

## VARIETAL WEALTH OF BANANA IN MAHARASHTRA: AN OVERVIEW

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### ABSTRACT

Banana "Dwarf Cavendish" from the basis of commercial banana industry of the state, while its sub-clones viz. Ardhapuri, Menagaon, Shrimanti, Padalse and other cultivars viz. Safed velchi, Mutheli, Sandhurni, Rajeli, Harichal and Red banana have location specific preferences. Recently in the last decade the Grand Naine was introduced in Jalgaon area and within minimum period get popularized due to its earliness, high yield, better finger quality, better responsive to fertilizers other management aspects and ratooning ability observed in present study.

**KEY WORDS:** Bannana, cultivation, Harichal and Red banana, Mutheli, Safed velchi, Sandhurni, Rajeli.

### INTRODUCTION

Man considers banana as a wonder berry with a long history of cultivation. It is one of the major fruit crops of tropics and subtropics forming a staple diet of millions across the globe. It is rich in carbohydrate with calorific value varying from 70-140 mg/100 gm. It is free from sodium making it a sweet and salt free diet. Banana ranks first in production and second in area, among the fruits grown in India, accounting production of 104 lakh tonnes annually from an area of 4 lakhs hectares. Its share in total fruit production is 32 %. Tamil Nadu has the maximum area while Maharashtra State ranks the list with highest productivity.

In Maharashtra State Banana is grown with 65,000 hectares with approximate production of 30 lakh MT of fruits and the productivity of Jalgaon district is 50 MT. Other major banana growing districts are Buldhana, Dhule, Nandurbar, Nanded, Prabhani, Pune, Thane, Wardha and Yawatmal.

### Commercial cultivars of Maharashtra

The choice of cultivars depends upon the preference and resource availability. The different genomic groups cultivation in Maharashtra State are given in Table 1 and discussed below.

#### D'AB' genomic group:

Under this group the variety namely Safed Velchi (New Poovan) is rarely cultivated, in Konkan region of Maharashtra. This is the only popular diploid type in Maharashtra. In some parts it is cultivated in kitchen gardens. It is also known as White velchi in allusion of its light coloured pseudostem and pure White coloured pulp of fruit in strong contrast to Lal velchi. It occupies rank 4th as commercial next to Basrai, Harichal and Lal velchi in Mumbai market.

It is a slender medium tall plant (2.25 to 2.75 m), stem is thin, slender and yellowish green colour with uneven brown-black blotches. Leaves are erect and narrower with greenish yellow pedicel. It takes 9-10 months for flowering after planting. On an average, it has 9 to 12 hands with 14-16 fruits per hand. Fruits are small (12 cm long and 3.5 cm diameter) slender with beak and arranged closely round the axis having windblown appearance. The individual fruit is slightly curved or almost straight with long pedicel. The fruit reflex negatively geotropic. Green fruits turn bright yellow upon ripening. It has good keeping quality and non-detaching nature of fruits from the bunch. Making it suitable for long distant transportation the peel of fruit is extremely thin (1 mm), light shining yellow in colour, firmly adhering to pulp, cottony texture, rather dry sweet, slightly starchy in taste especially when under ripe and emits a delicate agreeable sweet aroma when fully ripe.

#### II) AAA genomic group:

##### 1) Dwarf Cavendish-

##### a) Basrai: Bhusawali, Shendurni, Vamankeli, Chittedar.

It is leading variety of this state. It was introduced at Ganeshkhind Fruit Experiment Station, Pune for the first time in the year 1924, and its area under Jalgaon district has increased at rapid rate since the year 1935 due to its superior fruit qualities, dwarf ness sweet aroma when fully ripe.

Plant is very dwarf (1.0 to 1.8 m). Pseudostem is stout and attaining girth of 75-80 cm. Brown black large blotches of irregular size spread all over the pseudostem. Purple blotches on younger leaves. Cordate base lamina with short internodes. Winged petioles have widely open canal not clasping the pseudostem. The inflorescence is pendulous born

on a short hairy peduncle. Persistence of dead staminate flowers and bracts on the rachis. Fruits are borne in clusters of 16 to 24 with short pedicel and blunt tip. Bunch is almost cylindrical and moderately compact. Fruits are yellowish and reflex negatively geotropic. Individual finger is 15 to 20 cm long and 3.0 to 3.5 cm in diameter, with 5 angles and slight narrowed base. Skin greenish yellow to straw yellow on ripening with 4 mm thick though spongy with loose whitish fiber underneath peels readily. Pulp is creamy, soft and its taste is sweet with pleasant flavour.

Though Basrai is better yields in Maharashtra, it is highly susceptible to leaf spot disease, Sigatoka leaf spot and Banana Bunchy Top. Basrai is also succumbs to low temperature below 10o C and therefore, its cultivation become uneconomic where frost and cold waves are frequently experienced in the winter.

**Table 1. Important cultivars/varieties of banana grown in Maharashtra.**

Sr. No.	Genomic group/Name	Synonym	Mutant	Location
<b>I</b> 1.	<b>AB group</b> Safed Velchi	New Poovan	--	Thane, Raigad and other parts of Konkan.
<b>II</b> 1.	<b>AAA group</b> Basrai	Bhusavali, Shendurni,Wamankeli, Chhitedar	High gate	Jalgaon, Dhule, Nandurbar, Buladhana, Amravati, Pune, Satara, Nasik and Solapur.
2.	Harichal	Bombay green, Robusta, Pedda Pacha Arati	----	Kolhapur, Solapur, Satara, Sangli and Jalgaon.
3.	Grand Naine	Grand-Naine	Selection From Giant Cavendish	Jalgaon, Dhule, Nandurbar, Buladhana, Yeotmal and Akola.
4.	Red Banana	Lal kela, Chenkadali, Chandrabale	Venkadali	Thane, Alibag and other parts of Konkan.
<b>III</b> 1.	<b>AAB group</b> Lal Velchi	Sour Velchi, Poovan	Motta Poovan	Thane, Alibag and other parts of Konkan.
2.	Mutheli	Rasbala, Sonkel, Raskeli, Rasthali	Ayiranka, Rasthali	Thane, Alibag, Satara and part of Kolhapur
3.	Rajeli	Nendran, French Plantain	Different types of French Plantain	Thane, Alibag, Satara and part of Kolhapur.
4.	Rajapuri	Walha	---	Thane, Alibag, Satara and part of Kolhapur and Sangli.
<b>IV</b> 1.	<b>ABB group</b> Bankel	Nalla Bontha	Thella Bontha	Thane, Alibag and other parts of Konkan.
2.	Bhurkel	Peyan	---	Thane, Alibag and other parts of Konkan

**b) Harichal: Bombay green, Robusta, Pedda Pacha Arati.**

It is bud sprout of Basrai. Plant is semi tall (2- 2.25 m) with stout, pseudostem with 60-85 cm in diameter. The leaves are widely spaced on the pseudostem and not spirally arranged together as in Basrai. Bunch is pendulous and cylindrical. Fruits reflex negatively geotropic. The peduncle and rachis is thick, green and pubescence. Female phase put forth 10-12 hands containing 18-20 fingers. Individual fruits are large with 20-22 cm length, 3-3.5 cm in diameter

and slightly curved at the base but almost straight in middle and towards apex. Fingers in the hand distinctly curved round at middle in contrast to the fingers in the row, which are almost straight with short pedicels. Fruit skin is thick (3 mm) tough spongy with loose whitish fibers underneath and peels readily. The pulp is creamy white, fairly firm moist. Taste is sweet with good flavour.

**c) Grand Naine:**

It is popular variety grown mostly in all export oriented countries of Asia, South America and America. This is a superior selection of Giant Cavendish. Introduced to Asia in 1990's, it has spread in almost all Cavendish growing states replacing Basrai to some extent. It is taller than Basrai with 12-14 months duration depending on management. Grand Naine produced bunch yield of 18-30 kg. Hands are well spaced, finger orientation is straight, bigger in size but has pronounced ridges even at maturity. Due to many desirable traits like excellent fruit quality. This character showed responsiveness in respect of drip irrigation and fertigation and has proved its superiority in dry belt of Maharashtra, Karnataka and Andhra Pradesh. Marketing is excellent.

**d) Lal Kel or Red Banana:**

Red banana is the most reddish and highly priced cultivars and cultivated on small scale in Konkan region of Maharashtra. Plant is robust tall growing to a height of 2.75- 3.00 m. as the name indicates; it is characterized by uniformly purple peduncle. It is long durational variety taking about 18-20 months to mature from planting. Basically, it is shy yielder but has potential to yield more under favourable conditions. Bunch is oriented at 45° angle to the pseudostem. Female axis has 5-8 hands with 12-14 fruits per hand. Bunch is medium in size, sub cylindrical and fruit negatively geotropic. Individual fruit is large, stout with dark purplish red colour. The pulp is pale orange yellow, moist and fairly sweet with pleasant flavour.

**III) AAB genomic group:**

**a) Lal Velchi:**

The name Lal Velchi is given to this variety because of preponderance of red pigments on the pseudostem. This variety is also known as Sour velchi, Ambut velchi in allusion to the sub acid taste of the fruit. It has shapely long cylindrical bunch thickly set medium sized fruits with distinct apices. The bunch is pendent; fruit reflex negatively geotropic, peduncle and rachis moderately thick and dark green, sparsely pubescent. Individual finger is medium in size about 12 cm long, 4 cm in diameter and slightly curved or almost straight. The skin of the fruit is thin (2 mm), orange yellow, firmly adhered to the pulp. Pulp is of cream colour with orange center and fairly firm, moist with tiny rudimentary seeds. Taste and flavour markedly sub acidic.

**b) Mutheli: Rasbala, Sonkel, Rasakeli, Rasthali.**

It is grown on small patches in Maharashtra (Singh and Uma, 1996). It is medium to tall, reaching to a height of 2.5 to 3.00 m with 70-80 cm thick. Pseudostem is yellowish green, blotch appearing only at the base of petiole on both sides. Leaves are pale green with wax coating on undersurface. It takes 12-14 months for shooting from its planting. Bunch has 6-7 hands with 12-16 fruits. Bunch is sub horizontal, medium sized, moderately compact. The fruit reflect negatively geotropic. Fruits are yellowish green throughout their development but turn golden yellow while ripening. Individual fruit is of medium size having 12-15 cm long and 3.5 cm in diameter with four angles and extremely short pedicel. The skin of fruit is moderately thick, smooth and glossy. The pulp is dull white becoming creamy white on ripening; taste is pleasantly sweet and sub acidic emits apple like distinct odour when fully ripe. Fruits are detaching at ripening.

**c) Rajeli: Nendran, French plantain.**

It is primarily cooking banana. Unripe fruits are cooked and excellent banana chips can also be prepared (Uma *et al.*, 1999). In Maharashtra, it is cultivated only in Konkan region. The plant is tall with robust pseudostem with purple brown blotches on younger leaves. The leaves are leathery and shiny. Pseudostem is slender, yellowish green with pink tinge.

It takes 9-10 months for shooting. The bunch has 4-6 hands each with 8-10 fruits. Fruits have a distinct neck with thick green skin turning yellow on ripening. Fruits remain starchy even on ripening. Skin turns black upon full ripening but do not drop off. Individual fruit is large, long slender (25 cm long and 3.5 cm in diameter). Pedicel is thick and long. Skin of fruit is thick. The pulp is yellow, firm and elastic.

**d) Rajapuri: Waldha.**

Plant is semi tall, having horizontal bunch, glabrous peduncle and rachis. The bunch is small to medium (12-15 cm long and 3-3.5 cm in diameter). Skin of fruit is thick, dull yellow. The pulp is creamy white, firm and sweet.

#### IV) ABB Genomic group:

##### a) Bankel: Bontha.

The cultivar Bankel is same as Monthan (ABB) described by Jacob (1952). It is widely distributed in all banana-growing states. In Maharashtra, it is cultivated on small scale in Konkan region. Before the introduction of Basrai, Bankel was the only banana cultivated in North Gujarat and Khandesh.

##### b) Bhurkel:

The Bhurkel is a dessert banana having insipid taste and flavour. The name of Bhurkel is more appropriate as the term 'Bhur' signifies the ashy bloom on the skin of the fruit. The plant is stout, tall with yellowish green pseudostem. The bunch is large, pendant and cylindrical, loose near the base and compact towards the end. Individual fruit is medium in size and broad at the base and sharply tapering towards the apex. Skin is very thin with ashy bloom. The pulp is dull white, fairly sweet but lacking in flavour.

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