UNVEILING INDIA'S GI BANANAS

A Complete Guide



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Compiled & Edited by

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Disclaimer

This document is compiled from multiple sources of information including the GI Registry (URL) and textbooks on Indian bananas. It is intended for informational purposes only and the ICAR-NRCB disclaims any liability for errors, omissions, or actions based on the information provided.



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Preface

In recent years, the agricultural sector in India has witnessed remarkable transformations, with a growing emphasis on the recognition and protection of unique regional produce. One such noteworthy development is the introduction of Geographical Indication (GI) status for specific varieties of bananas cultivated in India. This technical bulletin, "Unveiling the GI Bananas in India: A Complete Guide," aims to provide a comprehensive overview of the significance, benefits, and intricacies surrounding GI bananas in India.

Geographical Indication (GI) is a prestigious label granted to products that possess qualities or a reputation inherent to their geographic origin. For bananas, this designation not only highlights their unique attributes but also supports the livelihoods of local farmers and promotes sustainable agricultural practices. India, with its diverse climatic conditions and rich agricultural heritage, is home to several GI-tagged banana varieties, each offering distinct flavors, textures, and nutritional benefits.

This guide seeks to demystify the concept of GI bananas by exploring their historical context, the process of GI registration, and the impact on both local and global markets. Through detailed analysis and expert insights, we will delve into the cultural significance of these bananas, the challenges faced in their cultivation, and the opportunities presented by their GI status.

Whether you are a researcher, a farmer, a policymaker, or simply an enthusiast of agricultural innovation, this bulletin is designed to enhance your understanding of GI bananas in India. We invite you to explore the chapters that follow and discover how this unique certification is paving the way for a new era in Indian agriculture.

Place: Tiruchirapalli Authors

Date: 21 August, 2024



Introduction

Geographical Indication (GI) bananas

- Varieties of bananas have been granted Geographical Indication (GI) status by the government, recognizing them as products that originate from a specific geographical region and possess unique characteristics or a reputation linked to that origin.
- This status is granted under the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement and ensures protection against misuse or duplication of the product name.

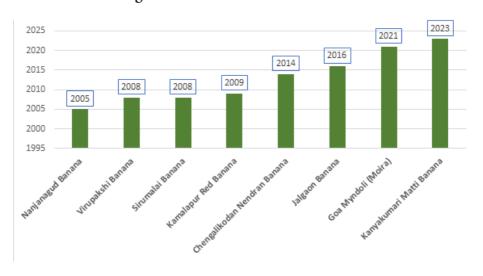




GI Bananas in India

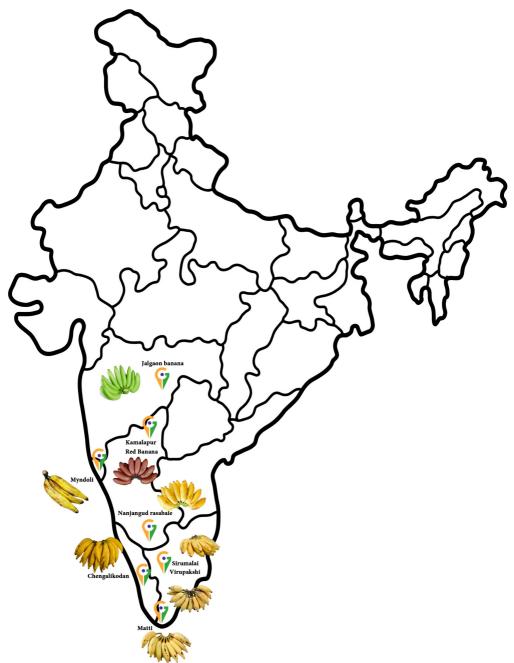
S. No	Name	State	GI Tag Number	Year of GI Registration
1	Nanjanagud Banana	Karnataka	35	2005
2	Virupakshi Banana	Tamil Nadu	124	2008
3	Sirumalai Banana	Tamil Nadu	126	2008
4	Kamalapur Red Banana	Karnataka	133	2009
5	C h e n g a l i k o d a n Nendran Banana	Kerala	479	2014
6	Jalgaon Banana	Maharashtra	498	2016
7	Goa Myndoli (Moira)	Goa	680	2021
8	Kanyakumari Matti Banana	Tamil Nadu	757	2023

Registration of GI Bananas in India





DISTRIBUTION OF GI BANANAS IN INDIA





Name: Nanjanagud Banana

GI Tag Number: 35

Year of Registration: 2005



1. Specification

Particulars	Details
Region	One of 20 banana varieties grown in Karnataka
Taste and Aroma	Famous for its delicious taste and unique aroma
Cultivation Area	Grown in Mysore and Chamarajanagar Districts
Cultivation Method	Produced using organic methods
Major constraint	Chemical fertilizers reduces the peculiar taste and
	aroma

2. Description

Particulars	Details
Stem	 Pseudo stem height: 3 to 3.5 meters Stem height: 2.75-5.35 meters; Circumference at base: 26-28 cm.
Leaves	Margins of leaf stalk and part of the leaf sheath are red.Leaves are glaucous below; Petiole: yellowish green
Lamina	 Lamina base right side is 7.76 cm shorter than the left side Number of leaves: 36; Average monthly emergence: 3.



Inflorescence	 Bunches are pendulous and nearly parallel to the stem. Fertile axis: 45.72 cm long; Sterile axis: 76.2-91.44 cm long.
Bracts	 Outside dark purple, glaucous; inside dark red, smooth. Florets: 15 in a hand; Florets 6.7 cm long, 4 cm broad
Perigonium	Keels are prominent in the lower seriesScales cream-colored, hyaline; Apex erect, 2mm long.
Stamens	 Number of stamens: 5, 4.4 cm long. Pistillode: 6.8 cm long; Style 4.8 cm long, nearly erect
Stigma	• 3 mm long, rather stout, 3-4 lobed,
onginu	 Light brown in colour. Positioned at the apex of the pistil.
Ovary	Light brown in colour.

3. Proof of Origin

• "Bale" Book by N.S. Parameshwar, S. Shankar (1984) Edited by Venkat Rao, IBH Publication Bangalore, pp. 33-34 (Kannada version)

4. Cultivation Practices

Particulars	Details
Climate	 Mean temperature of 26.67°C and mean rainfall of 10 cm/ month. Not more than 3 months of the dry season is suitable
Soil	Requires deep, well-drained soilsAlluvial soils of river valleys are ideal; acidic soils are preferred,



Propagation	•	"Water" suckers are weak and not desirable for
		propagation.
	•	"Maiden" suckers with broad leaves are preferred
		for productive propagation.
Planting and Yield	•	A banana bunch typically yields 65-80 fruits, with
		an income of Rs. 60,000 per acre.
	•	Bunches are harvested 75 to 80 days after the first
		hand opens when fruits are 75% mature.

5. Uniqueness

- Renowned for its delicious taste and unique flavour, known for organic cultivation methods.
- Cultivation outside Nanjanagud results in hard lumps in the fruit and a loss of characteristic aroma, limiting its cultivation to this region.
- The distinct aroma is so strong that it spreads to nearby areas
- Ripe fruits detach easily from the bunch and can be stored for up to 1-2 weeks.

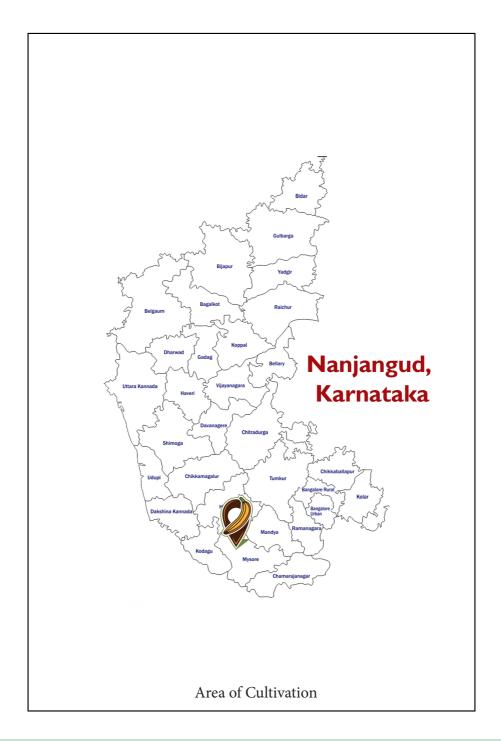
6. Area of Cultivation

- It is grown in the Mysore and Chamarajanagar Districts of Karnataka.
- It was widely cultivated in the Nanjanagud Taluk of the Mysore District in the earlier period, which is how it derived its name.
- Now it is cultivated in different areas of both Mysore and Chamarajanagar districts.

Location:

Latitude: 12°13'03" N to 11°52'41"N Longitude: 76°25' 37" E to 77°11'21" E







Name: Virupakshi Hill Banana

GI Tag Number: 124

Year of Registration: 2008



1. Specification

Particulars	Details
Group	Pome, genome AAB
Characteristics	Distinctive curvature, pleasant aroma, delightful taste
Cultivation	Rainfed conditions in a perennial ecosystem
Shelf Life	Up to 10 days at ambient temperature
Availability	Throughout the year
Sugar Content	Up to 21° Brix; sugar-to-acid ratio of 15:1
Flavour	Most pronounced when cultivated at higher elevations
Fruit Appearance	Thick peel, ripens to yellow, with five distinct angles
Pedicel Attachment	Strong; skin easily slips away from pulp when ripe
Pulp	Low moisture content; does not spoil even if the skin turns black



2. Description

Particulars	Details
Aroma	High and characteristic
Taste	Slightly less sweet than the Sirumalai banana.
Mean bunch weight	15 kg.
Fruit characteristics	Fully ripe fruits drop from bunches.
Health Benefits	Alleviates constipation & promotes easy bowel movements; rich in Potassium
Shade Plant	Suitable for mixed cultivation with young coffee plants under tall trees
Common characters	Hands radiate from the main peduncle almost perpendicularly, making it easy to pack the hands in a basket.

3. Proof of Origin

- The Virupakshi Hill Banana is an eco-type of the Vannan variety.
- Grown in the Pulney and other hills of the Madurai district at elevations between 4000 and 5000 feet under rainfed conditions.
- The color of the ripe fruit is greenish-yellow, with overripe bananas turning dar
- Source: "MADRAS BANANA" A Monograph by K. Cherian Jacob.

4. Cultivation Practices

Particulars	Details
Soil	 Thrives in well-drained loamy soils Best grown in fertile forest soil rich in organic matter. Soil pH: 5.5 to 6.5.
Climate	 Humid tropical climate, temperature - 15°C to 30°C. RH: 65% to 85%. Rainfall: About 1500 mm distributed over 90 days.
Season	Planting season: April – May.
Planting	 Spacing: Pure crop: 2.4 x 2.4, intercrop: 3.6 x 3.6 m. Plants are pot-watered in the early stages



After Cultivation Practices	 Remove dried and de-greened leaves and spread as Yield: 20-25 t/ha as a pure crop, 10-15 t/ha as an intercrop Crop duration: 15 years, with harvest 12 to 15 months from planting.
Integrated Nutrient/ Pest/Disease Management	 Apply coir pith compost & banana pseudostem compost Bio fertilizer: 3 g of Azospirillum, 3 g of phosphobacterium, 50% of recommended nitrogen and phosphorus, 360 g potassium per plant, and 5 kg/pit of FYM or compost. Results in higher plant height (363.5 cm) and bunch weight (15.3 kg). Use Panchagavya & neem products
Harvest	 First crop harvested in 14-15 months. Subsequent harvests every 8 to 10 months. Plant lifespan: 12 to 15 years. Propagation: Sword suckers (60-75 cm, 5 kg) & TC plants.

5. Uniqueness

- Plant is tall, stout, and strong, growing up to a height of 300 cm.
- The pseudostems display brownish-black blotches, and the leaves are long.
- Ripe fruits are yellow, with a thick peel and five angles.
- The fruit skin peels off easily, a feature that adds to its uniqueness.

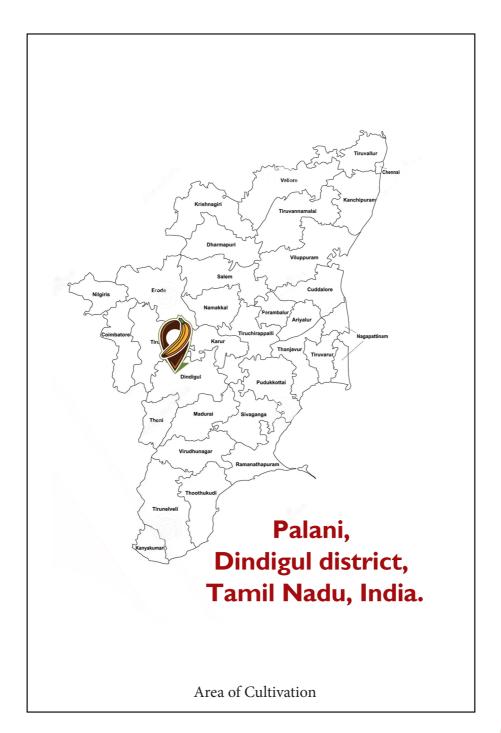
6. Area of Cultivation

• It is distributed across the eastern parts of the Western Ghats and parts of the Eastern Ghats, including the Lower Palani Hills, Sirumalai, Kallayar Hills, and Kollii Hills.

Location:

Latitude: 10.50° - 10.20° N, Longitude: 77.15° - 77.50° E







Name: Sirumalai Hill Banana

GI Tag Number: 126

Year of Registration: 2008



1. Specification

Particulars	Details
Group	Pome, genome AAB
Characteristics	Typical curvature, pleasant aroma, delightful taste
Cultivation	Rainfed conditions in a perennial ecosystem
Shelf Life	Up to 10 days at ambient temperature; available
	year-round
Sugar Content	Up to 23° Brix; sugar-to-acid ratio of 17:1
Flavour	Best achieved when cultivated at higher elevations
Fruit Appearance	Thick peel, ripens to yellow, with five angles
Pedicel Attachment	Not very strong; skin slips away from pulp easily
Pulp	Low moisture content; does not spoil even if the
	skin turns black

2. Description

Particulars	Details	
Aroma	High and characteristic flavour	
Taste	Slightly sweeter than the Virupakshi Hill banana	
Mean Bunch Weight	9-12 kg	
Fruit Characteristics	Fruits do not drop from bunches	



Common Characters	Hands radiate from the main peduncle making them	
	easy to pack in a basket	
Medicinal Value	Alleviate constipation and promotes easy bowel	
	movements	
Nutritional Benefit	Rich in potassium essential for the effective nervous	
	system	
Shade Plant	Suitable for mixed cultivation with young coffee	
	plants under the permanent shade of tall & medi-	
	um-tall trees	

3. Proof of Origin

- Sirumalai is an eco-type of the Vannan variety.
- It is a well-known Indian banana grown in the Sirumalai hills of the Madurai district at elevations between 2,500 and 3,000 feet under rainfed conditions.
- Source: "MADRAS BANANA" A Monograph by K. Cherian Jacob.

4. Cultivation Practices

Particulars	Details	
Soil	 Loamy soils, avoid alkaline and saline soils. Grown in fertile forest soil rich in organic matter. Soil pH: 5.5 to 6.5 	
Climate	 Humid tropical climate, temperature range: 15°C to 30°C. RH: 65% to 85%. Rainfall: About 1500 mm distributed over 90 days 	
Season	July-August	
Spacing	Pure crop: 2.4 x 2.4 m. Intercrop: 3.6 x 3.6 m	



After Cultivation Practices	 Remove and mulch dried and de-greened leaves Apply organic manures (FYM) at 10-15 kg per clump, with 5 g each of Azospirillum and phosphobacteria/plant. Maintain two flowers per plant. Yield: Approximately 20-25 t/ha as a pure crop and 10-15 t/ha as an intercrop in a coffee ecosystem. Crop duration: 15 years; harvest time 12 to 15 months from planting
Integrated Nutri- ent/Pest/Disease Management	 Apply 3 g of Azospirillum, 3 g of phosphobacteri- um, 50% of recommended N & P, 360 g K / plant, and 5 kg/pit of FYM.
Harvest	 First in about 15 months, Subsequent for every 8 months. Plant lifespan: 6 years. Propagation: TC plants and sword suckers

5. Uniqueness

- It is tall, stout, and strong, growing up to a height of 300 cm.
- The pseudostems have brownish-black blotches, and the leaves are long
- Ripe fruits are yellow & have a thick peel with five angles. The fruit skin peels off easily.

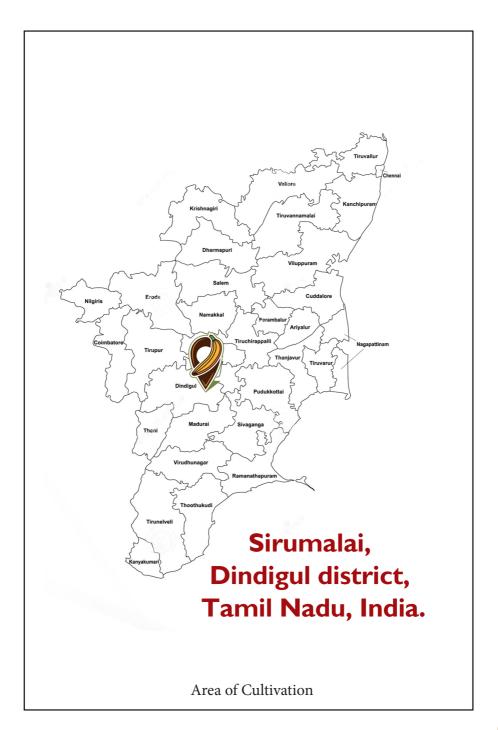
6. Area of Cultivation

• It is distributed across the eastern parts of the Western Ghats and parts of the Eastern Ghats, including the Lower Palani Hills, Sirumalai, Kallayar Hills, and Kolli Hills.

Location:

Latitude : 10.20° - 10.30° N Longitude : 77.93° - 78.01° E







Name: Kamalapur Red Banana

GI Tag Number: 133

Year of Registration: 2009



1. Specification

Particulars	Details
Nickname	Commonly called the "rich man's fruit
Fruit Shape	Thickened towards the base with an indistinct apex, tapering top
Cultivation	Hill slopes under rainfed conditions. Furrow/drip under lowland condition
Bunch Structure	5 to 7 hands/bunch, each with 15 to 20 fingers
Rind	Red when ripe, of medium thickness
Pulp	Cream-colored, with a pleasant flavour and delightful taste
Nutritional Content	Rich in iron; Total Soluble Solids (TSS) up to 20- 22° Brix
Quality Indicators	Skin and pulp colour

2. Description

Particulars	Details	
Habit	•	Stem is tall, stout, greenish-purple, reaching 22 to 25
		feet in height.
	•	Base circumference: 3 to 3.2 feet.



Leaf	 Large, oblong, slightly brittle, polished with prominent veins Midrib is purple; petiole is greenish-purple Lamina base is equal
Inflorescence	 Mature bunch positioned at approximately 50° to the stem. Persistent female and deciduous male flowers Bract is dark purple and glaucous outside
Flower	 Persistent male flowers number 6 to 10 hands Calyx is purplish at the base and dull white at the top, with 5 lobes. Pistillode 5-9 cm long, style 4 cm long, whitish with yellowish stigma.
Hands	 Bunches contain 5 to 7 hands, each with 15 to 20 fingers. Fruits slightly thickened towards the base Cream-colored pulp is sweet and flavourful

3. Proof of Origin

- It thrives in Kamalapur and surrounding areas, which are surrounded by hillocks, providing an ideal climate and soil type.
- The unique "halubilapu" clay soil found in Kamalapur is not present in other areas, making it the only region suitable for this banana variety.
- Attempts to cultivate it in Hyderabad were unsuccessful.

4. Cultivation Practices

Particulars	Details
Agro-Climatic Conditions	Surrounded by hillocks, creating a hot and humid climate ideal for red banana
	cultivation.
	Average rainfall: 777 mm
Propagation Method	Use pest and disease-free sword suckers



Land Preparation	 Red soils transitioning to black soil ("halubilapu") Shallow to moderately shallow, excessively drained, gravely sandy clay Moderately to very strongly alkaline, slightly to moderately calcareous, and rich in organic carbon. Pit size: 50x50x50 cm, spaced 7 x 7 feet apart.
Planting	Time: August to September.
Manures and Fertilizers	Organic methods; typically 12-15 tons of FYM added before planting
Irrigation Method	Rainfed conditions on hill slopes
Intercultivation	 Desuckering every 45 days; no pesticides used. Other practices similar to those for commercial banana varieties
Season, Stage of Maturity, and Harvest Time	 Flowering and fruit set: 10-11 months after planting Maturation: 7-8 months after fruit set. Harvesting: 18 to 18.5 months after planting
Harvesting and Yield	 Average plant height: 20 feet. Yield: 15-20 kg per plant (10-12 tonnes/acre). Disease resistance: Generally good; may suffer from lodging due to height
Shelf Life and Pre/Post- Harvest Techniques	 No special techniques for home use, hands are ripened in mud pots with green leaves. For market: Stored in airtight rooms with lighted agarbathis for early ripening
Quality Standards	 Early harvests (July-August) yield larger fruits; later harvests yield smaller sizes. Skin and pulp color are primary criteria for quality standards



5. Uniqueness

- It grows up to 20-25 feet tall and has an 18-month growth cycle.
- The crop is generally resistant to diseases
- Fruits are red-skinned with cream-colored pulp and have a sweet taste
- Rich in iron, it is recommended by local doctors, especially for typhoid patients and children with fever.
- Due to its tall, lanky growth, it is unsuitable for plain lands and is specifically suited to the hillock-surrounded Kamalapur area.

6. Area of Cultivation

• Unique to Kamalapur and surrounding areas such as Rajnal and Navanihal in the Gulbarga District of Karnataka. Previously, it was cultivated in approximately 100 hectares.

Location:

Latitude: 16°12' to 17°46' North **Longitude**: 76°05' to 77°42' East







Name: Chengalikodan Nendran Banana

GI Tag Number: 479

Year of Registration: 2014



1. Specification:

. Specification.	
Particulars	Details
Name	Also known as Chengazhikode Banana
Cultivation	 AAB genome; cultivated organically Crop duration: 13-14 months. Bunch maturation: 90-100 days, bunch weight: 12-25 kg with 5-8 hands; total fruits per bunch: 45-85.
Characteristics	 Sugar content: 26-30%, shelf life: 7-9 days. Fruit length: 21-25 cm. Peel colour: Golden yellow with red borders/ patches ("Kara")
Bunch Shape	 Cylindrical with fruits curved upward at a 45° angle. Fruits have slight ridges, giving a ridge-less round look.
Appearance and Use	 Mature fruits are pale yellow; ripen to golden yellow with red borders/patches. Used as "Kazhchakula" (offerings in temples) and gifts during Onam.



Special Techniques	 Organic methods & bunch covering with dry leaves Results in light yellow colour at maturity and attractive golden yellow colour with red borders upon ripening.
Growing Region	 Mainly produced in northern Thrissur, rich in laterite soil and river water. Fertility and taste enhanced by Wadakkanchery River and tributaries.
Market Value	 Valued for its taste, golden yellow color with red borders, and appealing bunch structure. Fetches a premium price, especially used for temple offerings and gifts.

2. Description

Particulars	Details
Pseudostem	 Height: Normal and tall, Color: Medium green with pink-purple underlying pigmentation Appearance: Shiny, not waxy
Leaf	• Blade length: 171-220 cm, width: 71-80 cm
Peduncle	Length: 31-60 cm, Width: 6-7 cm, Color: Medium green
Bunch	Position: Hanging vertically, Shape: Cylindrical, lax appearance
Bract	Base shape: Small shoulder, Color: Dark pink-purple
Fruit Characteristics	 Arrangement: Biseriate, curved upward at a 45° angle Length: 20-25 cm, Shape: Straight or slightly curved
Pedicel	• Length: 3-5 cm, Width: 10 mm
Peel	Immature color: Medium green, Mature color: Light yellow with red patches, Thickness: 3-4 mm



Pulp	•	Orange-yellow, Weight: 180-310 g / fruit Sugar content: 26-30%, Shelf life: 7-9 days Ripened color: Deep golden yellow with red patches
Crop Duration	•	Planting to shooting: 225-235 days, duration: 315-330 days, bunch maturation: 90-100 days
Yield	•	Bunch weight: 12-25 kg, number of hands: 5-8 Number of fruits: 45-85

3. Proof of Origin

- It is believed that the name "Chengalikodan" came from the term "Chengazhikode" banana, which derived its name from the area of origin of this cultivar, viz. Chengazhikode area, in the Wadakkancherry block in Thrissur District.
- The Chengazhikode area derived its name from "Chengazhi Nambiyars," the then landlords of the area.

4. Cultivation Practices

Particulars	Details
Climate	Tropical humid with a hot season from March
	to May, followed by the South-West monsoon
	from June to September.
	Annual average rainfall of 3000 mm, with soil
	types ranging from clay loam to sandy loam
	and pH levels of 5.5 to 7.5.
Field Preparation and	• Pits of 0.5 x 0.5 x 0.5 m with 2.0 x 2.0 m spac-
Planting	ing.
	• 10 kg of FYM and neem cake are added to the
	pits.
	Healthy sword suckers are selected for planting



Manures and	Recommended dose: 150:75:300 gm of N, P, K
Fertilizers	/plant
	Azospirillum (100 gm/plant) is applied for N
	fixation
	Micronutrient sprays are recommended
Irrigation	Regular watering is essential, irrigation inter-
	vals depend on soil type and climate.
Inter-Cropping	Vegetables are intercropped. It is often inter-
	cropped with coconut and arecanut plantations
Plant Protection Mea-	Rhizome weevil and root knot nematode are
sures	common pests
	Leaf spot and leaf rot are common diseases
	Neem cake & removal of infected leaves are
	used for pest and disease control
Covering of Bunches	Bunches are covered with dry banana leaves
	20-25 days after bunching.
	Covers are cleaned and replaced after 45 days;
	additional coverings are done during heavy
1	1

5. Uniqueness:

- Popular and traditional Nendran banana cultivar from Thrissur, Kerala, South India.
- Notable for its unique taste, with 26-30% sugar content and a shelf life of 7-9 days.
- When boiled, it becomes soft & protrudes out through the sides, unlike other Nendran varieties.
- Ripened fruits have a golden yellow peel with red borders or patches known as 'kara.'
- Beautiful bunches used as 'Kazhchakula' (gift bunches) in temples, especially in Guruvayoor Temple, and as gifts to relatives and friends.
- Requires traditional cultivation methods and specific bunch-covering



- techniques with dry banana leaves for the characteristic color and shape.
- It cultivated for Kazhchakula and its fetch as premium price of Rs.1500-3000/ bunch, depending on their color, beauty, shape, and arrangement.

6. Area of Cultivation

• Thrissur district lies in the central part of Kerala, between North Latitude 10°10'20" and 10°46'54" and East Longitude 75°57'20" and 76°54'23", with Malappuram district in the north, Palakkad district in the east, and Ernakulam district in the south of Thrissur district.



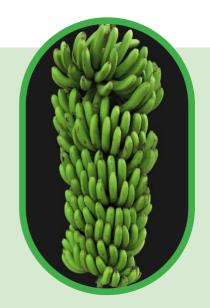




Name: Jalgaon Banana

GI Tag Number: 498

Year of Registration: 2016



1. Specification

Particulars	Details
Cultivation Area	 Jalgaon has 45,000 hectares under banana cultivation, the largest in Maharashtra. The region benefits from favorable climatic conditions, ample water supply, and drip irrigation, especially in Raver, Chopda, Yawal, and Bhusaval.
Unique Quality	 Bananas from the Khandesh region (where Jalgaon is located) are renowned for their unique taste. The "Shrimanti" variety from Khandesh is in high demand across the country for its superior taste and fruit quality. Banana fiber from this region is notable for its high spinning ability and tensile strength.



2. Description

Particulars	Details	
Cultivars in Jalgaon	Dwarf Cavendish: Greenish-yellow variety.	
	Robusta: Dark green variety.	
	Grand Naine: Yellowish-green variety.	
	Shrimanti: Green variety.	
Plant Height	It ranges from 9 to 14 meters in height	
Bunch Weight	The weight of bunches ranges from 20 to 35 kg	
Pulp Characteristics	The pulp is soft-flavoured with a sweet taste	
Shelf Life	It has a shelf life of about 28 days after being	
	plucked	

3. Proof of Origin

- Located within the productive irrigated agricultural region of Khandesh.
- Banana cultivation started in Jalgaon in 1925, it brought to Jalgaon from the Konkan region by soldiers of Shivaji Maharaj during southern conquests.
- Average productivity of bananas in Jalgaon district is 80 tons per hectare, the highest in the country.
- Presence of Satpuda Mountain and Tapi River makes Jalgaon favorable for banana cultivation as bananas are water-loving plants

4. cultivation practices

Particulars	Details
Main Varieties	• Dwarf Cavendish Family: Includes Basrai, Shrimanti, Madhukar, Grand Naine
Soil	• Black loamy soil with good drainage, fertility, and moisture (pH 6.5-7.5).
Climate	• Hot and humid with temperatures ranging from 10.8°C to 42.2°C, Annual rainfall from 660.4 mm to 763.4 mm.



	<u></u>
Planting	 Tissue Culture: Plantlets with 3-4 leaves are used, initially grown in 50% shade, then gradually hardened, field planting after two months of nursery growth.
Irrigation	Drip Irrigation:Widely adopted, helps in creating a humid microclimate favorable for banana growth.
Planting Season	June-July and October-November
Harvesting	 Irrigation is stopped before harvesting to dry the soil. Harvest only when bananas turn light green, are free from sunburns, and have ripened three-fourths.
Yield	 Dwarf Cavendish (Basrai): 30-40 t/ha Robusta: 38-45 t/ha Other Varieties: 20-30 t/ha
Post-Harvest Handling	 Fruits are dipped in an etheryl solution for ripening Kept in heaps, covered with gunny bags, and ice is used to maintain temperature, ripening occurs in four days.
Export and Market	 Jalgaon has export facilities and systems like automated cabling, pre-cooling, and cold storage. Major export centres include Savda, Nimbhora, and Bhusawal. Bananas are exported to cities like Delhi, Mumbai, Agra, and more.
Special Practices	 High-density planting (1,200-1,500 plants per acre). Drip irrigation and tissue culture are key innovations in Jalgaon's banana cultivation.

5. Uniqueness

- Contains fructose, glucose, and sucrose, making it a rich source of energy.
- High iron content helps in preventing anaemia
- High fibre content helps relieve constipation and diarrhoea
- Supports calcium absorption, helping control osteoporosis



- High K content helps control high blood pressure and maintain electrolyte balance
- It helps maintain kidney health, reducing the risk of kidney cancer.
- Provides relief from hyperacidity, heartburn, and reduces stroke risk by 40%.

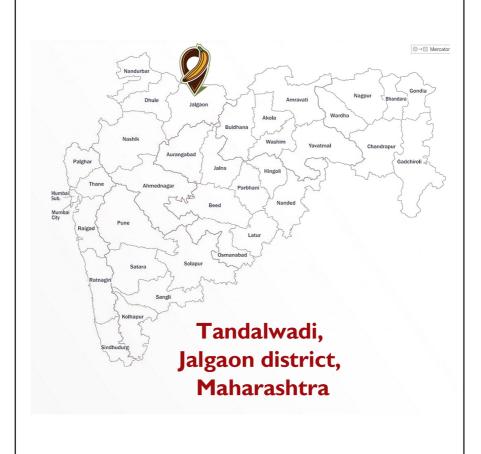
6. Area of Cultivation

- Jalgaon district is located in north Maharashtra between 200 and 210
 North latitudes and 740 55' to 760 28' East longitudes.
- The district consists of 15 taluks which include Jalgaon, Jamner, Erandol, Dharangaon, Bhusaval, Bodwad, Yawal, Raver, Muktainagar, Amalner, Chopda, Parola, Pachora, Chalisgaon and Bhadgaon.
- Total irrigable land in district for banana cultivation is 49000 hectares while Average production per hectare is 65 metric tonnes.

Location:

Latitude : 21.02°Nand21.22°N Longitude : 75.44°E and 76.10°E







Area of Cultivation

Name: Myndoli Banana

GI Tag Number: 680

Year of Registration: 2021



1. Specifications

Particulars	Details
General Information	 Also Known As: Moira Banana Grown In: Pernem, Bicholim, and Bardez Talukas, North Goa Nutritional Value: High in energy, vitamins, and minerals; used in various Goan dishes
Special Characteristics	 Plant Size: Tall, requires staking with 2-3 bamboo poles Fruit Shape: Long, tusk-shaped, Fruit Color: Dark yellow Flesh Color: Deep yellow to golden, meaty and firm Fruit Length: Up to 45 cm, bunch size: 85-98 bananas Shelf Life: 10-12 days, Special uses: Used in Goan specialty dishes like "MyndolyaKelyachoHalvo" and banana shakes



Quality Parameters	•	Plant Height and Girth: 450 cm and 70 cm, respectively Fruit Size, Length: 21-23 cm, Weight: Around 200 g Bunch Weight: 40-50 kg, hands, bunch: 9-10 hands Fingers / hand: 12-14, crop duration: 13-14 months
Nutrient Content	•	TSS (Total Soluble Solids): ≥ 30.00% Phosphorus: 78.12 mg, Potassium: 713.93 mg,
(per 100 g):		Calcium: 116.01 mg, Magnesium: 13.28 mg, Sulphur: 1.34 mg, Sodium: 0.92 mg, Iron: 5.52 mg, Manganese: 13.91 mg

2. Description

Particulars	Details
General Information	 Other Names: Moira International Name: Giant Plantain Ploidy: Triploid (AAB) Cultivated In: Goa (Pernem, Bicholim, BardezTalukas)
Plant Characteristics	 Height: 430-450 cm, girth: 60-70 cm Pseudostem Height: Tall and thick Pseudostem Appearance: Medium shiny
Fruit Characteristics	Shape: Tusk-shaped, length: 21-23 cm, weight: 180-200 g per fruit, Ripened Fruit Peel Color: Yellowish-golden, Pulp Color (Maturity): Light orange
Bunch Characteristics	 Average Weight:20-25 kg (max. 50 kg) Number of Hands: 6-7 hands (max. 10) Hand Weight: 2.25-2.75 kg Number of Fruits per Hand: 12-14 (max. 18) Bunch Position: Hanging vertically



Cultivation Details	•	Planting to Harvesting Duration: 430-450 days
	•	Crop Duration: 300-310 days
	•	Days for Bunch Maturation: 100-120 days
	•	Shelf Life: 10-12 days
	•	Market Price Range: Rs. 150 to 300 per dozen
		-

3. Proof of Origin

- Historical Background: It is a local variety grown in the villages of Pernem, Bicholim, and Bardez Taluka in North Goa. Its name is derived from the village of Moira in Bardez Taluka, where it is believed to have been first introduced.
- Geographical Indication: The distinct characteristics of Myndoli banana, including its large size, unique tusk shape, and specific taste, are tied to the geographical conditions of North Goa.
- Cultural Significance: Myndoli banana holds a prominent place in Goan culture. It is celebrated in local traditions, such as its use in serving food to deities, and is featured in festivals and decorations. This cultural integration supports its claim to origin in Goa.
- Botanical Evidence: The botanical characteristics of Myndoli banana, including its size, shape, and nutritional profile, align with the descriptions provided by local agricultural experts and researchers, reinforcing its authenticity as a Goan variety.

4. Cultivation Practices

Particulars	Details
Land Preparation	Plough land and dig pits of 1ft x 1ft.
	Maintain a spacing of 5ft between each pit.
Selection of Planting	Choose disease-free suckers
Material	
Planting Method	Dip suckers in a 0.1% Bavistin solution, Plant suckers 5-6ft apart.
	Apply 10kg of FYM per pit before planting



Manures and Fertilizers	 Apply NPK @ 400:200:400 gms/plant/year in three split doses. Use micronutrients like Zinc @ 40g/
	plant and Borax @ 10-15g/plant for better growth.
After care	• Desucker every 30-35 days; remove unwanted suckers.
	Mulch periodically, remove dried lower leaves.
	• Maintain at least 13 functional leaves.
Harvesting & Yield	• Harvest 420-450 days after planting when fruit is mature.
	• Main harvesting season: August to December.
	• Average yield: 20kg per plant, about 50 tons/ha.
Marketing	• Price varies: Rs. 200-300 per dozen for high quality; Rs. 50-75 for lower quality.

5. Uniqueness

- It is unique among the bananas available in Goa
- It has distinct properties, being highly nutritious, digestive, and laxative in nature
- It is the longest banana with a longer shelf life, very firm texture, and sweet taste
- It has the tallest height and maximum plant girth at harvest time
- Despite having fewer hands, it has a greater bunch weight
- It stands out for its longest length, highest fruit diameter, and major finger weight
- It has a pulp-to-peel ratio of 2.02:1, indicating medium-thick skin.
- It is the sweetest, with 30.85% Total Soluble Solids (TSS).
- Its lower seed count and higher sweetness make it highly suitable for shakes in Goa.



• The famous Goan dish "Myndolya Kelyacho Halvo" (ripe banana slices fried in ghee and cooked in sugar syrup) is prepared exclusively with Myndoli bananas.

6. Places of Cultivation

• Myndoli banana is cultivated in parts of Pernem, Bicholim, and Bardez Talukas in the North district of Goa.







Name: Kanyakumari Matti Banana

GI Tag Number: 757

Year of Registration: 2023



1. Specification

Particulars	Details
Scientific Name	Musa sapidisiaca
Cultivar Type	Diploid (AA type)
Location	 Kanyakumari district, Tamil Nadu, India Grown in Agatheeswaram, Thovalai, and Thiruvattar taluks High rainfall zone (1469 mm annually)
Maturity	Approximately 15 months from planting to harvest
Varieties	Semmatti (red-colored Matti)Then Matti (honey Matti)Malai Matti (Hill Matti)
Special Features	 Male sterile Distinct morphological characteristics compared to other cultivars Also known as Crocodile Finger Banana



2. Description

Particulars	Details	
Fruit	 Highly fragrant, sweet with a sub-acid flavor, firm texture Powdery nature, used as baby food and has medicinal value Corm extract used by tribes for curing jaundice 	
Plant	 Medium-sized with yellowish-green leaves Strong resistance to Sigatoka disease Highly susceptible to nematodes 	
Nutritional Details	 Calcium- 12.75 mg, Beta Carotene: 58.33 μg, protein: 0.77% Ascorbic acid: 4.38 mg, Titratable acidity: 0.28%, Total Soluble Solids: 8.7 °Brix, Total sugar: 8.45% Shelf life: 4-6 days 	
Leaf	Yellowish-green, long and slender apex	
Stem	 Yellowish-green with dark purple blotches Height: 8 feet, Base circumference: 22 inches 	
Petiole	• Length: 13.5 inches, Circumference: 4.5 inches	
Bunch Position	Hanging horizontally (95° to the stem)	
Flower	• Fertile Axis: 1 foot long, Sterile Axis: 2 feet long	
Male Flower	• Length: 5.2 cm, breadth: 3 mm, depth: 6 mm	
Calyx (Perigonium)	• Length: 3.6 cm, breadth: 1.4 cm	
Number of Lobes	Five	
Number of Keels	Two	
Petals	 Length: 1.3 cm, Breadth: 1.4 cm Type: Bowl-shaped & ridged, with a minute projection at the apex 	
Stamens	Number: 5, Length: 3.1 cmFilaments: 1.5 cm long	
Fruit Maturity	• 15 months	



Matured Fruit	• Number per Hand: 14 – 16
	• Length: 3.5 inches
	• Circumference: 3.25 inches
Bunch Capacity	• 150 – 170 fruits
Bunch Weight	12-19 kg

3. Proof of Origin

- It is believed that the Nagercoil area of Kanyakumari district is the place of origin for the cultivation of the Matti banana.
- "Madras Bananas A Monograph" This book, written by K. Cherian Jacob from the Government of Madras, Coimbatore, provides details about the Matti banana.
- "BANANAS Second Edition (1966)" Written by N.W. Simmonds from the University of Edinburgh and published by Longman, New York, this book delivers a detailed study of banana cultivation around the world. In Chapter XI, titled "History," the author discusses the origins and early history of bananas by country. In the section titled "The Annotated List of Clones by Countries," it is clearly mentioned that the 'Matti banana' was cultivated in the southern region of India.

4. Cultivation Practices

Particulars	Details
Planting Season	February to April
Propagation	 Use suckers grown near the mother plant A plant produces 5-20 suckers in 12-14 months.
Soil Requirements	 Deep, rich loamy soil with good drainage, pH 6-7.5 preferred. Avoid saline, calcareous, sandy, and poorly drained soils. Soil should be rich in organic matter, with high nitrogen, adequate phosphorus, and plenty of potash.



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Field Preparation	• Grow and plough green manure crops like dain- cha or cowpea Plough the field 4-6 times and let
	it weather for two weeks.
Spacing and Planting	 Use a single row planting system Allow good aeration by spacing plants properly Use the pit method with 60 cm x 60 cm x 60 cm pits filled with soil, sand, and farmyard manure in a 1:1:1 ratio.
	• Spacing: 1.8 × 3.6 m; No. of suckers per hectare: 4600; No. of suckers per acre: 1840
Disease Resistance	 Diseases: Panama wilt, Anthracnose, shoot rot, viral diseases. Use disease-free planting material and destroy infected plants. Matti banana shows resistance to Sigatoka leaf spot disease.
Pest Control	Common pests: root stock weevil, stem borer, thrips, banana beetle, banana aphid, nematodes
Intercultural Operations	Desuckering, Propping, Mulching, Pruning: Removal of Male Buds (Denavelling), Earthing up, Bunch Covering
Harvesting and Yield	 Harvest at 75-80% maturity for long-distance transport. Crop ready for harvest 15 months after planting; main season: September to April. Bunches mature 130-150 days after flowering.

6. Uniqueness

- Shows higher female fertility compared to other diploids, which are generally female sterile
- Matti may have originated as a clonal selection from this wild species, retaining the seed fertility trait
- Inflorescence hangs horizontally at a 95° angle to the stem
- It is included in the diet of infants in Kanyakumari due to its low total soluble solids (TSS) value 8.7° Brix



- Typical wind-blown appearance, differing from the usual straight and even growth of banana fingers
- Shows significant resistance to Sigatoka disease
- Extensively used as a female parent in diploid breeding programs

6. Area of Cultivation:

Kanyakumari Matti Banana is cultivated in Kanyakumari District, Tamil Nadu State, India.





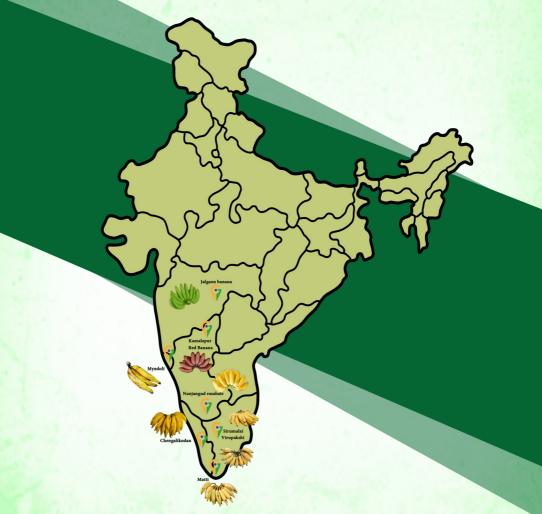








GI BANANAS OF INDIA



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