



GOVERNMENT OF HARYANA

TECHNICAL NOTE No. 13

RESIN TAPPING

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RESIN TAPPING

13.1 Sapwood of *Pines roxburghe* (Chil) contains resin ducts. There are two types of ducts (i) running horizontal to the axis of the tree and (ii) running vertical to the axis of the tree. Resin ducts are more concentrated towards the outer layers of the Sapwood and near the butt portion of the tree. The tree yields more resin on its southern side and during hotter months.

13.2 The following observations have been derived from the past experience.

- (i) Resin production improves in open crops.
- (ii) The blazes should be placed as low as possible.
- (iii) Deep blazes, extending beyond outer layers of sapwood, do not give corresponding increase in yield. Such deep blazes only cause difficulty in occlusion.
- (iv) The blazes must be made with a sharp instrument so that the surface is clean for rapid flow of resin to the collecting pots.
- (v) The blazes should be freshened by removing a very thin layer of wood from the open part of the blaze at regular interval of about 6 days.
- (vi) Blazes should not ordinarily be continued in length for more than 5 years, otherwise the yield of resin will materially decrease. A fresh blaze should be started at the base of the tree after 4 or 5 years tapping.

13.3 Enumerations

Resin tapping schemes are generally prescribed in working plans. As far as Haryana is concerned chil occurs only in Morni tract. The Range Officer should examine the whole area covered by chil in the preceding summer and find out if any additional portions of the forests are suitable for resin tapping and send his recommendations to the Divisional Forest Officer.

In case of areas already under tapping, a similar inspection should be made and a report sent about continuation of tapping or otherwise. Areas with sparse growth (8 trees per hectare or less) should not be taken.

In case of tree due for felling in areas other than PBI, heavy tapping is done. In such areas trees to be felled should be marked 3 to 5 years ahead of the year of felling so that maximum yield of resin is taken from such trees through heavy tapping before they are felled. No tree within 5m on either side of a foot path or road are to be tapped. This is to avoid loss of resin through mischief of pedestrians.

13.4 Number of Blazes per tree

For light continuous tapping, following limits are fixed :—

- (i) Tree with 120 cms to 180 cms girth-one blaze 10 cms wide.
- (ii) Trees with more than 180 cms girth-two blazes each 10 cms wide.

For heavy tapping (tapping to death) as many blazes as possible are put after leaving 10 cms space at breast height between blazes. A rough estimate can be made by the formula.

No. of blazes $—4 X$

(X-girth of the tree in metres. Fraction in the No. of blazes to be ignored).

13.5 Enumeration of trees for light tapping should be completed by 1st December and list prepared and abstract made in Form 'A'. Enumeration should be done compartment-wise. It should include trees which grow into tapable size and eliminate dry trees. Enumeration should be done every 5 years. Enumeration register for heavy tapping should be maintained separately.

ENUMERATION REGISTER

Division_____Year of enumeration_____

Range_____Heavy tapping/Light tapping_____

Forest_____

Compartment_____

S. No. of tree	Girth	No. of blazes	Remarks
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FORM 'A' ABSTRACT

Division_____year of enumeration_____

Range_____

Forest_____

Compartment_____

Girth classes	Light tapping		Heavy tapping		Total	
	No. of trees	No. of blazes	No. of trees	No. of blazes	No. of trees	No. of blazes
60 cms to 119 cms	Nil	Nil				
120 cms to 180 cms						
Above 180 cms						

Total:

13.6 Numbering

Every tree in the Compartment will be serially numbered and number of blazes indicated. 25/1 indicates that there is only one blaze permissible on tree

No. 25, 26/2 indicates that there are two blazes permissible on tree No. 26. The unit of marking will be compartment. Numbering should be done by punch marking with 4 cms size of numbers after removal of a thin layer of bark at about 1.6 meters from ground level on northern side. Copies of abstract from 'A' are sent to Divisional Forest Office and are placed with compartment history files.

13.7 Tapping Season

Tapping season is generally from 16th March to 15th October. In warmer regions this can extend up to 15th November. The preliminary work of setting up of crop is done from 16th February to 15th March.

13.8 Cutting New Channels

The part where tapping is to be done is scraped of rough bark to a width of 15 cms and to a height of 50 cms after leaving only 6 mm thick bark. Lower end of the channel is marked with a chisel or adze in order to avoid injury to cambium below the lip site. A channel of 10 cm \times 10 cm and 13 mm is made in the middle.

At the lower end of the channel a chisel is driven to 20 mm depth at an angle of 45° to allow the resin to flow out easily. A lip is placed before chisel is taken out. It is given a bend with a hammer to conform to the shape of the chisel. Chisel is pulled out and lip is driven in. The chisel corners are given an upward bend.

Before commencing the second or subsequent year's work, the lips are pulled out, collected, burnt (to remove old dry resin) straightened and then the lip, nail and pot are moved up the length of the old channel leaving 10 cms from the top. This ensures the minimum distance for resin flow and prevents evaporation and solidification of resin on its way to the pot.

Nails are driven into the bark immediately above cambium on one side of channel to place pots for collecting resin.

Earthen pots of size 15 cms depth and 10 cms external diameter or tins of similar dimensions are used to collect the resin.

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13.9 Spacing of channels

Taking a tree of 120 cms girth and spacing each successive channel with an interval of 11 cms in between, it is possible to tap a tree for 35 years without taking into consideration the occlusion. Channels must be cut vertically upwards, and it is desirable to mark the channel with a scribe. To provide allowance for taper the channel in 5th year should be reduced to a width of 8 cms.

13.10 Refreshening of Channels

Pots are removed before refreshening in order to prevent bark, chips etc. getting into the pots.

A thin shaving is made from the top curved part of the channel, to open clogged resin ducts. Channel is lengthened by this to the extent of 1 cm. The total length of channel to be refreshed will be 10 cms and another 5 cms lower down to smoothen up the surface.

The thickness of shaving should be about 1 mm. If it is too thin, it will not open up clogged ducts. The cut near cambium should be clean and should taper gradually so that healing takes place later on.

Deeper channels give more yield, but it affects the health of the tree and timber production. Channel depth should not be more than 13 mm.

If sharp instruments are not used or worn out edges are present in cutting tool, the channel gets deepened.

Refreshing should be done 5 times a month. Length of the channel at any time of the year can be determined as follows.

With 5 refreshenings a month, each of 1 cm there will be 5 cms length added in a month or about 40 cms in a season in addition to original 10 cms. Thus the total length of channel at the end of the first season will be 50 cms.

The maximum height to which tapping can be done is 2.10 m which is reached by the close of 5th tapping season.

13.11 Collection of Resin

Usually resin is collected from the pots once every 6 days. During heavy flow in June this is done at 4 days interval. At this time refreshing can not keep pace with collection, and so heavy yielders are omitted from refreshing.

At the time of collection of resin from the pots or freshening of blazes, the mazdoor must clear all bark, shavings, dry needles etc. from a space 60 cms in radius all around the tree as a precaution against fire.

13.12 Storage

Storage depots should be located near the tapping area. A 10 metre belt all around the depot should be kept clear to guard against fires.

13.13 Contractor's Work

The season for resin tapping work is from 16th March to 15th October. In case of warmer areas the operation can be extended upto 15 November. Sale of standing blazes should be conducted before the 31st January of each year, so that the purchaser gets time to organise his labour and set up the crop by March. The sites for resin depots and list of labourers and employees should be got approved from the Divisional Forest Officer. The instalments of the sale amount are to be got remitted by the contractor in time. Since resin is a commodity which can be easily carried away, all carriage of resin out side the forest area should be covered by an export permit issued by the Range Forest Officer.

13.14 Checking of works

The Forest Guards/Foresters incharge of the area should check the work during its progress. Complete checking of the work should be done once before 30th June and then again before the close of the tapping season. Range Officer, whenever going on tour in the area, should check atleast one compartment. Divisional Forest Officer and Conservator of Forests also during their tours will check resin tapping work. Checking should be done in the presence of the contractor or his representative.

13.15 Illicit Tapping

Sometimes the contractors, labour intentionally tap trees which are not enumerated due to low size or otherwise or put up blazes in excess of the number prescribed. Very frequently the size of the blaze is also beyond the limits laid down. Such tendency should be checked by timely action. For various defects, the Chief Conservator of Forests, Haryana has prescribed penalties *vide* his standing order No. 1/1972-73 dated 5.9.1972.