A STUDY OF THE SAPROGENICITY, AND FACTORS INFLUENCING DECAY, OF CERTAIN BROWN-ROT FUNGI ON WESTERN REDCEDAR HEARTWOOD TEST BLOCKS

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that most of the fungi were growing more rapidly than the controls, and none of them were inhibited. Fomes officinalis, Trametes serialis, and Trametes subresea were especially noteworthy in this respect, these species showing a growth at least twice as great as that on the control plates.

After three weeks all cultures were growing well and rapidly on all except the 6 per cent concentration. In this highest concentration three cultures (Coniophora puteana, Poria xantha, and Lentinus lepideus) showed no growth and were presumably dead.

The mycostatic effect of the hot-water extract of western redcedar heartwood is definitely shown by the actions of plantings on the 6 per cent concentrations. Indubitably if higher concentrations had been used they would have been lethal to all of the tested species. The fact that after two weeks the fungi on the high concentrations of extract had begun to grow more rapidly than they previously had, and that after three weeks they were almost as large as the controls, may be taken as an indication that in time the fungi develop an immunity, or tolerance, to the extract. The increased growth-rate of the fungi on the $\frac{1}{2}$ per cent concentration demonstrates that in very low concentrations this extract of western redcedar heartwood stimulates, rather than retards, growth. This phenomenon might be referred to as a hormesis. In bacteriology a phenomenon similar to this is known in which extreme dilutions of inorganic germicides will cause stimulated bacterial growth.

Percentage of Hot-water-soluble Substances in Western Redcedar Heartwood: By a comparison of the average specific gravity of all leached blocks with the average specific gravity of all unleached blocks it was found that leaching had caused a weight loss of roughly 3 per cent. Upon evaporating a sample of the hot-water extract and weighing the solute, the extracted substances