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and railways can be made identical by a sound system of co-ordination and we urge in the interests of the Indian cultivator, his amenities and economics, that this should receive attention without delay.

Credit Facilities for Agriculturists. The decision of the Government of India to have very shortly a small conference of Provincial Governments' representatives over the question of credit to Land Mortgage Banks is a move which has come none too soon. The need for such credit is very old. The present agricultural depression has brought it out graphically. How acute the distress is, will be seen from the decision of the Pudukotta Durbar in their announcement that all loans granted for agricultural purposes and not yet completely repaid shall be declared to have been free of interest from the date of issue, that all arrears of interest will be written off, and that interest so far paid will be credited towards the principal. A meeting of some Zamindars in the United Provinces urge the extreme measure of a morotorium which may extend to five years. The Director of Agriculture, Frontier Province, urges the constructive measure of founding Agricul.ural Banks with branches in every taluq with powers to compound debts. Mr. Jamnadas Mehta, Chairman of the Rural Economic Committee, appointed by the Democratic Swarajya Party in Bombay, recommends the active intervention of the State in assessing and taking over debts on lands and the issue of bonds to the creditors repayable on a long term basis. Whatever the conclusions which the Schuster Conference may take, the facts set forth point to a clear recognition on the part of both officials and non-officials to concert measures for immediately relieving agriculturists of the incubus of indebtedness. We await quick and practical decision.

SOUTH INDIAN BANANAS*

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Introduction. The Banana is one of the oldest and one of the most popular fruits of the world. Mention has been made of it in ancient Sanskrit works and sages are said to have lived entirely on it. It is a highly nutritious article of diet containing 2·14% proteid, 21·8% sugars, 1% fat, 1% mineral matter and the rest being chiefly water. (Analysis of *Pacha Vazhai*). At the same time the essential ingredients are available in a very agreeable form and with sufficient bulk.

Short History. The original home of the banana is the tropical forests of Asia. Some authors have spoken of India as the home. Greeks, Latins and Arabs have in their old works praised the banana as a remarkable Indian fruit[1]. Even at the present day two seeded varieties which go by the names of *Kallu Vazha* and *Kattu Vazha* occur wild in the Wynaad forests and these might prove to be the ancestors of the innumerable popular varieties of the present day.

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Through ages of selection and artificial culture a large number of so called varieties have sprung, and they will be discussed more fully hereafter.

From the original home the banana has been introduced into various countries. It would be worth while mentioning the introduction of the banana into tropical America including the West Indies about three centuries ago where the banana industry has since enormously developed. Though the Indians have held the fruit in high esteem from time immemorial and have used it invariably in all religious ceremonials and social functions, they have not improved it for purposes of trade, so that to-day the countries into which it has been introduced command the world banana markets while unfortunately India has no place at all in the banana markets.

Banana and Plantain. Banana or Bonana, as it was originally spelt, is the West Indian name; it is now commonly applied to all table verieties. The term plantain is popularly attributed to verieties which are usually cooked and eaten In India, during the days of the East India Company, the term plantain alone was used. However, some writers have given certain distinguishing characters to plantain, as (1) The floral axis below the "heart" or the terminal conelike flower cluster, being covered with persistent flowers and bracts (2) The long fruits, etc.

On a critical examination of the South Indian varieties, it has been found that these morphological differences are not sufficiently distinguishing and according to the definitions published there are no real plantains in South India. But as we cannot get rid of terms which have the claim of long usage, it is better to confine the term 'plantain' to varieties like *Nendran*, *Monthan*, *Batheesa*, etc., which are commonly consumed cooked.

External Morphology. The banana is a perennial giant herb. The real stem with leaf scars is underground. The stout aerial stem also called the pseudo or false stem, at times even 20 feet high, rises from the underground rhizome and is made up of leaf-sheaths and the peduncle or the stalk of the bunch, in old plants. The number of leaves produced varies from 25—40, 3—5 leaves being produced per month. It is commonly assumed that all the leaves rise from the root stock or rhizome alone; but in fact about 25% of the leaves of the old "tree" are carried up by the growing peduncle from the rhizome. The inflorescence is terminal and consists of tiers of cymose flower clusters which are monoecious and bracteate. The basal ones are female, the middle ones are neuter and the terminal ones are male. The cone-like clusters of male flowers enclosed in bracts form what is called the "heart". The females develop into fruits, while the neuters and males persist or drop away soon. The outer perigonium is 5—toothed at the apex and cleft on the inner side. The inner petal is

much smaller. Stamens are five and the sixth is often aborted. Pollen grains are sterile or fertile. Ovary is inferior and develops without being pollinated (parthenocarpy). But the flower is adapted for cross pollination and unusually large quantity of nectar is developed by the flower. Normal seeds are rarely produced and propagation is chiefly vegetative from suckers. Even small bits cut from the rhizome bearing leaf scars are capable of producing plants.

Cultivation. The details and cultivation practices vary much from place to place and with the variety planted. The banana is a surface feeder and thrives best in rich soils, with plenty of moisture, which are easily drained, and up to about 3500 feet above sea-level under South Indian conditions.

It is cultivated as a pure crop in wetlands in rotation with paddy. The crop usually stands in the same field for 3—4 years. Manuring with bulky organic manure as Farm Yard Manure or tannery refuse is done. Best yields are obtained in the second year of planting. During the third or fourth year the crop is mostly used for leaves only.

In Malabar the banana is planted as a nurse crop in newly planted arecanut and coconut gardens. In the Lower Pulneys it is planted as permanent shade plant for coffee and sweet lime.

In the West Coast, parts of Tanjore District, Panchadharla in Vizagapatam District and Uddanam in Ganjam District, the banana is grown as a perennial secondary crop in coconut gardens.

Usually single sucker planting is done about 7-8 feet apart. The narrow leaved or sword suckers are preferred to the maiden suckers.

Pruning of suckers is an important operation. Suckers are usually produced before the parent plant flowers. All except one or two are removed. The nature of the sucker or "follower" to be retained, to start the following season's crop depends upon the time when the harvest will be required. If it is wanted, say, in 12 months the youngest sucker or peeper is left; and an older sucker retained will yield a correspondingly earlier harvest. So as to avoid undue competition with the parent plant the follower if too tall is cut back. At Mayavaram, Tanjore District, the sucker is cut oblique presenting a cut surface of about 18 inches. This has the advantage of the growing young leaf being protected by the oblique cut ends.

An efficient system of irrigation and drainage is an important factor leading to successful cultivation. The best practice observed so far is the trench method common in Mayavaram, Tanjore District, and Mohanur, Salem District. Trenches 5—6 feet deep and 12—15 feet apart with proper gradient are dug. Irrigation water is allowed to stand in the trenches for full one day and is then completely drained off. The trenches, thus, serve the double purpose of irrigation and drainage as well. This method was tried in the Banana Experimental Area at Coimbatore and found to be quite successful.

It has been computed that the yield of banana from one acre is about 25,000 lbs. of food stuff, i.e., about six times as much as potato and 12 times as much as wheat from an acre. It is therefore obvious that the banana is an exhausting crop and requires proper manuring. Too heavy a dose of manure deteriorates the quality of the fruit and a correct dose depends upon the fertility of the soil and the variety

Madras Varieties and their Classification. The banana belongs to the Genus Musa of the Family Musaceae. The genus has about 40 species[2]. Some of these as *M. textilis*, L. Nee., which yields the Manilla Hemp, *M. superba*, Roxb., etc., are cultivated for fibre or for ornamental purposes. The bananas and plantains of the presidency, according to the tentative classification followed, come under *Musa paradisiaca*, L. The innumerable " varieties " found in the various parts of the Presidency are varieties, subvarieties, and, types of the same species.

Through ages of cultivation and selection, as has already been mentioned, the species has resulted in a multitude of varieties. In South India alone there are about 400 varietal names each representing a particular variety of a locality. After careful study in the field and critical examination all these 400 could be brought under about a dozen groups as the *Nadan*, *Kunnan*, *Monthan*, *Nendran*, etc., groups and 37 morphologically different varieties, a good many of them having one or more sub-varieties, each having a number of local names. For example, *Rasthali*, one of the favourite varieties is called *Poo Bare*, *Rasa Bale*, *Hoo Bale* in South Kanara; *Ana Poovan*, *Poovan*, *Ari Poovan*, *Nattu Poovan* in Malabar; *Desi*, *Mokiri*, *Amrithapani* in the Circars and *Ullur Poovan* in Coimbatore.

Unlike in other species, the morphological characters of the banana are extremely variable. Characters like size, length of the stem, leaves, bunch and fruits are easily influenced by the environment and treatment. Taste is influenced by elevation and manuring. The favourite variety *Sirumalai* of Sirumalai Hills when grown in the Lower Pulneys acquires *Virupakshi* flavour and at the Banana Experimental Area, Coimbatore, the flavour is partly lost. The *Sirumalai* and *Virupakshi* may thus be called eco-types of those regions. The famous " *Chakkarakeli* " produces big sized and almost insipid fruits if treated with mineral manures for a few generations.

The local varieties which go by the name of *Karpura Chakkarakeli*, *Ginni*, *Mysore Poovan*, *Erode Poovan and Palengodan* are all forms of the same botanical variety, though each has some slight distinguishing character from the other. Thus, " *Erode Poovan* " may be called the climax-type, for it is the type evolved in the region in which it has been cultivated through a number of generations, as the result of the accumulated effect of environmental factors influencing it. It will not therefore, acquire further variations in the Erode region but will soon become—*Karpur Chakkarakeli* when introduced into the Circars.

However, a few characters like the apex and base of the lamina, the dropping and persistent nature of the fruit, the colour and apex of the perigonium and petal are more or less constant.

Bud Variants. To add to the extreme difficulty in classification brought about by inconstant variations there are what are called Bud—Variants. These are spontaneously produced, deviate much from the type and look entirely different, from the original parent, e. g., from a stool of *Chenkadali* which has red-skinned fruits, a shoot producing greenskinned fruits has arisen. This new plant is called *Venkadali* and is a bud sport or bud variant of *Chenkadali*.

Ayiranka Poovan which has a remarkably long bunch (about 5 feet) and nearly 500 fruits reduced in size and closely packed is a bud variant of the ordinary *Rasthali*.

Similarly, both the glabrous and the ashy coated *Batheesas* of the Circars with about 32 closely packed hands in a bunch have probably been derived from the ordinary glabrous or ashy coated *Monthans* with long apex, lax bunches and few large fruits.

There are many instances of these bud variants. But unfortunately the good characters of the variants cannnot be always retained long under changed conditions of environment, for they often revert to the parent type.

A thorough cytological investigation might furnish an explanation of the bud variants and the elastic nature of morphological characters. So far as the published works go the chromosome numbers also vary much from 16 to 48 (2n), 32 being the number commonly met with in most varieties[3]. The South Indian material is under investigation.

There is in South India a mine of rich material in the field of banana, which would yield the right sort of variety for any particular demand. *Kunnan*, a variety common in the West Coast is particularly suited for flour (meal) making, which has dietetic value and specially suited for infants, growing children and invalids. It is also medicinal and reputed to be useful for stomach complaints. It would pay to prepare the meal for export.

The *Vamanakeli* or *Pacha Vazhai* is excellent for fig manufacture. The figs should have the flavour of the ripe fruit, an inviting appearance and perfect keeping qualities. There is great demand for figs in the markets of the United States of America and Jamaica has been the supplier. It would be worth while investigating the possibilities of competing with Jamaica in this trade.

Varieties like *Virupakshi* which is a constituent of the famous Panchamritam of the Palni Temple, Coimbatore District and *Kadali* of Malabar make splendid preserves.

Though India is said to be the home of the banana some of the varieties now met with are introduced from countries into which the

banana has originally spread. The survey of the South Indian bananas is far from complete; however, the following are the introduced varieties so far noted: *Vamanakeli* or *Pacha Vazhai* from the Canary Islands, *Thiruvananthapuram* from the West Indies, and *Surya Kadali* said to have been introduced from Australia. The *Poovan* or *Erode Poovan* also appears to have been first introduced into the Guindy Park.

The varieties coming under the *Nadan* group appear to be truly indigenous and are probably derived from the seeded variety called *Kallu Vazha* of the Wynaad forests.

A classified list of the South Indian cultivated varieties with their vernacular synonyms is appended.

Area and Trade. In 1932, the area in the Madras Presidency under banana was only 144,000 acres showing an increase of 25,000 acres over the figures of 1918. This increase is very poor in spite of the large extent of available cultivable waste suitable for banana cultivation. The forest areas of Malabar and South Kanara are particularly well-suited possessing the advantage of rich easily drained laterite soils and enough of rainfall. During the same period in the banana growing countries like the West Indies and Central America, the area has considerably increased and the industry enormously developed, because in these countries the industry is backed by the State and a good market in the United States of America for the fresh fruit and products is assured. But in India, it does not pay to grow more bananas than could be consumed locally and "fig" and flour making industries are practically wanting. There is no external trade with foreign countries. If the banana industry is to develop in India, the first consideration is to establish trade relations in banana and its products with European countries including Great Britain. Suitable varieties fit for export are not wanting. *Vamanakeli* or *Pacha Vazhai* which is in great demand in world markets thrives well in South India and can be produced in any quantity required. The variety is also fit for long distance export. It has been found that three-fourth full bunches of *Pacha Vazhai* can be kept in cold storage at 52°F even for a period of 65 days, thereafter ripening normally. In the earlier years the banana shipping industry of the West Indies was subsidized by the Imperial Government. Annually for 10 years certain shipping companies were paid at £ 20,000 as subsidy for transporting bananas from the West Indies to Great Britain[4]. Similar facilities have to be extended to companies shipping Indian produce till the industry is established. It is only then that India can successfully compete in the world market. The problems of transport, shipment and the fitness of the existing varieties for export have to be taken up and investigated thoroughly.

In spite of the fact that the banana is popular among all classes of people all over this vast country, the internal trade is very poor. This is partly due to the consumers being satisfied with the local produce. It is not in all places that the best varieties could be grown profitably. Only particular places are best suited for a particular sort; for example, as has already been pointed out, the *Sirumalai* and *Virupakshi* varieties deteriorate when grown in the plains; and there is always good demand for high class bananas. Under such circumstances one would expect large exports to various places. But due to want of transporting facilities and high cost of transport even the poor existing trade is going down. Some of the superior varieties like *Chakkarakeli*, *Then Kunnan*, *Ney Poovan*, etc., are not much known outside their native habitat. In South India, the only trade worth mentioning is in *Pacha Vazhai* exported from Trichinopoly. Dindigul also exports *Sirumalai* and *Virupakshi* varieties to Madras.

Improvement. Provided there are facilities for export, it would pay to improve the Indian bananas with a view to induce keeping, non-shedding and other desirable qualities lacking in some of the best varieties. The improvement can be effected in two ways (1) by hybridisation and (2) by selection. Improving by hybridisation is an exceedingly difficult problem. Because the parents which do not develop normal seeds should be made to produce seeds and finally the type evolved should again be made seedless. Exhaustive survey has to be carried out to procure material likely to be of use for crossing. But, after all this trouble, owing to the inconstant nature of characters inherent to the banana the variety bred may not long retain the desirable qualities.

Selection work is less laborious and might yield quicker results. But before taking up the question of improvement the importance of exhaustive survey and detailed study of all the varieties available in the country cannot be emphasised too much; for, it is simple waste of time and money to try to evolve a variety which might be already in existence.

Diseases. There are three fungus diseases attacking bananas in South India. Fortunately, none have at present proved serious under the conditions prevailing. The first is *Cigar end disease*: When the fruits are half mature, the drying up of the fruit from the apex starts and about a quarter of the fruit is damaged by the time the bunches are harvested. Varieties *Kunnan* and *Karim Kadali* are susceptible to the disease at the Experimental area, Coimbatore.

The second is *Gleosporium musarium*. The bunches when harvested look quite normal and as the fruits ripen dark brown spots appear and the flavour and taste are lost. The delicate variety *Kadali* and "Rasthali" are sometimes found susceptible.

The third one is the *Panama disease*. It is a very serious disease which at one time threatened the banana industry in the West Indies. The symptoms of the disease are red discolouration of the inside of the stem and its splitting near the base through which the inflorescence protrudes. Normal bunches do not develop in affected plants. The disease is prevalent in parts of Trichinopoly District usually attacking the variety *Rasthali*.

In conclusion, I take the present opportunity to suggest that it would be worth while instituting an enquiry and gather data to study the prospective position of India in the world banana market. Methods of transport and tariff concessions are problems by themselves. The Department of Agriculture in Madras and the Imperial Council of Agricultural Research are best fitted to take up the various problems pertaining to the banana industry.

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Tentatively classified list of South Indian Bananas so far studied.

Name of variety.	Nature of axis.	Remarks.
GROUP No. I.		
1. **Vamanakeli** (*Musa paradisiaca*, L., var., *Cavendishii*) Musa Cavendishii. *Pacha vazhai* of Madras and Trichinopoly; *Kabul Bale* of Udipi; *Guja Bale* of Kundapur; *Kuzhi Nendran* of Trichur Farm; *Vamanakeli* of Vizagapatam and Samalkot Farm; *Kooli vazhai* of Erode; *Kuli vazhai, Kooni vaznai, Nila vazhai* of Kultitalai; *Kundi vazhai, Kutta vazhai* of Trichinopoly.	Diminutive fingers bearing persistent perianth, subtended by sub-persistent bracts throughout the axis above the normal fingers (fruits).	Colour of skin (peel) of ripe fruits from light green to dull yellow. It is an introduced variety. It ripens normally even after being kept in cold storage up to 65 days. There is already a demand for this variety in European countries and U. S. A.
2. **Kullan** (*Musa paradisiaca*, L., var., *Kullan*). *Kullan* of Coimbatore; *Rasalu, Rasa aratti* of Peddapur; *Thor vazhai* of Erode; *Kuzhi vazhai* of Udumalpet.	Do.	Fruit not terete as in No. 1. Colour of skin of ripe fruits yellow.
3. **Chingan** (*Musa paradisiaca*, L, var., *Chingan*). *Chingan* of Nilambur and Trichur Farm; *Chinga Bale* of Mangalore.	Do.	A very rare variety peculiar to West Coast. Colour of skin of ripe fruits is green.
4. **Nendra Padaththi** (*Musa paradisiaca*, L., var., *Nendra Padaththi*). *Nendra padaththi, Nendra vannan* of Trichur Farm; *Kuthiravalan* of Pulamanthol.	Do.	A very rare variety peculiar to West Coast.

Name of variety.	Nature of axis.	Remarks.
II. NENDRAN GROUP		
5. **Nana Nendran** (*Musa paradisiaca*, L. var., *Nendran*). *Nendra vazha* of Calicut; *Nana nendran* of Nilambur; *Nendra Bare*, *Nendra Bale* of Moodbidri; *Nendra* of Puttur; *Thiruvonan*, *Thiruvodan* of Tellicherry; *Changazhikodan* of Trichur Farm; *Etthakka* of Alwaye; *Nendrán* of Kasaragod, Rajahmundry and Mayavaram.	Diminutive fingers bearing persistent perianth, subtended by sub-persistent bracts throughout the axis above the normal fingers (fruits).	It has the longest and heaviest fruit of all the varieties found in the Presidency. Peculiar to West Coast. Ripe fruits are often used for table purposes after steaming. Unripe fruits are used as vegetable. Banana figs are often made of this variety. It has got good keeping quality. It may be the plantain of commerce.
5(a). **Attu Nendran** (*Musa paradisiaca*, L. var., *Nendran*, type; *Attu Nendran*). *Nendran* of Tellicherry; *Attu nendran* of Nilambur; *Nedu nendran* of Trichur Farm.	Do.	Same as *Nana Nendran*. It produces more fruits and thrives with less water. It has longer apex than *Nana Nendran*.
5(b). **Myndoli** (*Musa paradisiaca*, L. var., *Nendran* type: *Myndoli*). *Myndoli* of Mangalore, Nilambur and Trichur Farm.	Do.	Same as *Attu Nendran* but requires copious irrigation. It yields the largest number of fruits of all the *Nendran* types.
6. **Otta Mukil** (*Musa paradisiaca*, L. var., *Otta Mukil*). *Otta Mukil* of Trichur Farm.	Variety distinguished by the abrupt termination of the floral axis into a prominent horn.	A variety with 1 or 2 hands of female flowers only. Not of economic importance. Appears to be a wild form of *Nana Nendran* but fingers are larger and stouter.
III. RASTHALI GROUP		
7. **Chenkadali** (*Musa paradisiaca*, L. var., *Chenkadali*) The Red Banana. *Chandra Bare* of Moodbidri; *Chandra Bale* of Mangalore; *Chora kadali* of Tellicherry; *Chenkadali* of Calicut; *Chora poovan* of Alwaye; *Yerra Aratti* of Simhachalam; *Yerra Mokiri* of Panchadharla; *Chevvazhai* of Erode.	Variety with axis naked above normal fingers and terminating in a "heart" (cone-like flower head).	A rare variety. Colour of skin of ripe fruits red and greenish purple before ripening. The flowers of this variety open in the night

8. **Venkadali** (*Musa paradisiaca*, L. var., *Chenkadali*, sub-var., *Venkadali*). *Vella kadali, Karimkadali* of Manantoddy; *Venkadali* of Perintalmanna; *Thekkan poovan* of Ponnani; *Veluththa Chenkadali* of Trichur Farm; *Chora poovan* of Alwaye; *Kappurapu Keli* of Simhachalam; *Karpurapu Keli* of Panchadharla; *Ney vazhai* of Pannakkadu.	Variety with axis naked above normal fingers and terminating in a "heart" (cone-like flower head).	Bud variant of *Chenkadali*. Colour of skin of unripe fruits is green turning dull yellow when ripe. Taste, flavour and colour of flesh and other characters same as *Chenkadali*.
9. **Rasthali** (*Musa paradisiaca*, L. var., *Rasthali*). *Poo Bare, Hoo Bale* of Mangalore; *Rasa Bale* of Udipi; *Ana poovan* of Kurumathur; *Poovan* of Calicut; *Ari poovan* of Nilambur; *Nattu poovan* of Ponnani and Trichur Farm; *Desi* of Gopalpur; *Mokiri* of Vizagapatam; *Amritapani* of Rajahmundry; *Rasthali* of Trichinopoly.	Do.	A delicious variety.
9(a). **Aviranga Poovan** (*Musa paradisiaca*, L., *Rastholi*, type: *Ayiranka Poovan*). *Ayiram poovan* of Nilambur; *Ayiranka poovan* of Trichur Farm; *Poovilla Konai* of Pollachi.	Do.	Bud variant of *Rasthali*. All flowers develop into fruits which are slightly acidy. In other respects same as *Rasthali*. Transitional stages of this character are seen. Sometimes a sucker of this may revert to the parent and produce ordinary *Rasthali* bunches.
10. **Ney Poovan** (*Musa paradisiaca*, L. var., *Ney Poovan*. *Deva Bare, Deva Bale* of Moodbidri; *Putta Bale* of Udipi; *Kadali* of Mangalore; *Nhani Poovan* of Nileshwar; *Ney Poovan* of Kurumathur; *Rasa Kadali, Ney Kadali* of Tellicherry; *Adokka Poovan* of Kuttuparamba; *Thekkan Kadali* of Manantoddy; *Kunnan Poovan* of Kalpatta; *Tirunelli Kadali* of Calicut; *Nhali Poovan, Ari Poovan* of Ponnani; *Kadali Poovan, Poovan Kadali, Tirunelli Poovan* of Kumaranallur; *Vadakkan Kadali* of Trichur Farm; *Hoo Bale* of Kundapur.	Do.	Peculiar to the West Coast. The skin of fruit is very thin. Flesh pure white and delicious with good keeping quality. It can be successfully introduced into other parts of the Presidency.

Name of variety.	Nature of axis.	Remarks.
11. **Poovan** ((*Musa paradisiaca*, L., var., *Poovan*)—Fill Basket. *Iysore Bare*, *Mysore Bale* of Moodbidri; *Mysore* of Mangalore; *Mysore Poovan* of Nilambur and Nileshwar; *Mysore Pazham*, *Mysore Kai* of Calicut; *Palengodan* of Trichur Farm and Alwaye; *Mysori* of Kumaranallur; *Vasana Chettu* of Gopalpur; *Ginni* of Piridi; *Karpura Chakkarakeli* of Rajahmundry; *Poovan* of Erode and Trichinopoly; *Adukku Nanarai* of Pannakkadu; *Pulippu kai* and *Korangu vazhai* of Pollachi.	Variety with axis naked above normal fingers and terminating in a "heart" (cone-like flower head).	It is an introduced variety thriving well in all localities and is the cheapest table variety. It is the "Fill Basket' of foreign countries.
IV. CHAKKARAKELI GROUP		
12. **Chakkarakeli** (*Musa paradisiaca*, L., var., *Chakkarakeli*). *Chakkarakeli* of Rajahmundry; *Chakkara kadali* of Trichur Farm; *Godavari Chakkarakeli* of Piridi; *Saja Aratti* of Simhachalam; *Shahaja* of Panchadharla; *Thella Chakkarakeli* of Samalkot Farm; *Then kadali* of Erode.	Do.	Largely grown in the Circars. It is the best table variety in the Presidency. It has very poor keeping quality even though it has the strongest pedicel. It is a costly variety.
12(a). **Raja Vazhai** (*Musa paradisiaca*, L., var., *Chakkarakeli*, eco-type *Raja vazhai*). *Raja vazhai* of Kulitalai and Trichinopoly	Do.	The plants raised in the Banana Experimental Area, Coimbatore, produced normal *Chakkarakeli* bunches. Hence this may be the same as No. 12.
13. **Kari Vazhai** (*Musa paradisiaca*, L., var., *Kari vazhai*). *Kari vazhai* of Erode and Kulitalai; *Manoranjitham* of Trichinopoly.	Do.	Strong scented fruits. Colour of skin dark green before ripening and dull yellow when ripe. Stem has large dark blotches.
13(a). **Nalla Chakkarakeli** (*Musa paradisiaca* L. var., *Kari vazhai*, sub-var., *Nalla Chakkarakeli*). *Nalla Chakkarakeli* of Palteru near Bobbili.	Do.	Nearly same as *Kari Vazhai* but ripe fruits are not so scented as the above.

14. **Kadali** (*Musa paradisiaca*, L., var., *Kadali*). *Kadali* of Tellicherry; *Nay kadali* of Kasargod; *Poovan kadali* of Calicut; *Vella kadali* of Ponnani; *Devar kadali* of Kuttuparamba.	Do.	Fruits of this variety have the thinnest skin. This is the sacred banana of the West Coast and is largely used in temple offerings. It is a very rare variety peculiar to West Coast. Fruits are easily susceptible to the attack of Gleosporium musarum.
15. **Namarai** (*Musa paradisiaca*, L., var., *Namarai*). *Namarai* of Pannakkadu and Sirumalais.	Do.	A slender plant. Fruits are small and considered medicinal. Peculiar to Sirumalais and Pulneys.
16. **Anaikomban** (*Musa paradisiaca*, L., var.. *Anaikomban*). *Anaikomban* of Coimbatore; *Komma Aratti* of Piridi; *Attu komban* of Pannakkadu and Pollachi.	Do.	A good table variety with long slender fingers. Occasionally seeds are produced in this variety.
V. NADAN GROUP		
17. **Pacha Nadan** (*Musa paradisiaca*, L., var , *Nadan*). *Eradan*, *Thodan* of Perintalmanna; *Pacha Nadan* of Coimbatore and Samalkot Farm; *Kadali* of Mayavaram; *Pacha Ladan* of Kulitalai and Trichinopoly; *Kali* of Tanjore; *Pacha vazhai*, *Kali vazhai* of Pollachi.	Do.	Fruits angular. Colour of skin of ripe fruits greenish yellow. Skin very thick. A table variety.
18. **Kali** (*Musa paradisiaca*, L., var., *Nadan*, sub-var., *Kali*). *Kali* of Perintalmanna; *Kali Vazhai* of Kongad; *Padathithi* of Alwaye; *Mannan* of Manantoddy; *Bangalore Aratti* of Rajahmundry; *Padalu* of Kumaranallur.	Do.	Colour of skin of ripe fruits yellow. An ordinary table variety; also used as vegetable.
19. **Kapur Bale** (*Musa paradisiaca*, L., var., *Nadan* sub-var., *Kapur*). *Kapur Bale* of Mangalore and Kundapur; *Sal Datti* of Mangalore; *Kuppa Mannan* of Nileshwar.	Do.	Colour of skin of fruit when ripe is yellow. This variety is peculiar to South Kanara. Fruits are large with very good flavour. It thrives well in other localities also.

Name of variety.	Nature of axis.	Remarks.
20. **Virupakshi** (*Musa paradisiaca*, L. var., *Nadan* sub-var., *Virupakshi*). *Virupakshi* of Palni; *Vella vazhai* of Pannakkadu.	Variety with axis naked above normal flowers and terminating in a "heart" (cone-like flower head).	It is one of the most delicious table varieties of the Presidency. Being a dry fruit it is used in the preparation of the *Panchamritom* of the Palni temple. Considered next to Sirumalai and it has the best keeping quality.
20(a). **Sirumalai** (*Musa paradisiaca*, L., var., *Nadan* eco-type: *Sirumalai*). *Udaran Vazhai* of Sirumalais.	Do.	It is considered by some as the most delicious table variety in the Presidency and better than *Virupakshi* and fetches more price. The flesh is more juicy than *Virupakshi*. It has good keeping quality.
20(b). **Vannan** (*Musa paradisiaca*, L., var., *Nadan*, type: *Vannan*). *Charu vannan* of Pattambi; *Vannan Eradan* of Trichur Farm; *Mundila padan* of Nilambur.	Do.	Fruits are smaller than those of Pacha Nadan but have better taste and flavour. "Heart" is lanceolate while in Pacha Nadan it is ovate.
VI. KUNNAN GROUP		
21. **Kunnan** (*Musa paradisiaca*, L. var., *Kunnan*). *Kunnan* of Calicut; *Jirika Bara*, *Jirike Bale* of Kallamadkur; *Tirunolli kaidali*, *Kulamel kula* of Kasaragod; *Adukku poovan* of Nileswar; *Adukkvan* of Kurumathur; *Adukkan* of Tellicherry. *Nadan kunnan* of Perintalmanna; *Valiya kunnan* of Trichur Farm; *Kannan* of Alwaye; *Madras Aratti* of Piridi; *Chakkarakeli* of Vizagapatam; *Gini* of Samalkot Farm.	Do.	Peculiar to the West Coast. Flesh is rather tough. Used as table fruit. Flour is prepared of unripe fruit which is an infant food. Green fruits are used in the preparation of curry especially for invalids.
22. **Venneettin Kunnan** (*Musa paradisiaca*, L. var., *Kunnan*, sub-var., *Venneettin-kunnan* *Venneettin kunnan* of Calicut.	Do.	Same as *Kunnan* but with ashy coated skin with the flesh softer.

23. **Adakka Kunnan** (*Musa paradisiaca*, L. var., *Kunnan*, sub-var., *Adakka kunnan*). *Chara kunnan*, *Adakka kunnan* of Kongad; *Vennittu kunnan*, *Mutti kunnan* of Perintalmanna; *Dekunnan* of Manjeri; *Mundi kunnan*, *Vennir kunnan* of Pulamanthol; *Charu kunnan* of Trichur Farm.	Do.	Same as *Kunnan* but fruits are very short and stout.
24. **Then Kunnan** (*Musa paradisiaca*, L., var., *Kunnan*, sub-var., *Then Kunnan*). *Then Kunnan* of Perintalmanna and Pulamanthol.	Do.	A very sweet and delicious variety with dry and mealy flesh. Peculiar to West Coast.
24(a). **Thattilla Kunnan** (*Musa paradisiaca*, L., var. *Kunnan*, type: *Thattilla kunnan*. *Thattilla kunnan* of Calicut; *Rundu Bare*, *Rundu Bale* of Moodbidri; *Mambilla* of Kasaragod; *Mambilla kunnan* of Kuttuparamba; *Maniyillatha kunnan* of Kongad; *Kodappilla kunnan* of Trichur Farm; *Maniyilla kunnan* of Ponnani; *Bonda Aratti* of Piridi; *Godavari kali* of Vizagapatam; *Chitrachalam* of Rajahmundry; *Poovilla vazhai* of Mayavaram.	Do.	It is a bud variant of *Then Kunnan*; often all the flowers developing into fruits and sometimes male flowers are produced as in *Then Kunnan*.
GROUP VII.		
25. **Karimkadali** (*Musa paradisiaca*, L., var, *Vettan*). *Karim kadali* of Alwaye; *Karin kadali* of Trichur Farm; *Irachchi kai* of Kurumathur; *Irachchi katti kai*, *Chodari* of Kuttuparamba; *Vettan* of Manantoddy; *Kari vazha* of Nilambur; *Anai komban* of Kulitalai.	Do.	Peculiar to West Coast. Unripe fruits are often used to soften meat and are cooked along with it and it is also a cure for dysentery. Easily susceptible to Cigar and disease.
GROUP VIII.		
26. **Surya Kadali** (*Musa paradisiaca*, L., var., *Surya kadali*). *Surya kadali*, *Australian* of Trichur Farm.	Do.	Stem and leaves are very light coloured. Fruits are delicious but few in a bunch. It is said to have been introduced from Australia.
GROUP IX.		
27. **Thiruvanathapuram** (*Musa paradisiaca*, L., var., *Thiruvananthapuram*). *Thiruvananthapuram*, 'West Indian' of Trichur Farm.	Do.	A good table variety. It is said to have been introduced from the West Indies. This variety has the biggest heart.

Name of variety.	Nature of axis.	Remarks.
X. PEYAN GROUP		
28. **Peyan** (*Musa paradisiaca*, L. var., *Peyan*). *Peyan* of Mayavaram; *Kotta vazhai* of Tanjore; *Ney vazha* of Peruvemba; *Sapota bontha* of Samalkot Farm; *Nokala bontha* of Simhachalam.	Variety with axis naked above normal fingers and terminating in a "heart" (cone-like flower head).	Fruits distinctly angled. Ripe fruits are considered highly medicinal.
29. **Boothi Bale** (*Musa paradisiaca*, L., var., *Peyan*, sub-var., *Boothi Bale*). *Boothi Bale* of Puttur; *Bonya Bare* of Moodbidri; *Bonha Bare, Gobra Bare* of Mangalore; *Onakkan mannan* of Nileshwar.	Do.	Fruits not distinctly angled and are slightly acidy. It produces larger bunches than Peyan.
30. **Pey Ladan** (*Musa paradisiaca*, L. var., *Peyan*, sub-var., *Pey Ladan*). *Pey Ladan* of Kulitalai; *Mada vazhai* of Erode; *Pey monthan, Pey valai* of Trichinopoly; *Peyan* of Coimbatore.	Do.	Fruits not distinctly angled. Apex warty. Base of lamina truncate.
31. **Kostha Bontha** (*Musa paradisiaca*, L. var., *Peyan*, sub-var., *Kostha Bontha*).	Do.	Fruit of inferior quality and occasionally with a few normal seeds.
32. **Ney Mannan** (*Musa paradisiaca*, L. var., *Ney Mannan*). *Thiyyan mannan* of Tellicherry; *Mala vannan, Kallu vannan* of Calicut; *Ney vannan* of Kongad; *Malanundi* of Nilambur; *Patinharan* of Perintalmanna; *Nattu vazhai* of Pannakkadu.	Do.	Used both for table purpose and for cooking. Considered not a good fruit but reputed to have very cooling effect.
33. **Vonneettu Mannan** (*Musa paradisiaca*, L., var., *Ney Mannan*, sub-var., *Vonneettu Mannan*). *Vonneettu mannan* of Pattambi.	Do.	Same as *Ney Mannan* but the skin is thickly ashy coated.
XI. MONTHAN GROUP		
34. **Monthan—Apexed** (*Musa paradisiaca*, L. var., *monthan*). *Monthan* of Coimbatore; *Sibaithi* of Moodbidri;	Do.	This variety also has the largest fruits. Almost exclusively used as vegetable.

Kilandi Ranga Bale of Udipi; *Manga Bale* of Kundapur; *Aandi Bale* of Mangalore; *Manga kai* of Kasaragod: *Manga vazha* of Nileshwar; *Sodari* of Kurumathur; *Thazhuthani* of Tellicherry; *Thenali* of Calicut; *Ponthan* of Kongad; *Ponnan kaya* of Perintalmanna: *Ponnan* of Nilambur; *Chetti koya* of Ponnani; *Nathangi monthan* of Erode; *Erode monthan* of Kulitalai; *Kondai monthan, Vandra monthan* of Trichinopoly; *Trichinopoly monthan* of Negapatam: *Venthala monthan* of Tanjore.		
34(a). **Pacha Bontha Bathees** (*Musa paradisiaca*, L., var., *Monthan*, type: *Pacha Bathees*). *Pacha Bontha Bathees* of Vizagapatam; *Batheesa* of Gopalpur: *Nalla Bathees* of Piridi; *Nalla Bathees, Pacha Bathees* of Palteru.	Do.	Peculiar to the Circars. Used only as vegetable. Often this variety has as many as 25 hands with about 250 fruits. Appears to be bud variant of *Monthan*—Apexed. Has produced normal *Monthan* bunches at Coimbatore.
35. **Sambrani Monthan—Apexed** (*Musa paradisiaca*, L., var., *Monthan*, sub-var., *Sambrani Monthan*). *Sambrani monthan* of Erode: *Bonya kilandi* of Udipi; *Vennittu Manga* of Nileshwar; *Vennitta thezhuthani* of Manantoddy.	Do.	Same as *Monthan*—Apexed but the skin of fruit is ashy coated.
35(a). **Booditha bontha bathees** (*Musa paradisiaca*, L., var., *Monthan*, type: *Booditha bathees*). *Booditha bontha bathees* of Vizagapatam; *Thella bathees* of Piridi; *Thella bathees, Booditha bathees* of Palteru; *Booditha batheesa* of Panchadharla.	Do.	Appears to be bud variant of *Sambrani Monthan*—Apexed. Has produced a normal bunch of *Sambrani Monthan* at Coimbatore.
36. **Nalla bontha—Blunt Apexed** (*Musa paradisiaca*, L., var., *Monthan*, sub-var., *Nalla bontha*). *Nalla bontha* of Vizagapatam; *Pacha bontha* of Gopalpur: *Bontha* of Panchadharla.	Do.	Same as *Monthan* but fruits are angular.
37. **Thella bontha—Blunt Apexed** (*Musa paradisiaca*, L., var., *Monthan*, sub-var., *Thella bontha*). *Thella bontha* of Piridi: *Booditha bontha* of Gopalpur and Vizagapatam.	Do.	Same as *Nalla Bontha* but the skin of fruit is ashy coated.