

A Survey on Different Varieties of Tambul (Piper Betle Linn.) Leaves and it's Commercial Usage in and Around Bundelkhand Region.

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ABSTRACT Tobacco use is a primary cause of many oral diseases and adverse oral conditions, particularly cancer of the oral cavity. India is in the grip of an oral-cancer epidemic, largely caused by increase in tobacco-chewing. This data makes out a case for banning not just gutka, where tobacco is added to other food materials, but also chewing tobacco itself which has not been banned. Hence there is a need of other alternate for tobacco chewing in habitual person, there by reduces the risk of oral cavity diseases especially in oral cancer. As Tambula is the main ingredient in this formulation, has proven its anticancerous and antimicrobial activity and even it is also helpful for healthy individuals. Due to this particular reason the survey study is selected.

Introduction:

Betelvine is one of the least land -intensive crops. A 'baroj' with Bangla variety of betelvine on a plot of 15 decimals (0.15 acre) of land, can be economically viable. It can sustain family of five, with an average net return of about 500 per month, over a period of 15 years, an average life of the plantation in West Bengal.¹ Betelvine is highly labour-intensive, provides employment throughout the year, the seasonal fluctuation being negligible. Almost all the members of a grower's family are gainfully employed in its cultivation, harvesting, grading, packing, marketing etc. The returns are good in the years when the loss due to disease and pests and natural calamities like floods, cyclone, etc. are minimal. A healthy plantation offers a steady income to the growers throughout the year at regular intervals unlike other crops which give only seasonal income to the farmers.

Cultivars:

The nomenclature of betelvine cultivars is most confusing. The general craze with growers is to name the varieties after their villages or towns. Even one particular variety has been given different names at different places, e.g. cv. Desavari as Bilhari, cv. Sanchi as Kalipatti, cv. Kapoori as Safedi, etc. and different varieties may be found under the same name (Desi refers to cv. Bangla in Bengal, cv. Kapoori in Maharashtra and cv. Desavari in Madhya Pradesh). It can readily be imagined how such names multiply, resulting in a plethora of synonyms and adding to the confusion already existing regarding the true identity of cultivars. Thus, more than one hundred fifty types/ varieties are grown by cultivators and recognized by traders in India. Three major cultivars, viz. Bangla, Meetha and Sanchi are commonly grown in West Bengal. On the basis of the position of the widest region of the lamina in relation to trisection of lamina axis² recognized 15 types under the cv. Bangla. Differences in taste, texture, morphology and histogenesis do exist in these types but they are not at the taxon level. Some classified the 17 types, grown in Midnapur district of West Bengal, into cvs. Bangla, Meetha, Sanchi, on the basis of morphological, anatomical, micrometrical and phytochemical parameters.³ Few has grouped 55 varieties, collected from different parts of the country, into two groups, viz. 'pungent' and 'non-pungent'.4 Extensive studies, involving morphological and chemical characteristics of about 85 types of betelvine have been carried out at the National Botanical research Institute , as a result of which only five distinguishable groups or cultivars could be recognized.⁵ They are Cvs. Bangla, Desawari, Kapoori, Meetha and Sanchi. In peninsular India, most of the commercial varieties grown in different states of the country are listed in Map. Brief description of the five main distinguishable cultivars is given below;

Cv.Bangla

One of the most widely grown cultivars, Bangla comprises about 35 types, the prominent ones among them being 'Desi Bangla', 'Ramtek Banglaf', 'Culcutta Bangla', 'Aimal' and 'Navakalapatta'. It is cultivated on commercial scale in Orissa, West Bengal, North East region, Uttar Pradesh, Bihar, Kerla. Its vines grow very vigorously. The prominent secondary veins, 7-9 in number, spread in a curved manner. The petiole is medium to long, 6-10 cm in length. The types 'culcutta', 'ramtek' and 'navakalapatta' have long petioles, with a large lamina, which measures 8.5*11.0 cm-15.5* 19.0 cm is light green in colour, with yellowish tinge and a high pungency. The type 'Ganaghate' is characterized by short internodes. The types such as 'Bangla M.P.' and 'Bangla Garhi Malhara' have small to medium petioles, with the lamina size ranging from 6.5*10.0 cm- 15.0-17.5cm. Leaves are dark green in color and slightly pungent. The 'Maghai' leaves are smaller in size, non-fibrous and tasty. The matured leaves are also soft. The 'Khasi' paan, commercially grown in Asam and North East, on other hand, is large in size, thick and leathery in texture.

The leaf is, in general large, cordate to roundish, with the widest part of the lamina much below the middle point, entire and glabrous; petiolar sinus prominent, base auriculate, apex acuminate and short, fibrous, pungent in tasteeugenol content in essential oil is the maximum upto 82%.

Cv.Desawari

This cultivar is most common in Madhya Pradesh and Uttar Pradesh and comprise four types- 'Desi Desawari', 'Mahoba Desawari', 'Malvi Desawari' and 'Karuballi'- all very known. Its leaves are large, cordate to moderately ovate, short, pointed and acuminate; apex curved, a character-

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istic feature of this variety; leaf lamina glabrous, with less conspicuous basal lobes and 4-6 secondary veins running close to the midrib. As compared to the Cv. Bangla, it has a slightly warm, followed by light sweet taste; anethole content in its essential oil is comparatively low about 7.2%. the leaves of the type 'Mahoba Desawari' are crisper than those of the 'Desi Desawari'.

Cv.Kapoori

There are about 25 types of Cv.Kapoori under commercial cultivation, mainly in Tamilnadu, Andhra Pradesh, Kerla, Karnataka and Maharashtra. Some of the common types are 'Vellai Pacchaitkkodi', Gangeri, Sankara Kapoori, Satyavaram, Doma, Ramtek Kapoori etc. The veins are moderately vigorous with leaves narrow, ovate, lamina thin, margin entire, light yellowish to light green in color, glabrous and soft in texture. Sometimes less fibrous and apex acuminate; the leaf base is not lobed as in Cv. Bangla. The leaf has a prominent midrib with 4-6 secondary veins which run almost parallel to the midrib and not covered as in other cultivars. The trichomes are minimum in number. The leaf possesses the characteristic Kapoori aroma and is least pungent, terpenyl acetate, content in its oil is maximum 21.98%. in terms of number of leaves, this cultivar gives the highest yield.

Cv. Meetha

Commercial cultivation of these cultivar is mainly restricted to Midnapur and howrah district of West Bangal and is represented by only two types namely 'Gatpala' and 'Thackpala.' The leaf is thick, waxy, cordate to broadly

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ovate, dark green in color, with characteristic pale yellowish spots, apex short and pointed, secondary veins present, trichomes maximum in number. The basal sinus is less conspicuous, the base is slightly asymmetrical. The leaf is size is less or more uniform. The leaf has characteristic fennel like aroma, due to presence of anethole (19.3%) in its essential oil and possess a sweet palatable taste due to which it is also known as 'Saunfia' or 'Meetha' paan.

Cv.Sanchi

It is the only cultivar which is cultivated throughout the country. It has about 15 types, the most well known being 'Pachhaikodi', 'Kulijedu', 'Kaker', 'Kare', and 'Kalipatti'. Leaves are medium to larger (9.0*5.5-21.0*13.2 cm), narrow- ovate with a long base the lobes are less prominent than those of Cv. Bangla. Leaf margin entire venation reticulate multicostate, with 6-8 prominent divergent secondary veins. Petiole is the shortest (6.5-9.5 cm) and channeled unlike other cultivars, it runs quite close to the stem and forms an angle. Leaves are dark green in color, fibrous and pungent in taste.

Study area:

Bundelkhand lies between the Indo-Gangetic Plain to the north and the Vindhya Range to the south. It is a gently sloping upland, distinguished by barren hilly terrain with sparse vegetation, although it was historically forested. The plains of Bundelkhand are intersected by three mountain ranges, the Vindhya, Fauna and Bander chains, the highest elevation not exceeding 600 meters above sea-level.6

Table no. 1: Desirable and undesirable characters of Piper betle Linn.Cultivers.

	1	· ·		[[a]
Characters	Bangla	Desawari	Kapoori	Meetha	Sanchi
Desirable High yield in terms Fibre of weight and leaf taste area matu		Fibreless good taste crispness of matured leaves	High yield in terms of number of leaves	Characteristic sweet taste	Comparatively dis- eases free
	Vigorous growth, better keeping quality		Tolerant to leaf spot disease	High anethole con- tent	Good keeping quality
	High essential oil content			Maximum essential oil content	High essential oil content
	Comparatively resist- ant to diseases				
Undesirable	Pungent test	Susceptible to diseases	Poor keeping quality	Poor yield	Pungent test
	Fibrous	Poor keeping quality	Susceptible to forest and high temperature	Susceptible to dis- eases	
	Susceptible to cold temperature	Low essential oil content	Low essential oil yield		

Table No. 2: Survey	study of Tambula	Yoga based on	(Ingredient and	Quantity)
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Sr.No.	Tambool Yoga	Ambadi Paan	Calcutta	Bangala	Deshi	Deshi Sada	Mithee Pati mitha	Mithee Pati sada	Deshi Bangala mitha	Deshi Bangala Sada
1	Tambula									
	1 leaf		3.68 gm	7.96					2.56	2.60
	2 leaf	3.85 *			2.5	2.20	2.60	2.5		
2	Jatiphala									
3	Kankola									
4	Lata-kasturi									
5	Sudha (lime)	0.5	0.5	4.5	0.5	1.5	1.5	0.5	0.5	0.5
6	Kattha(safed)	0.5	0.11	4.5	0.5	1.5	1.5	0.5	0.5	0.5
8	Puga	2.0	1.0	2.0	1.0	2.0	2.0	4.0	3.0	2.0

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9	Lavanga	1Lavanga0.08gm	1 Lavanga	1 Lavanga	1 Lav -anga	1 La- vanga				
10	Ela / Sukshamela	3-4 seed 0.05	3-4 seed	3-4 seed	3-4 seed	3-4 seed	3-4 seed	3-4 seed	3-4 seed	3-4 seed
11	Kashmiri	0.12	1.0							
12	Chhatani	0.11	1.0	1.0	5.0	0.5	0.5	3.0	2.12	
13	Shonpha/ sanapha	0.5	0.5	1.0	1.0	1.0	1.0	2.0	1.0	1.30
14	Coconut	2.0	2.0	1.5		1.0	1.0	1.0	2.0	
15	Papaya	4.0	4.0	4.0		2.38	2.30	2.0	1.35	
16	Keshar	1.5	1.5							
17	Chamana	0.45	0.45							
18	Gulkanda	8.0	12.0		5.0					
19	Cherry	0.4	5.0							
20	Karpura									
21										
	Total	24.06	32.87	26.59	15.63	12.21	10.53	15.63	13.16	7.03

(* - All weight in grams.)

DISCUSSION AND CONCLUSION:

Not only the paan leaf but various other additives that are used in it are equally beneficial for health. Fennel and betel nut helps in speeding up digestion process while cardamom and cloves reduces the problem of gas and acidity. Kattha and betel present in paan helps all those suffering from cold and cough by controlling the mucous production. Also, nutmeg helps in drying up mucous in body. Nutmeg also acts a powerful blood thinner for your body. Usually people above the age of forty are advised to take aspirin to keep their blood thin for preventing heart related problems. But aspirin when taken for longer period, pinpricks bleeding in digestive track of body in small quantities. So it is more advisable to take nutmeg. So for best results, regularly intake one paan after each meal but keep in mind excess intake can prove out to be harmful for body.

REFERENCE 1. Sen, N.A. and Ray, A.K.,- Crisis in betelvine economy and trade in West Bengal, In: Proc. Group Disc. Improvement of Betelvine Cultivation (Eds.S.D.) Khanduja and V.R. Balasubrahmanyam, National Botanical Research Institute, Lucknow, 1984, page no.133-35. | 2. Ganguly, P. and Chaudhary, M.-Phytochemical studies on Bangla varieties of Betel leaf, Indian Agric. 1975, Page no.199-200. | 3. Das, A.K. and Chattopadhyay, N.C.- Studies on the standardization of Betelvine cultivars of Midnapore district. The agricultural society of India, Culcutta, 1984, Page no. 161-70 | 4. Narayan Reddy, R.Betelvine Research in Andhra Pradesh, National Botanical Research Institute, Lucknow, 1984, Page no. 161-70 | 4. Narayan Reddy, R.Betelvine Research in Andhra Pradesh, National Botanical Research Institute, Lucknow, 1984, Page no. 125-28. | 5. Rawat, A.K.S., Sharma, M.E. and Balsubrahmanyam, V.R., -Essential oil of Betel leaves var. Ramtek Bangla and Desi Bangla, Indian Perfumer, 1983, Page no. 91-93. | 6. Available from http://en.wikipedia.org/wiki/Bundelkhand , date-07/10/2014. |