

BANANA EXPORT

Presented By...



BALRAM SOLUNKE

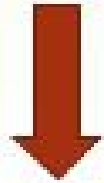
balram2424@gmail.com



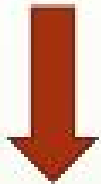
Banana Export Process



Tissue plantation



Rearing banana farm



Banana harvesting







Packing into boxes

Cold storage movement or Direct in container

Container trucked to terminal

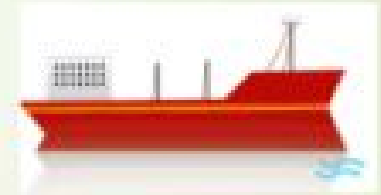




Container loaded on to ship

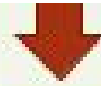


Container shipped to decided market



Ripening






Sale at wholesale/Retail market





INTRODUCTION

- 
- Banana is an herbaceous plant of the genus *Musa*. Banana (*Musa* sp.) is the second most important fruit crop in India next to mango.
 - Banana is an important fruit crop of many tropical and subtropical regions of India. It is cultivated in India in an area of 830.5 thousand ha and total production is around 29,779.91 thousand tons.
 - Main banana growing states are Tamil Nadu, Maharashtra, Gujarat, Andhra Pradesh and Karnataka.
 - Its year round availability, affordability, varietal range, taste, nutritive and medicinal value makes it the favorite fruit among all classes of people. It has also good export potential.



□ Origin

- Banana evolved in the humid tropical regions of S.E.Asia with India as one of its centers of origin.
- Modern edible varieties have evolved from the two species – *Musa acuminata* and *Musa balbisiana* and their natural hybrids, originally found in the rain forests of S.E.Asia.
- During the seventh century AD its cultivation spread to Egypt and Africa.
- At present banana is being cultivated throughout the warm tropical regions of the world between 30° N and 30° S of the equator.



□ Climate

- Bananas need warm subtropical climate, adequate moisture and protection from wind.
- Although banana is grown in a large variety of climates, optimal climatic conditions for banana
- Most varieties of Bananas grow best with 12 hours of bright light and high humidity of 50% or higher.
- The ideal temperature range is around 26-30°C (78-86F) with RH regime of 75-85%.
- Growth begins at 18°C, reaches optimal growth at 27°C and stop entirely when temperature reaches 38°C.
- Although Bananas grow best in bright sunlight, high temperature will scorch leaves and fruit.
- humidity and winds not stronger than 4 m/sec.



□ Soil

- Bananas need rich, moisture and well-drained soil with 40% clay, 75% silt, 85% loam
- Banana thrives in fertile, well-drained soils with high water holding capacity.
- The optimal pH is between 5 and 7. Because banana is sensitive to salinity, the EC should not exceed 1.0 ds/ m.
- Low pH soil makes banana more susceptible to Panama disease.
- . If soil is not in the most favorable condition, improve it! Light sandy soil can be improved by placing mulch around the Banana plants. This will improve water retention and prevent nutrients from percolating quickly into the soil.
- Bananas do not tolerate waterlogging because its roots will rot. This however can be resolved by planting the Bananas in raised beds
- Banana has a shallow root system no deeper than 80 cm, with 60% of the effective root zone in the top 30 cm



□ **The varietal characteristics of commercially grown Banana varieties is given below:**

Variety	Characteristics
Grand Naine	It is most accepted international variety. It is a tall statured plant and a heavy yielder with long cylindrical bunch. On an average it produces a bunch weighing 25 kg and may go up to 32-35 kg, with 8-10 hands with 200-220 fruits/bunch. The length of the fruit is 15-21 cm and girth is 12-13 cm.
Robusta	It is normal statured with black brown blotches on the stem, bunches weigh around 20 kg having 8-10 hands/bunch. The length of the fruit is 15-20 cm and girth is 12 cm with thick fruit skin
Dwarf Cavendish	The plant stature is dwarf. Dark black brown blotches appear all along the stem. Bunches are large with compactly arranged 8-10 hands weighing about 20kg. Length of fruit is 13-14 cm and girth 8-10 cm. Skin is thick and the fruit tapers gradually towards the tip. It is not fit for export.
Red Banana	The plant is tall and robust statured. The colour of the fruit, pseudostem, petiole and midrib is purplish red. The bunch weight is 20-25 kg with 6-7 hands and 80 fruits/bunch. The length of the fruit is 16-18 cm.
Nendran	There is considerable diversity in plant stature. Bunch has 5-6 hands weighing about 6-12 kg. Fruits have a distinct neck with thick green skin turning buff yellow on ripening. Fruits remain starchy even on ripening.



❖ **There are many healing and medicinal properties of bananas:**

- Bananas are exceedingly good for students as the rich source of potassium can make a person very alert; the fruit is often called a **brain tonic**.
- For those suffering from **depression**, bananas are good as they contain a protein called serotonin – which is also called the ‘happy hormone’ as it makes one feel happy and relaxed.
- Eating bananas helps people give up **smoking** as this fruit is rich in vitamin C, A, B6 and B12. Bananas contain potassium and magnesium as well, which help the body recover from nicotine withdrawal.
- When you suffer from a **hangover** - a banana milkshake with honey can give you immense relief. Cold milk soothes the stomach lining and bananas with honey build up depleted blood sugar levels

Continue...

- For pregnant women suffering from **morning sickness**, eating bananas in between meals helps immensely in settling the queasiness in the stomach.
- The peel of a banana fruit can be rubbed on a **mosquito bite** with good effect, the stinging sensation stops and the swelling also reduces.
- A ripe banana mashed and applied on the face is great at **moisturizing** and nourishing tired and dry skin.
- For pregnant women suffering from **morning sickness**, eating bananas in between meals helps immensely in settling the queasiness in the stomach.
- The high content of iron in bananas increases the production of hemoglobin in the blood -therefore they are very good for **anemia**.

Nutritional value:

Bananas, raw	
Nutritional value per 100 g (3.5 oz)	
Energy	371 kJ (89 kcal)
Carbohydrates	22.84 g
- Sugars	12.23 g
- Dietary fiber	2.6 g
Fat	0.33 g
Protein	1.09 g
Thiamine (vit. B ₁)	0.031 mg (3%)
Riboflavin (vit. B ₂)	0.073 mg (6%)
Niacin (vit. B ₃)	0.665 mg (4%)
Pantothenic acid (B ₅)	0.334 mg (7%)
Vitamin B ₆	0.4 mg (31%)
Folate (vit. B ₉)	20 µg (5%)
Choline	9.8 mg (2%)
Vitamin C	8.7 mg (16%)
Iron	0.26 mg (2%)
Magnesium	27 mg (6%)
Manganese	0.27 mg (13%)
Phosphorus	22 mg (3%)
Potassium	358 mg (6%)
Sodium	1 mg (0%)
Zinc	0.15 mg (2%)
Fluoride	2.2 µg



□ AEZ for Banana:

- ✦ Maharashtra is leading producer of banana (43.3 lakh M.T. production , 72000 ha. area) second after T.N. in total production
- Maharashtra has highest productivity : 60 M.T./ ha.

- Presently small quantities of fresh Banana and Banana products are regularly exported from country.

- Potential market : Gulf, SAARC & other part of the world.

- District covered under AEZ : Jalgaon, Dhule, Hingoli, Nanded, Pabhani, Buldhana & Wardha

- Nodal agency: MSAMB, Pune

□ Some Facts & Figure :

- More than 10 million hectares are cultivated worldwide with total production of 115 million ton.
- India leads the world in banana production with an annual output of about 14.2 million tonnes.
- Other leading producers are Brazil, Ecuador, China, Philippines, Indonesia, Costa Rica, Mexico, Thailand and Colombia.

□ Major producing countries of Banana in the world :

Production and export of bananas and plantains by country (2011)^(From 1)







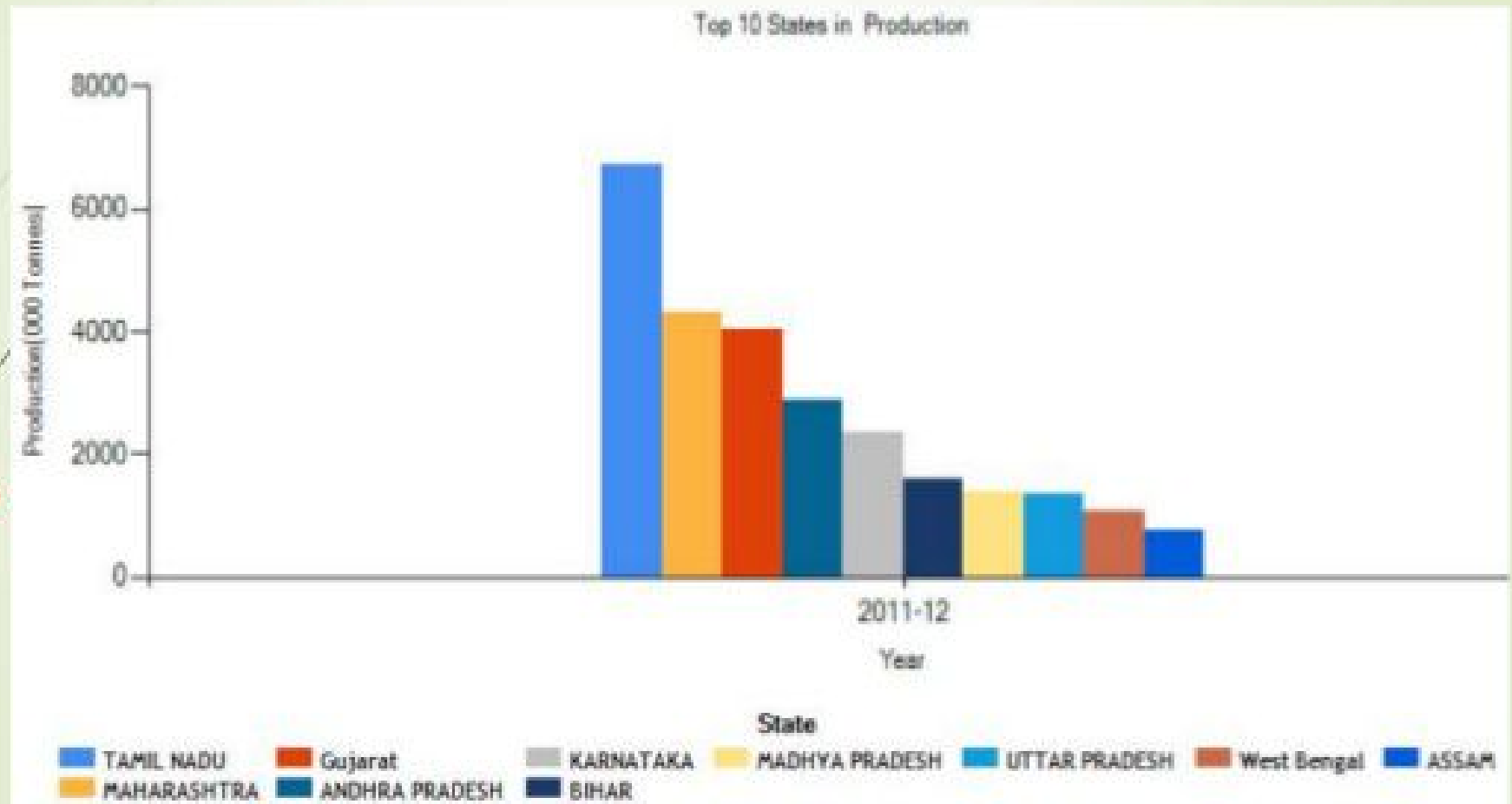
Country	Millions of tonnes	Percentage of world total
Table 1: Production		
 India	29.7	20%
 Uganda	11.1	8%
 China	10.7	7%
 Philippines	9.2	6%
 Ecuador	8.0	6%
 Brazil	7.3	5%
 Indonesia	6.1	4%
 Colombia	5.1	4%
 Cameroon	4.8	3%
 Tanzania	3.9	3%
All other countries	49.6	34%
Total world	145.4	100%

Table 2: Exports		
 Ecuador	5.2	29%
 Costa Rica	1.8	10%
 Colombia	1.8	10%
 Philippines	1.6	9%
 Guatemala	1.5	8%
All other countries	6.0	34%
Total world	17.9	100%

□ Top 10 States in Banana Production



Major producing countries of Banana in the world :

COUNTRY	AREA (000ha)	PRODUCTION (000 MT)	PRODUCTIVITY (MT/HA)	PERCENT SHARE IN WORLD TOTAL PRODUCTION
India	83 000	29 78 000	36.00	27.19
China	27 300	8 84 000	32.37	7.99
Philippines	48 700	8 70 000	30.38	8.02
Guatemala	21 600	7 70 000	36.08	7.12
Ecuador	48 400	4 74 000	14.35	4.37
Indonesia	30 100	3 70 000	14.30	3.40
United Republic of Tanzania	40 000	2 70 000	6.75	2.47
Ecuador	4 300	2 60 000	61.00	2.39
Kenya	7 400	2 50 000	33.78	2.30
Costa Rica	8 000	2 00 000	25.00	1.83
Other Countries	87 400	22 54 000	25.79	20.87
World Total	601 400	103 000 000	30.30	100.00

Major producing countries of Banana in the world :

COUNTRY	AREA (000ha)	PRODUCTION (000 MT)	PRODUCTIVITY (MT/HA)	PERCENT SHARE IN WORLD TOTAL PRODUCTION
India	83 000	29 78 000	35.88	27.18
China	27 300	8 84 000	32.37	7.99
Philippines	48 700	8 70 000	30.38	8.02
Indonesia	21 600	7 70 000	35.65	7.12
Egypt	48 000	4 74 000	14.25	4.35
Malaysia	10 100	3 70 000	36.63	3.41
United Republic of Tanzania	40 000	2 70 000	6.75	2.47
Ecuador	4 000	2 60 000	65.00	2.37
Brazil	7 000	2 50 000	35.71	2.29
United States	8 000	2 00 000	25.00	1.83
Other Countries	171 000	22 54 000	13.18	20.87
World Total	101 000	103 000 000	30.30	100.00

Major producing countries of Banana in the world :

COUNTRY	AREA (000ha)	PRODUCTION (000 MT)	PRODUCTIVITY (MT/HA)	WORLD SHARE IN TOTAL PRODUCTION
India	83 000	29 78 000	35.88	27.1%
China	27 300	8 84 000	32.37	7.9%
Philippines	48 700	8 70 000	30.38	8.0%
Indonesia	21 600	7 70 000	35.78	7.2%
Egypt	48 400	4 74 000	14.35	4.4%
Malaysia	10 100	3 70 000	36.63	3.4%
Arab Republic of Tanzania	40 000	2 70 000	6.75	2.5%
Ecuador	4 300	2 60 000	61.00	2.4%
Brazil	7 400	2 50 000	33.78	2.3%
Costa Rica	8 000	2 00 000	25.00	1.8%
Other Countries	87 400	22 74 000	11.98	21.4%
World Total	501 400	103 000 000	20.55	100.0%

□ State-wise Area, Production and Productivity of Banana in India

State	Area (000' HA), Production (000' MT), Productivity (HA/MT)								
	2008-09			2009-10			2010-11		
	Area	Production	Pdy	Area	Production	Pdy	Area	Production	Pdy
Tamilnadu	124.40	6667.00	53.60	113.70	4980.90	43.80	125.4	8253.00	65.8
Maharashtra	80.00	4960.00	62.00	85.00	5200.00	61.17	82.00	4303.00	52.50
Gujarat	60.90	3571.60	58.70	61.90	3779.80	61.00	64.70	3978.00	61.50
Andhra Pradesh	80.10	2804.00	35.00	80.60	2819.60	35.00	79.30	2774.80	35.00
Karnataka	75.40	1918.80	25.40	104.40	2132.30	20.40	111.80	2281.60	20.40
Madhya Pradesh	28.80	1498.00	51.90	33.00	1459.80	44.20	38.10	1719.60	45.20
Bihar	31.30	1373.60	43.90	31.50	1435.30	45.62	31.90	1517.10	47.60
Uttar Pradesh	N/A	82.73	N/A	30.40	1138.60	37.40	32.40	1346.10	41.50
West Bengal	39.80	954.10	23.90	41.00	982.20	23.90	42.00	1010.10	24.00
Assam	47.90	852.60	17.80	53.40	805.20	15.00	47.60	723.60	15.20
Other States	140.20	1617.40	11.50	135.50	1735.80	12.80	175.30	1873.10	10.70
Total	708.80	26217.20	37.00	770.30	26469.50	34.30	830.50	29779.90	35.80

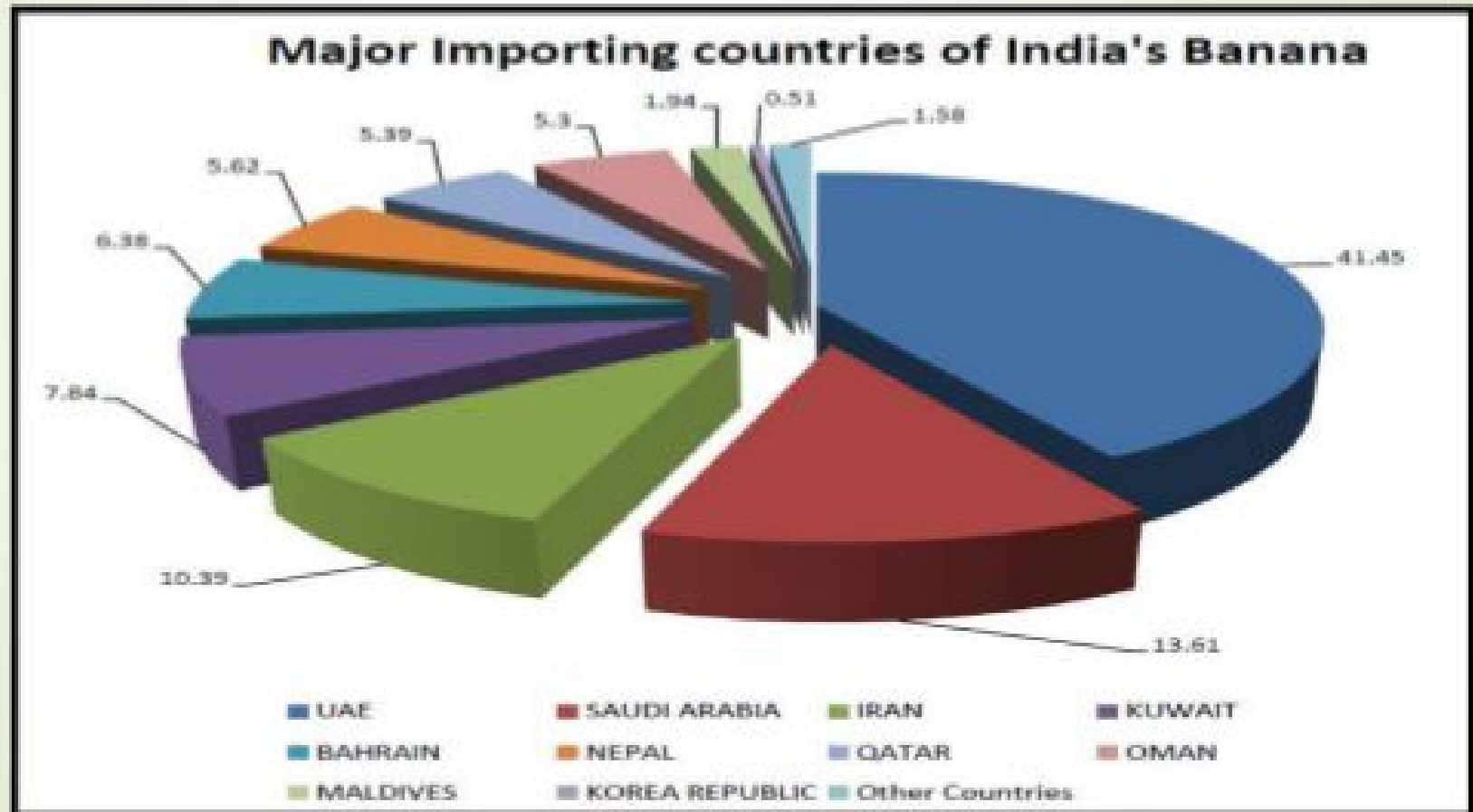
Major producing countries of Banana in the world :

COUNTRY	AREA (000ha)	PRODUCTION (000 MT)	PRODUCTIVITY (MT/HA)	PERCENT SHARE IN WORLD TOTAL PRODUCTION
India	83 000	29 78 000	36.00	27.19
China	27 300	8 84 000	32.37	7.99
Philippines	48 700	8 70 000	30.38	8.02
Indonesia	21 600	7 93 000	36.71	7.29
Egypt	48 000	4 74 000	14.25	4.35
Malaysia	30 100	3 70 000	34.89	3.41
Arab Republic of Tanzania	42 000	2 92 000	4.74	2.67
Ecuador	4 300	2 43 000	41.00	2.23
Brazil	7 000	2 30 000	27.14	2.14
Colombia	8 000	2 05 000	30.25	1.89
Other Countries	87 400	22 94 000	11.00	21.47
World Total	801 000	103 000 000	30.30	100.00

❑ Major Importing countries of India's Banana

Major Importing countries of India's Banana							
Quantity in MT; Value in Rs.Lacs							
Country	2009-10		2010-11		2011-12		Share in %age
	Qty	Value	Qty	Value	Qty	Values	
UAE	18644.19	4744.37	11674.24	2774.08	15133.61	3794.21	41.45
Saudi Arabia	9416.18	2426.74	8953.67	2139.77	5013.96	1246.03	13.61
Iran	5203.67	1166.97	9352.00	1957.99	4126.12	950.94	10.39
Kuwait	5551.79	1616.17	5473.75	1213.20	3195.59	717.65	7.84
Bahrain	2890.46	1070.67	10965.05	655.56	2436.68	583.62	6.38
Nepal	6558.52	347.29	5928.58	332.05	9765.99	514.39	5.62
Qatar	2684.23	843.32	1801.78	449.90	2053.14	493.40	5.39
Oman	1977.01	526.21	1537.17	347.38	2228.15	485.05	5.30
Maldives	648.03	104.87	981.29	135.92	912.55	177.98	1.94
Korea Republic	0.02	0.00	0.00	0.00	147.00	46.65	0.51
Other Countries	745.14	178.86	871.78	226.38	560.44	144.30	1.58
Total	54319.24	13025.47	57539.31	10232.23	45573.23	9154.22	100.00

□ Graphical presentation



□ Showing Concentrated Pockets of Banana in India

State	Districts
Maharashtra	Jaigaon, Dhule, Buldhana
Tamil Nadu	Thiruchirappalli, Coimbatore, Pudukottai, North Arcot, Ambedkar, Theni, Periyar, Karur, Dindigul Anna, Thanjavur, Nammakal, Madurai
Gujarat	Surat, Anand, Bharuch, Narmada, Vadodara
Madhya Pradesh	Khandwa, Badwani, Khargone, Dhar
Andhra Pradesh	Cudappa, Guntur, East Godavari, West Godavari, Vijayanagram, Vishakhapatnam, Karnool, Krishna, Prakasham.
Karnataka	Shimoga, Dakshin Kannada, Tumkur, Bangalore, Udupi, Uttara Kannada, Belgau m, Chickmangalur, Hassan, Mandya
Assam	Barpeta, Kamrup, Nalbari, Nagaon, Sonitpur.

□ grade designation of banana as per AGMARK standards

Grade designation	Grade requirements	Grade tolerances
1	2	3
Extra class	Bananas shall be of superior quality. They must be characteristics of the variety and/or commercial type. The fingers must be free of defects, with the exception of very slight superficial defects, provided these do not affect the general appearance of the produce, quality, the keeping quality and presentation in the package.	5% by number or weight of bananas not satisfying the requirements of the grade, but meeting those of for Class I grade or, exceptionally, coming within the tolerances for that class.
Class I	Bananas shall be of good quality. They must be characteristics of the variety and/or commercial type. The following slight defects of the fingers, however, may be allowed, provided these do not affect the general appearance of the produce, quality, the keeping quality and presentation in the package. - slight defects in shape and colour; - slight defects due to rubbing and other superficial defects not exceeding 2 sq.cm. of the total surface area. The defects must not affect the flesh of the fruit.	10% number or weight of bananas not satisfying the requirements of the grade but meeting those of Class II or, exceptionally, coming within the tolerances of that grade.
Class II	This includes bananas which do not qualify for inclusion in the higher classes, but satisfy the minimum requirements. The following defects may be there, provided the bananas retain their essential characteristics as regards the quality, the keeping quality and presentation. - defects in shape and colour provided the product remains the normal characteristics of bananas; - skin defects due to scapping, scabs, rubbing, blemishes or other causes not exceeding 4 sq.cm. of the total surface area. The defects must not affect the flesh of the fruit.	10% by number or weight of bananas not satisfying the requirements of the grade, but meeting the minimum requirements.



□ Packaging & its details

❖ For Export :

- For packaging bananas, telescopic boxes of 5 ply strength and of the following dimensions need to be used- Telescopic card board fibre boxes and other materials
- Top = 48.25cm X 31.75cm X 20.25cm -5 ply
- Bottom= 47.50 X 31.25cm X 19.75cm -5ply
- Gap plate= 3 ply
- Foam sheet or foam pad= 20mm thick, 38cm X 25cm size with 10 mm holes
Weight of final packed box is approximately 13.0 Kg

❖ For Domestic Market :

- Bananas are transported as full bunches in trucks and are ripened at the destination and then cut into hands and transported in plastic crates



❑ Storage and transport

- Bananas must be transported over long distances from the tropics to world markets. To obtain maximum shelf life, harvest comes before the fruit is mature.
- The fruit requires careful handling, rapid transport to ports, cooling, and refrigerated shipping. The goal is to prevent the bananas from producing their natural ripening agent, ethylene.
- This technology allows storage and transport for 3–4 weeks at 13 °C (55 °F). On arrival, bananas are held at about 17 °C (63 °F) and treated with a low concentration of ethylene. After a few days, the fruit begins to ripen and is distributed for final sale.
- Unripe bananas can not be held in home refrigerators because they suffer from the cold. Ripe bananas can be held for a few days at home.
- If bananas are too green, they can be put in a brown paper bag with an apple or tomato overnight to speed up the ripening process.



Continue...

- Carbon dioxide (which bananas produce) and ethylene absorbers extend fruit life even at high temperatures.
- This effect can be exploited by packing banana in a polyethylene bag and including an ethylene absorber, e.g., potassium permanganate, on an inert carrier.
- The bag is then sealed with a band or string.
- This treatment has been shown to more than double lifespans up to 3–4 weeks without the need for refrigeration.



□ Documents required for export

✦ Documents related to goods

- ✓ Invoice
- ✓ Packing List
- ✓ Certificate of origin

✦ Documents related to shipment

- ✓ Mate Receipt
- ✓ Shipping Bill
- ✓ Bill of lading
- ✓ Airway Bill

✦ Documents related to Payment

- ✓ Letter of Credit (L/C)
- ✓ Bill of Exchange

Continue...

❖ Documents related to quality of goods

- ✓ Phytosanitary Certificate
- ✓ GLOBALGAP Certification
- ✓ Health Certificate

❖ Organic Certification

- ✓ Certificate indicating material produce is based on organic farming.

❖ Documents related to Foreign Exchange Regulations

- ✓ GR Form: Documents required by RBI which assures to RBI that the exporter will realize the proceeds of goods within 180 days from the date of Shipment

❖ Other Document

- ✓ Bank Realization Certification (BRC): This is the advice given by Foreign Exchange Bank after the realization of money from Importer.

