VI. SUMMARY

1. The present study has been undertaken to provide information which would assist in evaluating the role of physical characteristics of Sal wood in relation to its decay. Practically, no work has so far been done in this direction on Sal wood, a constructional timber of great economic value in India.

2. For this investigation four test-fungi viz., *Pycnoporus sanguineus* (L ex Fr.) Murr. *Polyporus shoreae* Wakefield, *Trametes cingulata* Berk. and *Pleurotus squarrosulus* (Mont.) Sing. have been selected. Of these both *P. shoreae* and *P. squarrosulus* are known to cause sap and heart rots of sal while *P. sanguineus* and *T. cingulata* are restricted in their activities in its sapwood.

3. In all cases tissue-cultures from the fructifications have been prepared and employed for decay resistance test.

4. A special method has been adopted for obtaining representative samples of test-blocks of both sapwood and heartwood from different regions of the same log in order to determine the range of variation in some of the physical characters of the test-samples which is undoubtedly necessary for such a critical study. The method has been fully described with illustrations.
5. Decay-resistance tests have been performed with these test-blocks and four test-fungi by following one of the standard methods and for a period of four months. The results so far obtained have been summarised and discussed.

6. Of the physical properties, only specific gravity and ring-frequency have been taken into consideration for the present. Incidentally, the effects of internal chemical substances in the wood has also been proved indirectly by using unleached and leached test-samples.

7. It has been found that the sapwood is either 'non-resistant' or 'perishable' in contrast to 'resistant' or 'moderately resistant' heartwood in relation to all the test fungi under consideration.

8. Decay in the early states is inversely proportional to the specific gravity. In later stages other factor, such as the availability of greater surface area of wood substances, comes into operation and obscures the effect of specific gravity.

9. Ring frequency appears to have some relationship with the specific gravity which is probably due to the anatomical features and chemical characters of both springwood and summerwood, but no generalised conclusion can, however, be deduced.
10. Again ring frequency alone has no direct effect on decay, but it plays its part along with the specific gravity.

11. A comparison between the rates of decay in both leached sapwood and heartwood suggests that the resisting capacity of heartwood can more be attributed to its anatomical features than to its internal chemical substances.

12. The rates of decay in leached heartwood and unleached heartwood when compared show that the power of resistance of the heartwood is due to causes other than the internal chemical substances.

13. Further, the study on rates of decay in unleached and leached sapwood suggests that when the wood is leached, its rate of decay increases greatly.