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भारत सरकार
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GEOGRAPHICAL INDICATIONS JOURNAL



बौद्धिक सम्पदा
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INTELLECTUAL
PROPERTY **INDIA**

भौगोलिक उपदर्शन पंजीकृति,
बौद्धिक सम्पदा अधिकार भवन,
जी.एस.टी. रोड, गिण्डी,
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Geographical Indications Registry,
Intellectual Property Rights Building,
G.S.T. Road, Guindy, Chennai - 600 032.



**GOVERNMENT OF INDIA
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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 106 of the Geographical Indications Journal dated 01st June, 2018 / Jyaishtha 11, Saka 1940 has been made available to the public from 01st June, 2018.

NEW G.I APPLICATION DETAILS

App.No.	Geographical Indications	Class	Goods
600	Leteku	31	Agricultural
601	Manipur Black Cherry	31	Agricultural
602	Manipur Black Rice (Chakhao)	30	Agricultural
603	Assam Elephant Apple	31	Agricultural
604	Coorg Arabica	30	Agricultural
605	Wayand Robusta	30	Agricultural
606	Chikmagalur Arabica	30	Agricultural
607	Araku Valley Arabica	30	Agricultural
608	Bababudangiri Arabica	30	Agricultural
609	Assam Lemon	31	Agricultural
610	Kandhamal Haldi	30	Agricultural
611	Jeeraphool	30	Agricultural
612	Odisha Rasagola	29 & 30	Food Stuff
613	Marayoor Jaggery	30	Agricultural
614	Chamba Chappal	25	Handicraft
615	Goan Coconut Feni	33	Manufactured

PUBLIC NOTICE

No.GIR/CG/JNL/2010

Dated 26th February, 2010

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

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

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

Registrar of Geographical Indications

G.I. APPLICATION NUMBER – 139

Application Date: 22-09-2008

Application No. 139 made by The Director of Research, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli Taluk., Dapoli, Dist., Ratnagiri – 415 712, Maharashtra, India, Application No. 379 made by M/s. Devgad Taluka Amba Utpadak Sahakari Sanstha Maryadit, Jamsande, Taluk: Devgad, District: Sindhudurg- 416612, Maharashtra, India and Application No. 497 made by M/s. Kelshi Parisar Amba Utpadak Sahakari Sangha Maryadit Kelshi, Taluka: Dapoli, Ratnagiri – 415 717, Maharashtra, India are merged together to proceed as a single application as per the order of Registrar of Geographical Indications dated May 29, 2018 under Application No. 139 for Registration in Part A of the Register of **Alphonso** in respect of Horticulture (Mango) falling in Class – 31 is hereby advertised as accepted under Sub-section (1) of Section 13 of Geographical Indications of Goods (Registration and Protection) Act, 1999.

- A) Name of the Applicant :**
1. M/s. Devgad Taluka Amba Utpadak Sahakari Sanstha Maryadit,
 2. M/s. Kelshi Parisar Amba Utpadak Sahakari Sangha Maryadit Kelshi,
 3. The Director of Research, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth,
 4. M/s. Konkan Hapus Amba Utpadak Ani Utpadak Vikrete Sahkari Sanstha
- B) Address :**
1. M/s. Devgad Taluka Amba Utpadak Sahakari Sanstha Maryadit, Jamsande, Taluk: Devgad, District: Sindhudurg- 416612, Maharashtra, India (Applicant in GI 379)
 2. M/s. Kelshi Parisar Amba Utpadak Sahakari Sangha Maryadit Kelshi, Taluka: Dapoli, Ratnagiri – 415 717, Maharashtra, India (Applicant in GI 497)
 3. The Director of Research, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli Taluk., Dapoli, Dist., Ratnagiri – 415 712, Maharashtra, India (Applicant in GI 139)
 4. M/s. Konkan Hapus Amba Utpadak Ani Utpadak Vikrete Sahkari Sanstha, Regional fruit research station, Vengurle, Sindhudurg, Maharashtra, India (Co-applicant in GI 139)
- C) Types of Goods :** **Class 31 – Horticulture (Mango)**

D) Specification:

Alphonso is a variety of mango grown in Konkan region in Maharashtra State comprising of (five) districts viz., (i) Palghar, (ii) Thane, (iii) Raigad, (iv) Ratnagiri and (v) Sindhudurg. The colour of the fruit is attractive orange yellow, pulp is firm but melting, fibreless, texture soft, flavour pleasant and taste very sweet. It has an attractive red blush towards basal end, which is typical of this fruit from the Konkan region and not in other area.

This delicious and juicy mango with pleasant flavour and fragrance has long been one of the world's most popular fruits. India grows the finest mangoes in the world and although more than a thousand varieties exist, the Alphonso is considered the best. The luscious fruit is loved for its wonderful colour, wholesome fragrance and irresistible taste. Accordingly, the Alphonso is nicknamed as "King of Mangoes".

Basic characteristics of Alphonso

QUALITY CRITERIA	ALPHONSO MANGO
TSS (° B)	19
Acidity (%)	0.34
Ascorbic mg / 100 g	62.15
B-carotene µg / 100 g	16.78 µg / 100 g
Non Reducing Sugar	13.8 %
Reducing Sugar	3.79 %
Vitamin C	32.7 mg / 100 g

Nutritional value of Alphonso: Nutritional value per 100 g (3.5 oz)

NUTRIENTS	VALUE (per 100 gram)	% VALUES
Proximates		
Energy	70 kcal (270 kJ)	
Carbohydrates	17.00 g	
Sugar	14.8 g	
Dietary fibre	1.8 g	
Total Lipid (Fat)	0.27 g	
Protein	0.51 g	
Vitamins		
Vitamin A equiv.	38 µg	4 %
β – carotene	445 µg	4 %
Thiamin (Vit. B 1)	0.058 mg	4 %
Riboflavin (Vit. B 2)	0.057 mg	4 %
Niacin (Vit. B 3)	0.584 mg	4 %
Pantothenic acid (B 5)	0.160 mg	3 %
Vitamin B 6	0.134 mg	10 %
Folate (Vit. B 9)	14 µg	4 %
Vitamin C	27.7 mg	46 %
Minerals		
Calcium	10 mg	1 %
Iron	0.13 mg	1 %
Magnesium	9 mg	2 %
Phosphorus	11 mg	2 %

Potassium	156 mg	3 %
Zinc	0.04 mg	0 %

E) Name of the Geographical Indication:

ALPHONSO

F) Description of the Goods:

Alphonso is a variety of mango grown in Konkan region in Maharashtra State comprising of (five) districts viz., (i) Palghar, (ii) Thane, (iii) Raigad, (iv) Ratnagiri and (v) Sindhudurg.

Its skin is thick and green in colour before ripening. After ripening, the skin changes to thin and orange yellow in colour. It has an attractive red blush towards basal end, which is typical of this fruit from the Konkan region and not in other area. The colour of the fruit is attractive orange yellow, pulp is firm but melting, fibreless, texture soft, flavour pleasant and taste very sweet.

Additional Details:

- (1) Tree :
Height of atleast 9.3 m and average spread of 9.7 m (upon attaining 30 years). The tree is moderately vigorous, trunk is medium, shoot thick, leaves are medium size and intermediate.
- (2) Inflorescence :
Inflorescence is broadly pyramidal with yellowish colour of main axis and rachis. The percentage of bisexual flowers in inflorescence is low.
- (3) Flowering :
Flowering is in 3 (three) flushes. First flush comes in last week of October – November with 15 – 20 % crop. Second flush comes in November end to December with 35 – 40 % crop and the third flush comes in January second fortnight to February which gives rise to maximum fruit set and yield.
- (4) Fruiting :
The tree starts fruiting at the age of 5 (five) years. The fruit gets matured and ready for harvest in 110 – 120 days. Fruits borne are in single or cluster.
- (5) Fruit :
Medium to big, 250 - 300 gms., oblong oval, stalk inserted obliquely base obliquely flattened, cavity shallow, shoulders prominent and unequal, ventral rising and then rounded, dorsal ending in a long curve, sinus almost absent, round back of fruit without beak, apex broadly pointed. In its raw state, skin very thick, yellow green, dots very few, medium and not prominent. When ripened, pulp is flash attractive orange yellow, firm but melting, texture fine, fibre absent, flavour pleasant, taste very sweet.
- (6) Root :
The root system consists of a long, vigorous tap root and abundant surface feeder roots.
- (7) Stem :
Growth of stem is upright and branching of stem is from 1-1.5 m. height from ground level. For the purpose of measuring, the girth of stem and age of the tree is calculated. Average girth of the stem is 1.0 m.-1.8 m. depending on age of tree (1.3 m. is the girth of a 35 year old tree).

- (8) Branching :
Type of branching is indeterminate.
- (9) Leaf :
Shape of leaf is oblong lanceolate. The leaves are spirally arranged and produced in flushes.
- (10) Seed :
It is solitary (mono-embryonic), flat, ovate oblong, in a large woody stone, having excellent quality. It is surrounded by the fibrous endocarp at maturity.
- (11) Fruit Quality :
It is large, fleshy drupe, containing edible mesocarp of varying thickness. It is resinous and highly variable with respect to shape and size. Chlorophyll, carotenes, anthocyanins are present in the fruit, although chlorophyll disappears during ripening, whereas anthocyanin and carotenoid increase with maturity.
- (12) Colour:
Attractive yellow with slight reddish blush at the shoulder.
- (13) Stone :
Small to medium, oblong oval, fibre - absent, medium course with veins on surface.
- (14) Harvest Time :
Harvesting starts from March end to onset of monsoon.

G) Geographical area of Production and Map as shown in page no: 21

The geographical area of production of Alphonso is restricted to the Konkan region of Maharashtra comprising of (five) districts viz., (i) Palghar, (ii) Thane, (iii) Raigad, (iv) Ratnagiri and (v) Sindhudurg.

H) Proof of Origin (Historical records):

Origins of Alphonso:

The name 'Alphonso' can be traced almost 400 (four) hundred years back to a Portuguese noble man, *Afonso De Albuquerque*. He introduced this exquisite and expensive variety of mango by bringing them on his journeys to Goa. The locals called it 'Aphoos' in Konkani while it was pronounced as 'Hapoos' in Maharashtra. Thereafter, it spread to the coastal track of Maharashtra particularly to Konkan region.

Alphonso – As a Variety:

Alphonso, the most delicious variety of mango, is known for its excellent texture, taste, aroma, early bearing and keeping quality.

The botanical name of the Alphonso mango is *Mangifera Indica* L.

Plantations of Alphonso in the Konkan region is being presently cultivated on an area of about 1,84,000 hectares in the year 2008. In the Konkan region, more than 95 % of the area is under production of a single variety viz., Alphonso.

I) Method of Production:

(1) Cultivation Process:

- Selection of site and soil: It should be nearest to seashore and well drained lateritic soil PH. 6.5 to 7 is good for cultivation of Alphonso mango;
- Pit size : 1m x 1m x 1m size;
- Filling of Pits : This is done in May month; Filling with 3 to 4 pots of FYM + 2 to 2.5 kgs.; SSP 100 gms. and 5 % Carbaryl;
- Plotting and Spacing : cleaning, spacing - normal 10 m x 10 m and high density 5 m x 5 m square planting system;
- Planting : During start of monsoon in month of June;
- Topography : Hilly areas / sloppy land and plain land too is best suited for cultivation;
- Irrigation : Irrigation with 150 to 200 litres of water per tree at the interval of 15 – 20 days from pea stage. Irrigation should be stopped one month prior to harvest.

Irrigation is also managed in the following manner:

For first 3 years @ 30 lit. per plant / application:

Age of Graft	During Winter Season	During Summer Season
1 st Year	Weekly	3 to 4 days interval
2 nd Year	Fortnightly	Weekly
3 rd Year	Monthly	Fortnightly

- Fertiliser requirements : Fertiliser management is done during the months of June and July right from the first year of growth of the tree by application of FYM, Urea, Super phosphate and murate of potash;
 - Pruning and Trimming : Pruning is done the month of May or October by Center opening. The system of pruning involves cutting of center branch at 15 feet height from ground level and cutting of overlapping branches. While pruning, branch should not split. Thereafter, bordeaux paste is applied on cut portion of branches.
- (2) Soil :
It is best suited in well drained lateritic soil with PH 6.5 to 7.0. It does not perform well in soils having PH beyond 7.5.
- (3) Agro – Climatic Conditions :
It is best suited to hot and humid climate which prevails in western coastline of India.
- (4) Climate:
- High rainfall ranging from 2000 to 4000 mm;
- Temperature range (max. 30 – 34 °C and min.17 – 23 °C);
- Relative humidity range 70 % - 95 %;
- Sunshine hours about 8 – 12 hrs.
-

(5) **Propagation:**

It is highly heterozygous and cross pollinated crop. Epicotyl or Stone grafting is widely practice in Konkan region of Maharashtra.

[Epicotyl grafting - It is also known as stone grafting. In this method, the seeds of mango are sown in nursery bed and covered with 5 to 7 cms. thick layer of farm yard manure. While sowing seed, preference is given to sand bed which provides ease in uprooting of seedling required at the time of grafting. In about 15 to 20 days, seeds start germination. The germinated seedling of 7 to 10 days age, when its leaves remain coppery in colour, is used for grafting. The seedling is deheaded at a height of 10 cms. from ground level. A vertical slit of 2.5 to 4 cms. length is given on deheaded portion of rootstock. Scion shoot of 2 to 3 months age having pencil thickness is used. The leaves of scion is defoliated 10 days before grafting to facilitate sprouting. After uniting rootstock and scion, it is wrapped using polythene tape of 300 gauge. The grafted plant is then maintained in other bed or pots in nursery. This method of grafting is practiced during June-July during which the environment remains sufficiently moist].

(6) **Required Nutrients:**

Twenty one (21) nutrients are required for the growth of plants which include mainly N (Nitrogen), P (Phosphorus), K (Potassium), Ca (Calcium), S (Sulphur), Mg (Magnesium). These are the major nutrients. Fruits remove these nutrients in various quantities.

Studies showed that 1 (one) ton Alphonso remove nutrients as detail below:

Sl. No.	Nutrient	Quantity (kg.)
1.	N	6.270
2.	P	0.660
3.	K	9.880
4.	Ca	2.620
5.	Mg	2.000
6.	S	1.710
7.	Fe	0.270
8.	Mn	0.290
9.	Zn	0.021
10.	Cu	0.022

(7) **Management of Pests / Diseases:**

Enclosed in the Annexure of various diseases and pests that attack different parts of the Alphonso Mango tree and its schedule of management.

(8) **Bearing Age:**

The tree starts bearing in its fifth year of age. The fruit starts maturing in 110 to 120 days .The season is March to May and harvesting is over before the onset of Monsoon.

(9) **Yield:**

This varies due to several factors viz., age of the tree, climatic conditions, soil type, type of tree (seedling / grafted one), on and off year and management practices followed. A well grown tree (10 year onwards), the yield varies from 40 – 100 kgs., which is about 150 to 250 fruits per tree and may go upto 3 – 5 quintals per tree at the age of 40 years.

(10) **Harvesting:**

* **Stage of Maturity:**

The fruit is harvested when it at a maturity stage of 85 %. At this stage, following changes occur:

- the colour of the fruit changes from dark green to yellowish green;
- it bulges at the shoulder leading to dipraption at peduncle;
- the beak of the fruit changes from pointed to blunt;
- Oily glands develop of on the fruit surface.

* **Method of harvesting:**

- The fruit is harvested by a mango harvester;
- At this stage, the fruit has a pedicel length measuring 4 – 5 cms.;
- The harvested fruits are to be kept under shade;
- Minimum handling of the harvested fruit should be followed.

* **Post Harvest Management**

A. **Sorting:**

- It is done according to weight;
- Spotted fruits are first removed;
- The fruits are then dipped in 2.5 % salt solution. The good quality fruits normally float and these are taken out for export purpose. The balance fruits are affected with ‘spongy tissue’;
- The harvested fruits are dipped in 0.1% carbendazim solution for 5 (five) minutes to avoid spoilage.

B. **Grading and Standards:**

The fruits are graded as per their weight in the following manner:

- Special – More than 350 gms.
- Grade A – 300 to 350 gms.
- Grade B – 250 to 299 gms.
- Grade C – 225 to 250 gms.
- Grade D – Less than 225 gms.

(11) **Packaging:**

* **Waxing:**

Alphonso fruit when dipped in 1.7 to 2.7 % aqueous emulsion of a fungicidal wax containing O-phenyl phenol lessened the physiological loss in weight and increased the storage life of the fruits reported that fresh Alphonso fruits treated with 6 % wax emulsion recorded the lowest percentage of spoilage as compared to control fungicide (thiabendazole) alone. Another fruit coating, marked as ‘Vapor Gard’, is an antitranspirant. Its effect on the post harvest life of Harumanismangoe was studied by. The effect of coating the fruit in a 1.3 % solution was to reduce water loss, retard firmness decrease, reduce the loss of ascorbic acid content, inhibit the malic enzyme activity and increase polygalacturonase activity compared to untreated fruits.

* **Pre-cooling:**

Methods adopted to pre-cool the fruits:

The primary ones are:

- (i) air cooling – This is done by placing the fruits into a cool room.

- (ii) hydro cooling – This is done by either dipping the fruits in cold water or effective spraying of cool water;
- (iii) vacuum cooling - . This is done by reducing atmospheric pressure which reduces the pressure of water vapour in the chamber.

Pre-cooling of mango to 12 - 15°C with 500 ppm Bavistin, increases the shelf life. In case of Alphonso variety, it also reduces the incidence of spongy tissue. Significant reduction in respiration rate, slow rate of ripening and good surface colour of fruit in mango were achieved by hydro cooling, coupled with Bavistin.

* Packing:

Packing of Alphonso mangoes is done in wooden boxes for the distant market and corrugated boxes are used for export purpose.

* Domestic Transport / Shipping for Exports:

- *Domestic Transport* : Transport in un-refrigerated carriers is done during evening and night only to avoid the incidence of spongy tissue as temperature is low during night hrs.

Sea exports: It is transported under refrigeration conditions, wherein the respective vessel is having entire refrigerated decks filled with pallets. In the case of sea containers, each is linked to central ducted refrigerated container vessels. Alternatively, integral containers with their own individual cooling systems or in integral controlled atmosphere (CA) containers may be used.

J) Uniqueness:

The distinctiveness or uniqueness of *Alphonso Mango* lies in the following:

- (1) The tree has early bearing,
- (2) The size of the fruit is uniform and large - medium sized and weighing about 250 gms.,
- (3) It has a thin skin peel with yellow colour with red blush towards the basal end, which is typical of Alphonso of Konkan region and not in other area,
- (4) It has an attractive yellow colour with slight red blush towards stalk end,
- (5) The shoulder of the fruit is prominent with round back of fruit without beak,
- (6) The pulp is firm, fibreless with excellent orange colour,
- (7) It has good sugar acid blend and a pleasing flavour,
- (8) It has a longer shelf life i.e., its keeping quality is good for about 21 (twenty one) days, and
- (9) It is best suitable for fruit processing activities i.e., for making into pulp, powder, leather and 'khawa'.

Impact of Geographical Environment:-

The Konkan region has laterite soils with hilly terrain comprising the districts Ratnagiri, Sindhudurg, Raigad, Thane and Palghar. This region is having hot and humid climate. Konkan region receives annual rainfall of 3000 mm with maximum temperature of 30 to 34°C and minimum temperature 17 to 23°C. Humidity is in the range of 70 to 95 %. All these weather parameters influence the quality of Alphonso produced in this region and covers an area of 1,84,000 ha plantation of Alphonso mango. The Alphonso is being

cultivated traditionally since last 400 years and produces excellent quality fruits in this region due to the typical prevailing soil and climatic condition.

The Alphonso fruits produced in this region are having unique quality like typical sugar acid blend with TSS 19 -210 Brix with acidity 0.22 - 0.30 %. This gives good shelf life of 17 days under ambient conditions. Orange pulp colour and strong pleasant aroma which we do not get in the fruits of Alphonso from other regions of the country. Alphonso fruits from Konkan region are having thin peel with yellow colour with red blush which is typical in Konkan region.

K) Inspection Body:

1. One (1) Member from State Government of Maharashtra Agricultural Department.
2. One (1) Member from Maharashtra State Agricultural Marketing Board
3. Three (3) Farmer Members representing :
 - M/s. Devgad Taluka Amba Utpadak Sahakari Sanstha Maryadit.
 - M/s. Kelshi Amba Utpadak Sahakari Sangha Maryadit Kelshi.
 - M/s. KonkanHapus Amba Utpadak Ani Utpadak Vikrete Sahakari Sanstha.
4. Three (3) Members – Scientists from Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth.
5. Two (2) Members representing processing cluster / association from Konkan region, and
6. One (1) Member representing agro goods export association.

L) Others:

Code of good agricultural practices for producing “Alphonso”

Sl. No.	Particulars	Technologies Recommended
1	Area and Production	➤ 1.84 lakh ha. ➤ 3.25 lakh MT.
2	Climate	➤ Altitude - 600 m above mean sea level ➤ Favourable temperature is 24 ⁰ C to 27 ⁰ C. ➤ Warm and humid as well as cold and dry climate
3	Selection of site	➤ Fertile, deep and well-drained loam or sandy loam soils. ➤ Red lateritic soils are best for cultivation. ➤ pH - 6 to 7.
4	Variety	➤ Alphonso
5	Propagation	➤ Epicotyl / Stone grafting and soft wood grafting.
6	Season of planting	➤ May – June
7	Spacing	➤ Normal - 10 m x 10 m ➤ High density - 5 m x 5 m
8	Size of pits	➤ 1m x 1m x 1m
9	Filling of pit	➤ 3 to 4 pots of FYM + 2 kg SSP + 100 g Methyl parathion (2 %) dust

10	After Care of Young Plants	<ul style="list-style-type: none"> ➤ Provide irrigation to the newly planted young plants. Avoid heavy watering and stagnation of water in their basins. ➤ Remove / pinch off stock sprouts whenever they appear. ➤ Remove tying material at the bud / graft union, otherwise it may cause constriction. ➤ Provide support to the plants for their upright growth ➤ Protect the young plants for at least 3 - 4 years against hot weather by covering them with suitable thatching material 																																																												
11	Fertiliser application	<table border="1"> <thead> <tr> <th>Age of Plant (Year)</th> <th>FYM (pots)</th> <th>Urea (kg)</th> <th>Super phosphate (kg)</th> <th>MOP/SOP (kg)</th> </tr> </thead> <tbody> <tr><td>1</td><td>1</td><td>0.300</td><td>0.300</td><td>0.100</td></tr> <tr><td>2</td><td>2</td><td>0.600</td><td>0.600</td><td>0.200</td></tr> <tr><td>3</td><td>3</td><td>0.900</td><td>0.900</td><td>0.300</td></tr> <tr><td>4</td><td>4</td><td>1.200</td><td>1.200</td><td>0.400</td></tr> <tr><td>5</td><td>5</td><td>1.500</td><td>1.500</td><td>0.500</td></tr> <tr><td>6</td><td>6</td><td>1.800</td><td>1.800</td><td>0.600</td></tr> <tr><td>7</td><td>7</td><td>2.100</td><td>2.100</td><td>0.700</td></tr> <tr><td>8</td><td>8</td><td>2.400</td><td>2.400</td><td>0.800</td></tr> <tr><td>9</td><td>9</td><td>2.700</td><td>2.700</td><td>0.900</td></tr> <tr><td>10</td><td>10</td><td>3.000</td><td>3.000</td><td>1.000</td></tr> <tr><td>After 10 year</td><td>10</td><td>3.000</td><td>3.000</td><td>2.000</td></tr> </tbody> </table>	Age of Plant (Year)	FYM (pots)	Urea (kg)	Super phosphate (kg)	MOP/SOP (kg)	1	1	0.300	0.300	0.100	2	2	0.600	0.600	0.200	3	3	0.900	0.900	0.300	4	4	1.200	1.200	0.400	5	5	1.500	1.500	0.500	6	6	1.800	1.800	0.600	7	7	2.100	2.100	0.700	8	8	2.400	2.400	0.800	9	9	2.700	2.700	0.900	10	10	3.000	3.000	1.000	After 10 year	10	3.000	3.000	2.000
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10	10	3.000	3.000	1.000																																																										
After 10 year	10	3.000	3.000	2.000																																																										
12	Foliar Nutrients	<ul style="list-style-type: none"> ➤ It is recommended to apply “Amrashakti”, three multi nutrient sprays of 0.5 % (Urea, SOP, SSP each) + 0.25 % (ZnSO₄, Borax, CuSO₄ each) + 0.01 % (Sodium molybdate), first spray at bud break, second on full bloom inflorescences and third at egg size fruit of Alphonso mango along with recommended dose of fertilizers in lateritic soil of Konkan to obtain higher yield. 																																																												
13	Irrigation Management	<table border="1"> <thead> <tr> <th>Age of graft</th> <th>During winter season</th> <th>During Summer season</th> </tr> </thead> <tbody> <tr> <td>Ist year</td> <td>Weekly</td> <td>3 to 4 days interval</td> </tr> <tr> <td>IInd year</td> <td>Fortnightly</td> <td>Weekly</td> </tr> <tr> <td>IIIrd year</td> <td>Monthly</td> <td>Fortnightly</td> </tr> </tbody> </table> <p>First to Third year 30 lit. per plant.</p>	Age of graft	During winter season	During Summer season	I st year	Weekly	3 to 4 days interval	II nd year	Fortnightly	Weekly	III rd year	Monthly	Fortnightly																																																
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14	Pruning and Training	<ul style="list-style-type: none"> ➤ For training and pruning, 3 - 4 years allow plant to grow naturally without pruning. 																																																												
15	Pruning period	<ul style="list-style-type: none"> ➤ Centre opening and pruning during the month of May or October 																																																												
16	Pruning System	<ul style="list-style-type: none"> ➤ Cutting of centre Branch at 15 feet height from ground level. Cutting of overlapping branches. 																																																												
17	Precaution after Pruning	<ul style="list-style-type: none"> ➤ While pruning branch should not split. Apply Bordeaux paste on cut portion of branch. 																																																												
18	Training	<ul style="list-style-type: none"> ➤ The main branches should grow in different directions at least 30 cm apart and with good crotch angles. 																																																												
19	Pruning time	<ul style="list-style-type: none"> ➤ After harvest i.e. May end or June first week and September end to October first week. 																																																												

20	Interculture and Intercropping	<ul style="list-style-type: none"> ➤ Plot should be kept free from weed. ➤ Intercropping- Vegetables-cucurbits, tomato, radish, cowpea, cluster bean, okra, turmeric, ginger and tuber crops. Fruits-Banana, pineapple and papaya 																		
21	For regular bearing of Alphonso Mango	<ul style="list-style-type: none"> ➤ Application of Paclobutrazol @ 0.75 g a.i. per meter of Canopy diameter 																		
22	Time of application of Paclobutrazol	<ul style="list-style-type: none"> ➤ 15th July to 15th August. 																		
23	Site of application of Paclobutrazol	<ul style="list-style-type: none"> ➤ Just inside the fertilizer ring in 30 holes at 10 to 15 cm. depth. 																		
24	Harvesting	<ul style="list-style-type: none"> ➤ Alphonso should be harvested at 85 % maturity. Fruits should be harvested by using 'Nutan harvester' or bamboo hand tool called mango picker early in morning or evening. 																		
25	Yield	<ul style="list-style-type: none"> ➤ Well grown mango tree (10 year onwards) the yield varies from 40 to 100 kg and may go up to 3 - 5 quintals per tree at the age of 40 years 																		
26	Collection in Plastic crates	<ul style="list-style-type: none"> ➤ Harvested fruits are collected. 																		
27	Transportation of crates to pack house	<ul style="list-style-type: none"> ➤ Early in morning or evening. 																		
28	Grading	<ul style="list-style-type: none"> ➤ Physical characteristics such as size, weight and colour <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Grades</th> <th>Weight Group</th> <th>Percentage of fruits</th> </tr> </thead> <tbody> <tr> <td>Special</td> <td>More than 350 g</td> <td>6.00</td> </tr> <tr> <td>A</td> <td>300 – 350 g</td> <td>20.00</td> </tr> <tr> <td>B</td> <td>250 – 299 g</td> <td>52.00</td> </tr> <tr> <td>C</td> <td>225 – 250 g</td> <td>14.00</td> </tr> <tr> <td>D</td> <td>Less than 225 g</td> <td>8.00</td> </tr> </tbody> </table> 	Grades	Weight Group	Percentage of fruits	Special	More than 350 g	6.00	A	300 – 350 g	20.00	B	250 – 299 g	52.00	C	225 – 250 g	14.00	D	Less than 225 g	8.00
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29	Washing	<ul style="list-style-type: none"> ➤ Rinsing in ordinary water 																		
30	Hot water treatment	<ul style="list-style-type: none"> ➤ 47 ° C for 20 mins. or more 																		
31	Drying	<ul style="list-style-type: none"> ➤ Drying with dry muslin cloth and air drying for two hours. 																		
32	Ripening	<ul style="list-style-type: none"> ➤ Fruits are treated with 100 ppm ethylene at 26 ° to 28 ° C. 																		
33	Packing	<ul style="list-style-type: none"> ➤ Fruits are placed in layers, with a paddy straw padding in between. ➤ Temperatures between 20 – 25 ° C during ripening improve fruit quality ➤ For export purposes, packaging in CFB boxes is essential. Paper scraps, newspapers, etc., are commonly used as cushioning material for the packaging of fruits which prevents brushing and spoilage during storage and transportation. 																		

		Wrapping of fruits individually (Unipack) with newspaper or tissue paper and packing in honeycomb nets helps in optimum ripening & less spoilage.
34	Vapor Heat Treatment (VHT) for Export to Japan	Fruits are exposed to VHT after three days of harvest to avoid spongy tissue.
35	Palletisation	Transportation to Dock Yard – Shipping. Mango fruit boxes are palletised with 4 to 5 boxes.
36	Value added products of mango	Mature Fruits - Dried slices, mango powder, pickles and chutneys, Ripe fruits - Frozen slices, canned product, pulp, jam, squash, ready-to-serve drink, mango leather and mango powder are prepared
37	Plant protection	Utilise recommended schedule of university for control of pest and diseases. Major Pest- 1. Mango hopper- ➤ First spray at vegetative flush after monsoon Deltamethrin 2.8 % @ 9ml per 10 litres of water. ➤ Second spray at bud burst stage and thereafter three sprays at 15 days interval with following insecticides. As far as possible repeated use of pesticides may be avoided. ➤ Imidacloprid 17.8 % SL @ 3 ml or ➤ Lambda - cyhalothrin 5 % EC 6 ml 2. Mango thrips - ➤ Spray the tree with Dimethoate 30 EC (12 ml / 10 lit.) or 0.005 %; Thiamethoxam 25 WG (0.2 g / lit.) when infestation noticed. 3. Mango Fruit fly - ➤ Use Rakshak trap developed by University viz., DBSKKV, Dapoli 4. Mango Mealy bug - ➤ Spray Monocrotophos 36 % SL @ 15 ml /10 lit of water. Major diseases- 1. Powdery mildew - For control use Sulphur (0.2 %) or Karathane (0.1 %) or Carbendazim (0.1 %) or Hexaconazole (0.05 %) or Morestand (0.2 %) or Calixine (0.05 %) or Saprol (0.1 %) . 2. Anthracnose - Spraying of Carbendazim (0.1 %) or Captan (0.2 %) or Thiophanate methyl (0.1 %) or Propineb (0.2 %) mixed with Monocrotophos (1.2 ml / lit). 3. Anthracnose on fruits - 1. Pre harvest spray of Carbendazim (0.1 %) fifteen days before harvest. 2. Harvest the fruits with intact stalk. 3. Dip the fruits in KMS (0.05 %) solution for ten minutes, dry the fruits and keep for ripening in well ventilated paddy straw. Fruit dip treatment in 50 °C hot water solution of potassium metabisulphite (0.05 %) for ten

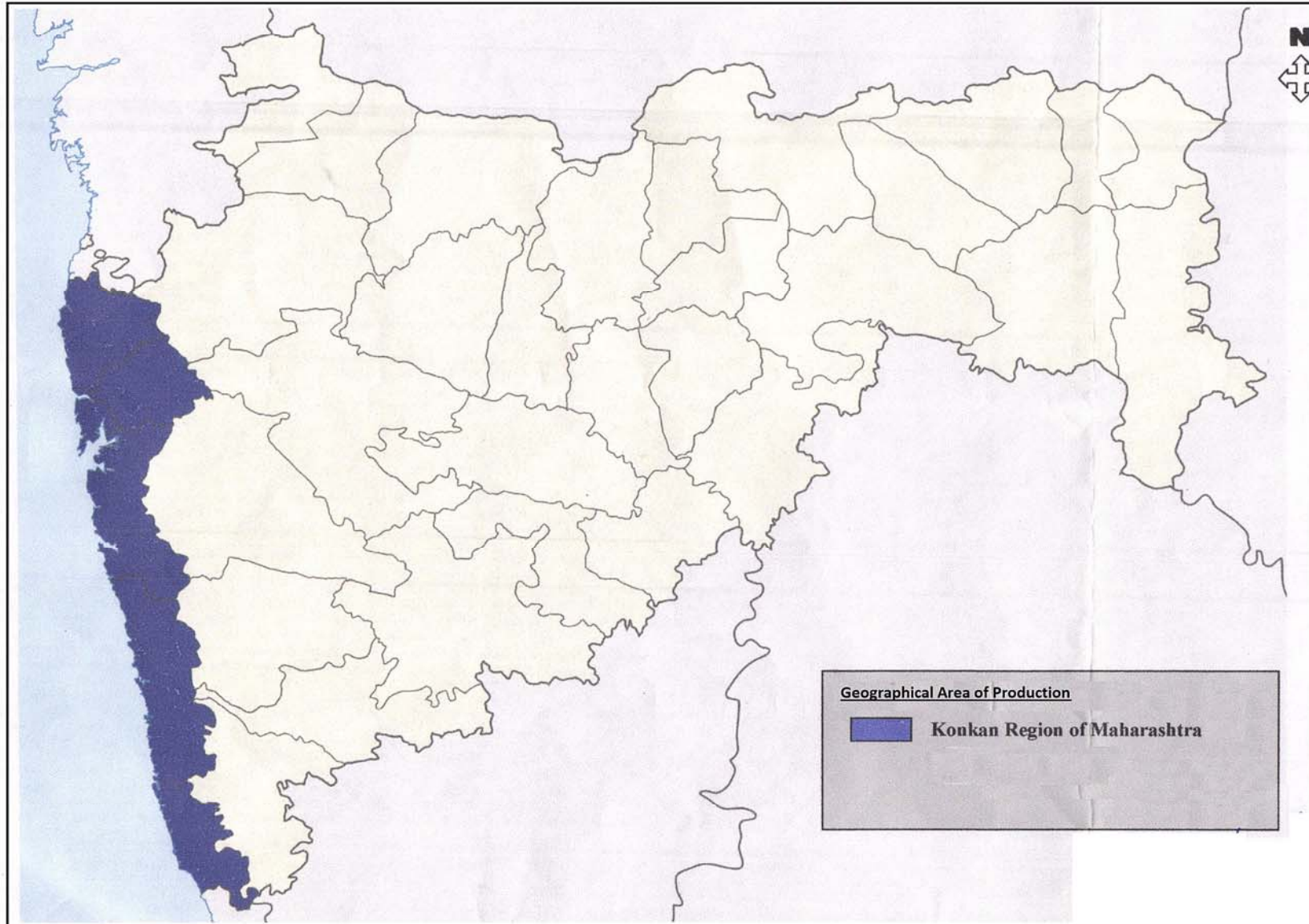
		minutes control the disease. Also for effective management of post harvest fruit rot Alphonso mango fruit dip treatment in hot water at 52 ° C for ten minutes is recommended.
38	Post harvest loses	To avoid losses due to stem end rot and anthracnose rot and aspergillus rot university recommended practices should be followed. 1. Dipping of fruits in 0.05 % carbendazim solution for 10 minutes. 2. Dipping in 1000 ppm solution of potassium metabisulphite.
39	Hard rock mango plantation technology	<ol style="list-style-type: none"> 1. Select red laterite rock site preferably having gradual slope. Flat plateau land is not suitable. 2. Red laterite rock sites having trees, bushes growing on it be selected preferably for mango plantation. 3. Such red laterite rock sites should have sufficient source of water with good quality and p^H should be in the range of 5 to 6.5. 4. The pits for planting necessarily be dug by blasting so that cracks will develop in red laterite rock for easy drainage and penetration of roots. 5. Blasting should be done in double stage, first 2.5' deep hole is blasted and excavate then second bore of 4' deep hole is blasted and excavate the debris. 6. Hydrofracturing method should be adopted. 7. Excavate the whole debris material and use the large stones for construction of wall fence and circular wall around the individual plant. 8. Pit size should be 1.25 m width x 2.25 m deep having sufficient cracks at the base. 9. Fill the pits with fertile SOIL, porous, healthy soil free from diseases causing organism and pests. 10. Add the mixture of 2 brass fertile soil + 50 kg Cow dung + 2 kg SSP + 100 g. Folidol (Methyl Parathian) powder. 11. Construct circular ring of size 0.7 to 1.0 m height and 3.0 to 4.0 m diameter with stones removed from the pits. 12. Confirm the cracks of the pits in the month of July-August (monsoon season) for drainage; there should not be any water stagnation. 13. If the pit does not have water stagnation then the planting can be done throughout the year, provided supplementary irrigation is given. 14. Dug the pits or trenches similar to mango plantation for planting wind breaks like Casuriana or Acassia towards the South - Western side of the site. 15. Give support or stake the plants immediately after planting. Create mound at the base of the plant, spray pesticides and fungicides for protection against diseases or pests. 16. Select good, healthy and genuine planting material of one to two years old from the University / Govt. / Certified nurseries at the onset of monsoon.

		<p>17. For normal spacing adopt 10 m x 10 m distance (100 plants / ha) and for high density planting adopt 5 m x 5 m distance (40 plants / ha) with square system of planting.</p> <p>18. Use maximum vermicompost / cow dung and develop earthworm culture on the farm for better growth and improvement in soil health.</p> <p>19. Fill the ring (gudgi) around the plant regularly with soil, cow dung, leaf fall, organic manures etc. and take regular advice from the expert/ scientists and adopt proper technology for successful plantation of Alphonso mango on red laterite rock.</p> <p>20. Periodical watering either conventionally or with micro irrigation is a must.</p>
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Note: The following recommendations are given based on the survey conducted by the scientists and the research work done at Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Dapoli as provided by the Applicant in GI Application No. 139.

Geographical Area of Production of 'Alphonso'

The geographical area of production of Alphonso is restricted to the Konkan region of Maharashtra comprising of (five) districts viz., (i) Palghar, (ii) Thane, (iii) Raigad, (iv) Ratnagiri and (v) Sindhudurg.



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:

