CHAPTER - II

ORIGIN, DISTRIBUTION, TYPES AND CULTURE OF TOBACCO

Records of the origin, discovery and history of tobacco are obscure and contradictory. Mackenzie[1] has provided a good and painstaking account of the history of the crop. It appears that Columbus discovered the narcotic crop in 1492 and hence it seems to be native of America, though it is now grown all over the world. Killebrew and Myrick[2] recorded that the China grew and used tobacco long before Columbus discovered America, but convincing evidence in support of the claim had not been pointed out. There are various records supporting the widespread ancient growth and use of tobacco in the Caribbean, Mexico and South America. Organised production of tobacco has not been made until the beginning of Seventeenth Century. The first commercial crop of tobacco was grown for export at Jamestown, Verginia in 1612. The venture was successful and extended to Maryland in about 1631. Other states steadily came into the picture to the present day situation. It is interesting to note that restriction on tobacco production was imposed on 1621 by Verginian Colonist in order to force attention upon food crops which were otherwise being neglected for high profitability of tobacco trade. Mean while, the Portuguese and the Spaniards were spreading the tobacco plant to other Countries.

The Portuguese brought tobacco to India in 1605. This introduction into India has had a very significant results. The Country has become one of the World's major producers and is also a significant contributor to the world trade.

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1. C. Mackenzie : Sublime tobacco, P. 352, Chatto and Windus, London, 1957.

2. J.B. Killbrew and H. Myrick : Tobacco Leaf, Its culture and Cure, Marketing and Manufacture, P. 506, Orange Judd, New York, 1897.

Distribution

India ranks third among tobacco producing countries and tobacco is cultivated in almost all parts of the country. The bulk of Indian tobacco comes mainly from Andhra Pradesh and Gujrat. Andhra Pradesh and Gujrat are famous for Cigarette and Bidi tobacco respectively. West Bengal, one of the important producers of Chewing and Hookah tobacco, occupies fifth place among tobacco producing Indian States, the first four being Andhra Pradesh, Gujrat, Karnataka and Orissa. The leading producing Indian States are shown in Table 2.1.

Table : 2.1. Distribution of Area and Yield rate of the important tobacco producing States in India.

State	Percentage share of the State to the total cultivated area under tobacco in India	Percentage of yield rate to the average yield rate of the country
Andhra Pradesh	41.27	87.80
Assam	1.28	67.46
Bihar	2.82	90.29
Gujrat	24.60	159.43
Karnataka	11.25	59.36
Maharastra	3.09	53.09
Orissa	4.67	46.75
Tamilnadu	2.97	136.45
Uttar Pradesh	2.82	116.07
West Bengal	3.55	86.86
All India	100.00	100.00
	(421.14)	(1068.00)

Note : Figure in the first bracket and third bracket indicates the area in thousand hectare and yield in Kg per hectare.

Source : Directorate of Economics and Statistics, Department of Agriculture, and Co-operation, Ministry of Agriculture, Government of India. The percentage of area and yield rate have been calculated by considering the respective averages of triennium ending 1980-81.

The yield rate observed in different states is strictly not comparable as the tobacco grown in various states are of various types. Nevertheless, average yield recorded for West Bengal ranks sixth among the tobacco growing states in India.

2.3 Species, varieties and types

The botanical genus Nicotiana of Solanacea family contains over Sixty four Species, of which only two are cultivated extensively. These two species are Nicotiana tabacum and Nicotiana rustica. The word tobacco is generally used for referring to produce of tabacum spices. In India, tabacum covers the largest area and rustica plays a relatively minor role. West Bengal tops the list in Nicotiana rustica cultivation followed by Bihar, U.P. and Assam. Tabacum varieties have been developed mainly for Cigarette, Cigar, Cheroot, Bidi, Hookah, Chewing and Snuff. On the contrary, rustica varieties are used only for hookah, chewing and Snuff. The tobacco varieties have been mostly named after the name of the place they were developed. The bidi tobacco (tabacum) grown in Nipani of Mysore is called Nipani. similarly, the hookah tobacco (rustica) cultivated in Motihari is called Motihari. Tabacum varieties are also called as 'Jati' (Desi) in West Bengal. Following five types of tobacco are grown in India. Cigarette types (Verginia) tobacco are mostly grown in Andhra Pradesh and to some extent in Maharastra and Mysore. Gujrat and Mysore State together with claim the lion share in producing Bidi types tobacco. Cigar and Cheroot types namely Cigar Filler and Cigar Wrapper Tobacco are mostly grown in Tamilnadu and Orissa and to a little extent in West Bengal. West Bengal, Bihar, U.P. and Assam are the principal producer of Hookah types tobacco. Chewing and Snuff types tobacco are grown in Orissa, West Bengal, Bihar, Uttar Pradesh, Assam and Tamilnadu. From the view point of curing of tobacco leaf, the crop may also be classified into five classes which are (i) Flue-cured tobacco, (ii) Dark fire-cured tobacco, (iii) Light air-cured tobacco (iv) Dark air-cured tobacco and (v) Suncured tobacco. Flue-curing is the shortest process and takes three to six days for curing. While sun-curing is an intermidiate process involving two to four weeks,

air-curing is the longest which takes three to six weeks for curing[3].

The main growing period of Tobacco in West Bengal extends from August to March and it falls under the crop groups of Rabi Season. In West Bengal, tobacco is generally rotated with Jute or Paddy. The common rotation followed in the state are (i) Jute-Fallow-Tobacco and (ii) Paddy-Fallow-Tobacco.

3.3 Culture

Like all other crops, raising of healthy seedlings is an important aspect of tobacco cultivation. As a germinating tobacco seed is a very delicate thing, great care is paid in a nursery until the seedlings are strong enough to combat the constraints in open air. Traditional practice in raising seedlings is in vouge in the area. Considerable loss of seedlings is noted to be happened in cultivators nurseries due to beating rains and 'damping of' disease. The site of nursery is at higher situation than that of the sorrounding area and is usually changed every year for minimising the loss of seedlings due to soil borne diseases and Pests. Application of farm yard mannure at two Kilograms for every square metre nursery area is reported to be highly beneficial. Fifty six Kilograms of phoshphate per hectare of seed bed is recommended for raising the seedling, 30 Kg endosul fan 4% dust per hectare is suggested to apply for preventing soil pests but 10% or 50% B.H.C. is generally applied by the farmers. Scientifically 0.005 hectare nursery area and 28.5 grams of seed are sufficient in raising seedlings for cultivating one hectare of land. But the selected farmers reported to require, on an average, 0.06 hectare nursery and 700 gms seed for cultivating one hectare of land. Due care of the seedlings such as irrigation, Disease and Pest Control at the nursery, shading of nursery bed, etc. are made by the farmers. After completion of production of seedlings in the seed bed undernoted cultural practices are generally followed for successful harvest of the crop.

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3. B.C. Akehurst : Tobacco (Second edition), P. 166, Longman, London, 1981.

Land Preparation

As a good land preparation has an influence on the final crop return, the tobacco land is usually well plaughed and soil is pulverised. Repeated ploughing e.g., 8-14 ploughings (depending upon the condition of the field) are done in the area under consideration, ploughing followed by equal number of plankings have been noted to be in vogue.

Transplanting

Transplanting is done in the morning or in the evening. The newly transplanted plants erstwhile covered for about two days with some leaves during day time are not covered at present in West Bengal. The tabacum tobacco seedling is transplanted after 7 to 9 weeks while the rustica tobacco is transplanted after 5 to 6 weeks of sowing.

Manuring

Ten M.T. Farm Yard Mannure per hectare is noted to be effective and is applied about a month before the date of transplanting. While 20 Kg Nitrogen per hectare is considered sufficient for Cigarette tobacco, 100 Kg nitrogen per hectare is recommended for other types of tobacco. Though potassic fertiliser has no positive response, 12-30 Kg K_2O_5 per hectare is generally applied to the tobacco land. Phoshphorus is an important element for tobacco crop. 50 to 75 Kg of Phoshphate per hectare is usually applied to the tobacco crop. The entire quantity of phoshphate and Potash and $^3/_4$th of nitrogen is applied before planting as broadcast or plough furrow method. The remaining quantity of nitrogen is applied before first irrigation which falls within 45 days after transplantation. Application of trace elements (such as Calcium, Iron, Boron, Zinc, Copper, Magnesium, Manganese) are generally not made to the crop in the area though these are very important element for the tobacco plant.

Irrigation

Requirement of irrigation for tobacco crop depends upon the types of tobacco and the tracts where it is grown. Two irrigations at an

interval of 45 days, depending upon the moisture content of the soil are sufficient. The common practice followed by the farmers of Coochbehar and Jalpaiguri district is to provide one to two light irrigation or potwatering.

Intercultural Operation

Intercultural operations are essential for aiding full development of potential returns of the crop. Interculturing of the field with hand plough is made at weekly intervals after the transplantation of the crop.

Weedings

Orbanche is an important weed of tobacco. This weed derives almost its nourishment from tobacco plant itself. Hence cleaning of this weed is suggested to be essential.

Gap Qilling

Gap filling is very important operation which is made at a very early stage of the crop to maintain optimum plant population.

Topping : The objective of topping operating is to divert the energy and plant nutrients from the reproductive growth to vegetative growth[4] generally the number of leaves are increased while its size are decreased when the plant is about 60 cm. hight. Laves become uneven and coarse with increased in leaves. To avoid the situation, the terminal floral buds, at this stage, are topped leaving 8 leaves on the plant excluding the sand leaves. In this way stem grows to about 75 cm. in hight with all the leaves are nearly of the uniform size. This also prevents the excessive coarseness of the leaves.

De-Suckering

De-suckering is also made to influence the yield and quality of tobacco. Dormant buds in the axils of the leaves become active due to

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4. C. Thakur : Scientific crop Production (volume II), P. 715 , Metropolitan Book Co. Pvt. Ltd., New Delhi-2, 1980.

topping and put forth stoots known as suckers. Quality of leaves is noted to be detoriated due to existence of suckers. It is, therefore, necessary to remove the suckers at felt needs. This operating is known as De-suckering.

Harvesting

Harvesting of leaves by priming is made in West Bengal commencing with January and ended with February. Bottom leaves are picked first as they mature first. The first priming starts at about 80 to 90 days (N. rustica) and 120-130 day (N. tabacum) after transplanting and subsequent primings are made at 5 to 7 days intervals.

Curing

As the method and efficiency in curing determines the quality of tobacco leaf, curing is the most important operation in the production of crop.

Flue-curd Tobacco

Bright cigarette tobacco means flucured tobacco. Flue curing method is followed entirely in curing verginia tobacco. Green leaf is dried under artificial atmospheric condition under the process of this type of curing.

Fire-curing

Chewing types of tobacco are fire cured. This type of curing is not followed in West Bengal.

Suncuring

Hookah tobacco in West Bengal is cured by this process. In this process, the leaves are kept around the plants to avoid direct sun. They are then tied in bunches of 8 to 10 leaves and cured at bamboo splinters for 6 weeks. Thereafter, they are bulked and fermented.