

3 P
.88

Experiment on preservation of Rubber logs
(South China Tropical Crops Research Ins-
titute)

S U M M A R Y

It is very easy for the new rubber logs to get infected by worms and insect pest. Soon after cutting, the rubber logs should, in time, be soaked or smeared. Experiments have proved that they should be immersed in water and using 1% germ effective solution or 5% Penta Chloro Sodium Phenate and diesel oil, a mixture should be prepared and applied to the ends of the logs. Thus, the log can be prevented from getting worm or pest infected. This can preserve the log for a period of one month.

I. INTRODUCTION

Twenty five to thirty years after the rubber tree is cut, it can be again cut. Timber is the essential product. On account of the fact that it is very easy for the rubber log to get infected with pests, formerly it was just used as fire wood. Subsequently, as its supply has tended to become less and less, the optimum and effective utilization of rubber tree is now drawing the attention of people. In the course of utilization of rubber tree, the preservation of the log has first and foremost drawn the attention. After the rubber tree is cut into logs, the log can easily get infected with worms and pests. Before their transportation and processing, it often involves a delay of a few weeks, within which period the logs can easily get infected by pests and worms. Initially, the extremities of the log get infected and in course of time, the infection spreads to the interior of the log. Ultimately the log changes colour and loses its value. At present, the most prevalent effective method is to put to use the rubber logs soon after they are cut so that they don't get infected. But, however, on account of transport bottlenecks

it is unavoidable that a certain amount of delay does occur. With a view to ensure that the log does not get infected before it is processed, it is inevitable that some preventive steps are taken. This article deals with an experiment in this regard and the results of the experiment are also given below:

II. EXPERIMENT

(a) Materials

New Rubber Logs 110 centimetre in length, 15 to 25 centimetres in diameter.

(b) Disposition of Experiment

Prepare the following germ mixture and apply it to the extremities of the Rubber Log.

- A : Lime water. Lime 58% dissolved in clean water 42%.
- B : A_{26} boric acid : A_{26} (0.34%) using Boric acid (1.2%) solution and then mix this solution in clean water 98.5%.
- C : Bamboo proofing - No.2:
Bamboo proofing - No.2 2% to be dissolved in clean water 98%.
- D : Add Borax : G_4 (2.8%) use a small quantity of Oxy-hydrogenized Sodium (NaOH) make it a solution and add Borax.
- E : Germ effective solution 1% : Use a small quantity of diluted acid solution 1% and mix with water 99%.
- F : Penta Chloro Sodium Phenate added to diesel oil : Add 5% of Penta Chloro Sodium Phenate with 95% of Diesel Oil.
- G : Make a solution with Borax 3% Penta Chloro Sodium Phenate:-7% and clay water - 90%.
- H : Ethylene 10% to be mixed with clay water - 90%.
- I : Burn the log ends with petrol. The layer of carbonization has to be 1 millimetre approximately.

LOT-A would consist of ten pieces of logs.

All the germ killing solutions are to be applied to the log extremities by means of an ordinary brush. These solutions are to be applied to all the ten logs immediately after they are cut so as to reduce infection by worms.

LOT-B would consist of 20 logs. These other twenty logs are not to be applied with any solution. All these pieces of logs are to be stored inside the Experimental yard, layers one above the other, five in each layer.

The above experiment was conducted during the period from 7th April 1982 to 10th May 1982 for a period of one month.

III. RESULTS AND STATISTICAL ANALYSIS TABLE - I

<u>Details of Experiment</u>	<u>Extent of infection/ change of colour (in mm)</u>	
	<u>After 15 days</u>	<u>After 1 month</u>
A. (Lime water)	7.0	50.0
B. (A ₂₆ Boric acid)	0	39.0
C. (Bamboo Proofing noz)	0	37.6
D. (G ₄ - Borax)	3.0	66.4
E. Steam effective solution	1.0	6.8
F. Penta Chloro Sodium Phenate added with diesel oil.	11.0	2.2
G. Borax Solution	0	52.4
H. Ethylene - clay water solution	0	65.5
I. Burning Log ends	28.0	54.2
Soaking in water	0	0
Not treated, and preserved outside the Experimental yard	52.0	85.8
Not treated, and preserved inside the Experimental yard	106.0	188.2

IV. DISCUSSION

It would be seen from above Table that the three methods, namely:

- (1) Soaking in water
- (2) Penta Chloro Sodium Phenate added with diesel oil and
- (3) Steam effective solution are the best methods of preserving the Rubber logs. Among them, soaking in water is the best one. Then comes the method of mixing Penta Chloro Sodium Phenate with Diesel oil, and the third method is sodium effective solution. After being preserved for a month, the extent of worm infection does not come to 10 millimetres.

In the case of untreated logs placed inside the Experimental yard, the extent of infection works out to 188.2 millimetres and in the case of untreated logs placed outside the Experimental yard, the extent of infection is 85.8 millimetres. The reason why the results of soaking logs in water are the best is mainly because the moisture content of the logs is high and the atmosphere is not congenial for the growth of germs/pests. But the pond wherein the logs are put should be sufficiently big and it would be best if the logs are soaked in flowing water. Under conditions wherein water is not available, the other two methods, namely using Penta Chloro Sodium Phenate with Diesel Oil or germ effective solution can be resorted to.

Whether preserved for 15 days or one month, the extent of infection suffered by the untreated logs which are lying inside the Experimental yard is more than double when compared to those exposed to the sunshine. This is mainly because they are not getting adequate sunlight and air and this leads to rapid growth of germs. So it is clear that the logs require adequate air and sunlight for their preservation. The smearing of log extremities with medicines and drugs is the best and this should be done immediately after the logs are cut so as to protect them from worm/insect pest.

It would be seen from the experiment that if 40 logs, 110 centimetres long and having a diameter of 17 centimeters are not treated and are preserved for a month, their ends would change colour to the extent of 85.8 mm and have to be sawn off as useless to the extent of 17 centimeters each. This proves that it is very important to ensure that the extremities of logs are treated with chemicals/drugs so as to ensure that they protected from worm/insect pest.

V. CONCLUSION

(1) The most effective method of protecting the rubber logs from worm infection is to soak them in a fairly big pond.

(2) When soaking facilities are not available, as soon as the rubber logs are cut, germ killing solution should be applied to the extremities of the log. Application of 1% germ effective solution or 5% penta chloro sodium phenate mixed with Diesel Oil would effectively prevent damage through worms/germs for a period of one month.

(3) The chemically treated logs should be stored together in heaps preferably in East-West direction so as to ensure that the log extremities are adequately exposed to sunlight and air.

1133 P

Rs. 975/-