

## A CHANGE-OVER EXPERIMENT IN RUBBER TAPPING

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### INTRODUCTORY

**T**HE experiment here described was started on the Experiment Station, Peradeniya on April 1st, 1926. 384 trees were used and these were divided into 24 plots of 16 trees each. In eight of the plots the cut was not changed over until the end of the panel was reached in three years, in eight plots the cut was changed over annually on April 1st and in the remaining eight plots the cut was changed over every six months, on April 1st, and October 1st.

It is a widely held theory that changing over the tapping cut results in better bark renewal, and it was mainly to test the correctness of this theory that this experiment was started. A system was worked out for the periodical measurement of the thickness of the renewed bark when this bark was one year old in each case. Three such measurements were taken in each treatment, and on each occasion an additional measurement of the untapped bark at two feet from the ground was made. The final criterion of bark renewal was taken to be the percentage which the average thickness of renewed bark formed of the average thickness of the untapped bark in the same plot.

Separate records of the yield of dry rubber from each plot were maintained—in this case no comparison could be made till the end of the six year period, since during that period the cuts in the three different treatments were at different heights from the ground.

### BARK RENEWAL

Table I shows the average thickness of renewed bark in millimetres one year after the bark at that point has been tapped together with the average thickness of the untapped bark at two feet from the ground and the former figure expressed as a percentage of the latter.

**Table 1**  
**BARK RENEWAL MEASUREMENTS**

*Average of all Plots*

	No Change-over			Change-over once yearly			Change-over once in six months.		
	Thickness of renewed bark mm.	Thickness of untapped bark mm.	Thickness of renewed bark expressed as percentage of untapped bark	Thickness of renewed bark mm.	Thickness of untapped bark mm.	Thickness of renewed bark expressed as percentage of untapped bark	Thickness of renewed bark mm.	Thickness of untapped bark mm.	Thickness of renewed bark expressed as percentage of untapped bark
1st Measurement	4.77	6.96	68.5	4.37	6.77	64.5	5.44	9.16	59.3
2nd Measurement	5.79	8.38	69.0	5.60	8.78	63.7	4.72	8.80	53.6
3rd Measurement	5.83	8.33	70.0	4.97	9.19	54.0	6.00	9.69	61.9
Average of 8 measurements	5.46	7.89	69.1	4.98	8.24	60.7	5.38	9.22	58.4

It must be borne in mind that the accurate measurement of bark thickness is not very easy, but in view of the fairly large number of trees employed the averages can be accepted with fair confidence.

It is apparent that even in actual average thickness of renewed bark the no-change-over plots are slightly superior to either of the others, and when these figures are expressed as percentages of untapped bark the superiority is increased.

The results of this experiment, therefore, do not in any way support the theory that changing over the cut once or twice a year results in better bark renewal.

The differences in average bark thickness are small and the figures probably indicate that the different treatments have not affected bark renewal one way or the other.

### YIELD

Table 2 gives the average yields per tree for the three treatments for each year.

Over the whole period the change-over-once-yearly treatment has given the highest yield while the change-over-twice-yearly treatment comes second. The differences however are so small that it is doubtful if much significance can be attached to them.

Table 2

*Average yields of dry rubber per tree*

	No Change-over	Change-over once yearly	Change-over once in six months
	lb.	lb.	lb.
1926-27	5.29	5.26	4.76
1927-28	4.72	4.85	4.51
1928-29	4.68	4.62	4.48
1929-30	5.13	5.38	5.20
1930-31	6.24	6.47	6.88
1931-32	7.17	7.96	7.81
Total	33.23	34.54	33.64

**SUMMARY AND CONCLUSIONS**

1. An experiment was carried out with the main object of comparing the bark renewal on rubber trees on which (1) the tapping cut was not changed over till the end of the panel was reached in three years, (2) the cut was changed over once a year, (3) the cut was changed over once in six months. Separate yield records were also maintained.
2. It was found that the bark renewal measurement figures obtained in the experiment gave no support to the theory that changing over the cut resulted in better bark renewal. The highest average figure for thickness of renewed bark was obtained in the no-change-over plots. The differences are small and it may be assumed that the different treatments have not influenced the rate of bark renewal.
3. Changing over the cut has not resulted in any loss of yield. The highest yield was obtained from the change-over-once-yearly plots but it is doubtful if this superiority is due to the treatment.