market places for the purpose of auctioning.

The main supply / value chain that exists presently is via mediators known as 'AADTI', a person trading in wholesale at the local mandi. The farmers / growers have a long term contacts with these 'aadtis', who inform the farmers in advance by giving the required demand of the quantity along with the requisite quality.

The Aadti further sells the purchased produce to various buyers like pharma companies, local shopkeepers and other small traders.

Tools Used for Harvest & Processing:

- Sickle / cutter (for trimming branches),
- Tarpaulin (for drying),
- Gunny bags (for packing).

General Practices for Collection of Leaf Trade:

- Leaves are collected when it becomes dark green and thick,
- After collection, twigs and branches are removed,
- The fresh plucked leaves, are bundled in gunny bags,
- But the packed leaves are not to be stored for long time,
- Leaves are shade dried in sunlight by spreading them generally on the ground on a tarpaulin / cement floor; it is to ensure that they are not dried directly on ground (soil) and under the direct sunlight,
- Storage / shelf life details: this would depend on the material dried and the storage place.

J) Uniqueness

- ❖ In 'Uttarakhand Tejpat', the Cinnamaldehyde is the main constituent of the essential oil content in the leaves, which has a higher concentration vis-à-vis linalool.
- ❖ The 'Uttarakhand Tejpat' is used in spice industry, as the strong cinnamomum odour in the leaves, seem to influence the preference of the spice industry in India.
- ❖ The taste of the leaves is sweetish, sharp and spicy.
- ❖ It is used in Ayurvedic preparations including 'tridosha' / 'trijata', chavanprash, chandraprabhavati.
- ❖ It possesses a delicate spicy aroma, which is both pungent and sweet.

K) Inspection Body

To regulate the use of GI in the Geographical Area, a committee is being formulated consisting of following members:

- i) 1 Member as nominated by the CEO of The State Medicinal Plant Board of Uttarakhand (SMPB),
- ii) 1 Member as nominated by the Head from Uttarakhand Biodiversity Board,
- iii) 1 Member (Scientist) from Herbal Research Development Institute (HRDI), Mandal Gopeshwar, Uttarakhand,
- iv) Member (President) from ‘Uttarakhand Tejpat Samiti’, Mandir Marg, Gopeshwar

Map of included tehsils for GI protection of Tejpat (*Cinnamomum tamala*)
Uttarakhand, India



Legend

- Tehsils for GI protection of Tejpat
- International Boundary
- State Boundary
- District Boundary
- Tehsil Boundary

Renewal Details of Registered Geographical Indications

Sl. No	GI Application No	GI Name	Valid Upto
1	46	Kashmir Pashmina	08.12.2025
2	48	Kashmir Sozani Craft	18.01.2026
3	51	Kani Shawl	12.02.2026
4	52	Nakshi Kantha	06.04.2026

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:

