TEST OF TREATED JARRAH AND KARRI AGAINST MARINE BORERS

by H. C. Wickett

To test the resistance of treated round jarrah and karri against attack by marine borers, specimens were suspended from the wharves at Bunbury, Fremantle and Port Hedland in November, 1959.

The specimens were round pole-type pieces 3 feet long by about 5 inches diameter while the controls were similar pieces of untreated jarrah. Seasoning and treatment of half the number of specimens with K55 creosote and half with Celcure A copper, Chrome, arsenic, were carried out by the Division of Forest Products, Melbourne. The retention in the creosoted karri specimens averaged 12.6 pounds per cubic foot of sapwood and in the C.C.A. treated specimens it was 1.99 pounds. The corresponding retentions for the jarrah specimens were 14.7 pounds and 1.88 pounds. Five specimens constituted a set; that is a control plus one specimen of each species and treatment. Two sets were suspended about 10 feet below mean water level at each of the three ports.

At the end of 1960 all the controls were heavily attacked by teredines and at the end of 1961 they were discarded.

At Bunbury at the end of 1960 there was no attack in the treated specimens and all the jarrah remained free from attack to the end of 1964. At the end of 1961 all the karri had slight teredine attack; in 1962 all had moderate attack and by the end of 1964 all the karri had heavy teredine attack plus slight to moderate limnoria attack. In 1968 the specimens were lost through vandalism but one set was recovered by diving in September 1969. The two karri specimens on this set, one creosote 10.1 lb/cu. ft. and one C.C.A. 1.75 lb/cu. ft were completely riddled by teredines and partially disintegrated by limnoria. The jarrah creosoted specimens showed a perfect outer surface and internally the sapwood was perfect but in the heartwood there were two teredine tunnels 3/16 inch in diameter. The outer surface of the jarrah C.C.A. specimen showed several small teredine holes but no limnoria attack. Crosscutting exposed 14 teredine holes $\frac{1}{4}$ inch diameter all in the sapwood, suggesting that C.C.A. treated jarrah sapwood is less repellant than jarrah heartwood.

At Fremantle in 1961 both sets were lost by vandalism and only one was recovered. In the creosoted jarrah teredine attack remained slight up to 1964 but in the C.C.A. jarrah it had advanced to heavy. Both

karri specimens had heavy attack by the end of 1964. This set also was lost and could not be recovered after 1964.

At Port Hedland at the end of 1960 only one set could be found. By 1964 both jarrah specimens had moderate teredine attack, the creosoted karri had heavy attack and the C. C. A. treated karri was riddled. By the beginning of 1969 both the karri specimens had disintegrated and both jarrah specimens had heavy attack in the heartwood. The creosoted piece showed only light attack in the sapwood but the sapwood of the C. C. A. treated piece was heavily attacked and partly destroyed.

The test showed that it was unsatisfactory to expose specimens at sites to which the public had access but in spite of the loss of some of the material it seems reasonable to draw the following conclusions :-

1. Teredine hazard increases with decreasing latitude.
2. Both treatments in both species resisted attack much longer than untreated jarrah rounds.
3. Both creosoted and C. C. A. treated karri are considerably inferior to treated jarrah.
4. Creosoted jarrah is appreciably superior to C. C. A. treated jarrah.