

USE OF PLANTING MATERIALS IN INDIAN RUBBER ESTATES

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The selection of planting material is an important farm management decision. When the crop concerned is perennial like rubber the selection assumes added significance. Studies conducted earlier have shown that the small growers are increasingly planting RR11 105, the high yielding variety indigenously developed(1). Now it is the turn to find out the trends in the use of planting materials in the estate sector. The present study attempts to evaluate the response of estates to modern planting materials particularly RR11 105.

OBJECTIVES AND METHODOLOGY

The objectives of the study are the following:

- a) to evaluate the type of planting material stock existing in the estate sector,
- b) to analyse the planting policy and highlight the recent trends and
- c) to explain the differences in the use of planting materials with regard to the variations in the location, size and ownership of estates.

For the purpose, a large scale survey was undertaken covering 105 estates located in Kerala, Tamil Nadu and Karnataka with a total planted area of 37193 ha. The area covered is around half of the total area in the estate

sector. The survey was conducted during the period August 1990 to January 1991.

RESULTS AND DISCUSSION

The pattern of the stock of planting materials existing at present is given in Table 1. The varieties Tjir and RR11 600 claim the major positions. It will take years for the large growers to replant the area planted during 1950's and 1960's with low yielding varieties. The estate sector has followed the principle that it is always wise to keep the "eggs in different baskets". Contrary to the small holding sector, the share of a single material does not exceed 1/5th of the total area. While materials of PB origin accounted 20.3 per cent, and RR11 varieties claimed 19.4 per cent, RR11 varieties occupied only 10.6 per cent of the total planting materials stock.

HISTORICAL ANALYSIS

Table 2 displays the planting policy followed by the estates during the last four decades. The share of seedlings which had been around one fourth of the total upto 1960's got reduced to 6 per cent during 1970's and disappeared thereafter. During 1950's, PB 86, GL 1 and PB1G were the highly preferred materials. The next decade

witnessed the declining significance of the materials while Tjir and GG series of seedlings came forward. The prominent materials of 1970's were RR11 600 and GT 1. Though they are at the mainstream still, during the 1980's their prominence have been cut shortened by RR11 105 and the upcoming of materials such as PB 217 and PB 235. RR11 105 claimed 42 per cent of the planted area during the last decade.

RECENT TRENDS

Table No.3 shows the detailed account of the planting done during the 1980's. As years passed, the percentage share of PB 235 has gone down while PB 217 has regained its significant position in the recent years. Though PB 28/59 is the second best yielder as per commercial yield figures, its share has gone down(2). The planting material GT 1 introduced in India during the 1960's have almost retained its leading position all over the period. Though it has lost its prominent place occupied during the 1970's RR11 600 is still among the preferred clones. The single major planting material planted is RR11 105. During the period 1982-85 more than half of the area was planted with RR11 105. The large growers who were reluctant to plant RR11 105 have been prompted to do the same, thanks to the success stories of small growers who planted RR11 105.

REGION-WISE PATTERN

The pattern of planting done in three different regions is looked into (See Table 4). While the share of GT 1 in region A is 5.9 per cent and that of region B is 10.9 per cent, around 1/4th of the area in region C is planted with this variety. RRIM 600 and RRII 105 are prominently planted in region B. Most of the old stocks of Tjir, PB 86 etc., remain in region A. Relatively higher share of PB 235, PB 217 and PB 28/59 planting is claimed by region C.

SIZE-WISE PATTERN

The main planting materials used by small estates are RRII 105 and RRIM 600 while medium estates have shown preference for GT 1, RRII 105 and RRIM 600. The large estates planted mainly GT 1 and RRIM 600. Thus while RRIM 600 is preferred by all groups, GT 1 is more preferred by medium and large estates. It seems that the large estates are relatively reluctant to adopt RRII 105. The first two planting materials claimed 55 per cent of the area of small estates while in others the first two planting materials accounted for only below 40 per cent of total area (See Table 5).

PUBLIC SECTOR VS. PRIVATE SECTOR

While planting in private sector is spread over a large number of materials, the public sector has relatively concentrated on a few varieties. As can be seen from Table 6, the share occupied by the first two planting materials in the private sector is 30.5 per cent while that of the public sector is as high as 49.9 per cent. A good portion of the planting material stock of public sector is claimed by Tjir, RRIM 600, RRII 105 and

TABLE I

Nature of the Stock of planting materials used

Sl. No.	Planting Material	Area (in ha.)	% share	Rank
1.	GG Series	4473	12.0	4
2.	Tjir	6142	16.5	2
3.	LCB 1320	523	1.4	14
4.	PBIG	417	1.1	16
5.	Polyclone	447	1.2	15
6.	GL 1	690	1.9	12
7.	PR 107	776	2.1	11
8.	PB 86	2712	7.3	6
9.	PB 5/139	218	0.6	21
10.	PB 6/9	243	0.7	19
11.	PB 28/59	1024	2.8	7
12.	PB 235	945	2.5	10
13.	PB 217	980	2.6	9
14.	PB 5/51	1000	2.7	8
15.	PB 260	136	0.4	23
16.	PB 311	242	0.7	20
17.	GT 1	4705	12.6	3
18.	RRIM 600	6211	16.7	1
19.	RRIM 605	316	0.9	17
20.	RRIM 623	574	1.5	13
21.	RRIM 628	122	0.3	24
22.	RRII 105	3811	10.0	5
23.	Other RRII varieties	206	0.6	22
24.	Others	280	0.8	18
Total		37193	100.0	--

GT 1. The prominent ones in private sector are GG series seedlings, GT 1, RRIM 600 and Tjir. It is in the public sector that RRII 105 makes relatively greater presence. The modern high yielding planting materials of PB origin are mainly planted in the private sector.

CONCLUDING REMARKS

The general tendency seen from the study is that leading planting

materials reach prominence during a decade, give way to other upcoming materials during the next decade and get lost of their significance by the third decade. This was the fate of GG series seedlings, Tjir, GL 1, PB 86 etc. During 1970's, GT 1 and RRIM 600 had acquired highest prominence and during 1980's, while their significance gradually declined, the share of RRII 105, PB 217 has increased.

TABLE II
Use of planting materials during the last four decades

Sl. No.	Planting Material	1950-60		1960-70		1970-80		1980-90	
		A	B	A	B	A	B	A	B
1.	GG Series	9.4	4.8	24.7	85.8	3.7	9.4	--	--
2.	Tjir	11.0	4.2	36.0	95.2	0.3	0.6	--	--
3.	LCB 1320	2.1	8.8	1.5	44.8	2.1	46.4	--	--
4.	PBIG	15.5	82.9	0.5	17.1	--	--	--	--
5.	Polyclone	--	--	1.3	44.5	2.2	55.5	--	--
6.	GL 1	16.6	55.3	1.9	42.7	0.1	2.0	--	--
7.	PR 107	0.5	1.4	3.4	65.2	2.3	33.4	--	--
8.	PB 86	41.7	34.1	10.1	56.7	1.8	7.6	0.5	1.6
9.	PB 5/139	1.7	17.2	1.2	82.8	--	--	--	--
10.	PB 6/9	1.5	14.0	0.7	42.3	0.6	27.0	0.5	16.7
11.	PB 28/59	--	--	0.8	12.6	5.6	62.8	3.0	24.6
12.	PB 235	--	--	--	--	1.5	18.0	9.4	82.0
13.	PB 217	--	--	0.1	0.6	1.8	21.3	9.3	78.1
14.	PB 5/51	--	--	1.0	14.1	6.5	70.7	1.9	15.2
15.	PB 260	--	--	--	--	--	--	1.6	100
16.	PB 311	--	--	--	--	--	--	2.8	100
17.	GT 1	--	--	1.1	3.5	27.6	64.6	18.5	31.9
18.	RRIM 600	--	--	10.4	24.0	36.7	63.2	10.2	12.8
19.	RRIM 605	--	--	1.0	47.7	1.5	52.3	--	--
20.	RRIM 623	--	--	3.5	93.3	0.3	6.7	--	--
21.	RRIM 628	--	--	0.8	93.8	0.1	6.2	--	--
22.	RRII 105	--	--	--	--	4.0	11.9	41.6	88.1
23.	Other RRII varieties	--	--	--	--	1.3	73.6	0.7	26.4

A = Percentage share of the item in the decade

B = Percentage share of the decade for an item.

TABLE III
Recent trend in the use of planting materials (% share)

Sl. No.	Planting Material	1980-81	1982-83	1984-85	1986-87	1988-90
1.	PB 86	--	0.7	--	--	--
2.	PB 6/9	--	0.5	0.5	--	--
3.	PB 28/59	6.8	--	2.4	7.8	2.9
4.	PB 235	15.4	12.6	9.8	8.4	2.3
5.	PB 217	21.6	5.0	3.0	7.1	16.8
6.	PB 5/51	13.4	--	--	0.2	1.7
7.	PB 260	0.5	--	1.1	4.1	3.6
8.	PB 311	--	--	2.3	7.8	4.8
9.	GT 1	21.6	17.3	16.5	15.0	21.7
10.	RRIM 600	6.9	8.4	8.5	20.7	10.9
11.	RRII 105	13.8	55.3	55.7	28.4	33.1
12.	Other RRII varieties	--	0.2	0.2	0.5	2.2

TABLE IV
Use of planting materials - region-wise (% share)

Sl. No.	Planting Material	Region A (Tamil Nadu & Karnataka)	Region B (Travancore & Cochin)	Region C (Malabar)
1.	G.G Series	0.5	12.4	18.4
2.	Tjir	34.4	13.6	14.7
3.	LCB 1320	0.2	0.1	0.1
4.	PBIG	0.8	1.3	0.3
5.	Polyclone	3.2	1.0	0.5
6.	GL 1	2.6	0.7	4.5
7.	PR 107	2.2	2.4	1.3
8.	PB 86	19.9	6.0	3.2
9.	PB 5/139	3.3	0.2	--
10.	PB 6/9	0.1	0.1	2.5
11.	PB 28/59	2.7	2.5	3.4
12.	PB 235	0.9	2.0	5.0
13.	PB 217	--	2.5	4.7
14.	PB 5/51	2.5	3.6	0.9
15.	PB 260	0.2	0.5	--
16.	PB 311	--	0.8	0.6
17.	GT 1	5.9	10.9	23.4
18.	RRIM 600	12.4	21.5	9.0
19.	RRIM 605	0.5	0.5	0.5
20.	RRIM 623	0.1	1.6	2.3
21.	RRIM 628	0.8	0.4	0.3
22.	RRII 105	6.4	14.8	4.1
23.	Other RRII varieties	0.4	0.6	0.3

TABLE V
Use of planting materials- Size-wise (area in ha.) (% share)

Sl. No.	Planting Material	Small (below 200 ha.)	Medium (200- 400 ha.)	Large (above 400 ha.)
1.	GG Series	3.2	7.6	12.4
2.	Tjir	7.4	12.8	11.0
3.	LCB 1320	1.6	0.3	1.5
4.	PBIG	0.4	0.8	1.1
5.	Polyclone	--	--	1.4
6.	GL 1	4.0	2.3	1.1
7.	PR 107	1.5	0.8	2.4
8.	PB 86	5.4	8.0	7.3
9.	PB 5/139	0.4	1.8	0.4
10.	PB 6/9	--	--	1.9
11.	PB 28/59	3.5	1.5	2.7
12.	PB 235	2.7	2.7	2.3
13.	PB 217	0.5	0.1	3.0
14.	PB 5/51	1.0	1.0	3.1
15.	PB 260	0.1	0.6	0.3
16.	PB 311	1.2	1.4	0.4
17.	GT 1	9.8	19.0	19.0

18.	RRIM 600	26.0	14.5	18.7
19.	RRIM 605	0.2	0.5	0.5
20.	RRIM 623	0.2	5.9	1.0
21.	RRIM 628	0.2	--	0.4
22.	RRII 105	29.7	16.9	7.7
23.	Other RRII varieties	1.0	1.5	0.4

Table VI
Use of planting materials- Ownership- wise (% share)

SI No.	Planting Material	Public Sector	Private Sector
1.	GG Series	5.8	15.5
2.	Tjir	25.7	10.7
3.	LCB 1320	1.8	1.2
4.	PBIG	--	1.8
5.	Polyclone	1.7	1.0
6.	GL 1	0.4	2.4
7.	PR 107	4.2	1.0
8.	PB 86	7.9	7.1
9.	PB 5/139	0.4	0.5
10.	PB 6/9	0.3	0.9
11.	PB 28/59	--	4.4
12.	PB 235	--	4.0
13.	PB 217	--	4.1
14.	PB 5/51	4.1	1.9
15.	PB 260	--	0.6
16.	PB 311	--	1.0
17.	GT 1	9.2	15.0
18.	RRIM 600	24.2	14.0
19.	RRIM 605	0.3	0.6
20.	RRIM 623	--	2.5
21.	RRIM 628	--	0.5
22.	RRII 105	13.8	8.5
23.	Other RRII varieties	0.2	0.8

The detailed analysis of the last decade has shown that during the recent years the popularity of PB 235 and RRIM 600 has gradually gone down. Again a new planting material PB 311 is introduced during mid 1980's. It can be expected that RRII 105, GT 1, PB 217 and PB 311 will be the leading planting materials

during 1990's in the estate sector. From the experience it also seems

that the share of RRII 105 (41.6 percent during 1980's) may decline as the popularity of PB 217 and PB 311 is likely to be on the rise. Yet RRII 105 may remain as the single major planting material during the current decade.

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Transportation Products

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