

PACIFIC SOUTHWEST Forest and Range Experiment Station

PRESSURE TREATMENT OF ROBUSTA AND OHIA POSTS...final report

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Since 1962, round posts of ohia (*Metrosideros collina*) and robusta (*Eucalyptus robusta*) treated with preservatives have been observed for their durability at the Makiki Exposure Site, Honolulu, Hawaii. The posts are 3 to 5 inches in diameter.

Two preservatives were applied: 8.2 percent pentachlorophenol in mineral spirits with water repellent, and chromated copper arsenate. Pressure treatment was used. Preservative was forced in the previously air-dried wood in a pressure cylinder.

The retention and penetration of preservatives in the posts varied by species (*table 1*).

Twenty-five posts of each species and treatment were installed in the graveyard test together with 20 untreated control posts of each species.

Results reported after 5 years¹ showed that all treated posts were sound, whereas all untreated ohia and all but five of the untreated robusta posts had failed.

After more than 10½ years, all posts treated with pentachlorophenol are still sound. One robusta treated with chromated copper arsenate failed after 9½ years; the rest of the posts treated with this preservative are sound. The last two untreated robusta posts failed in 1969—7 years after installation.

Life of the untreated ohia averaged 4 years. And that of the untreated robusta averaged 4½ years. Decay was the cause of failure.

The test has conclusively demonstrated that pressure treatment with preservatives greatly extends the service life of posts. Further observations of the posts are not planned. But because the posts are still in place, later observations may be possible.

Abstract: Round posts of ohia and robusta pressure-treated with one of two preservatives are being tested for durability at the Makiki Exposure Site, Honolulu, Hawaii. After more than 10½ years, all posts treated with pentachlorophenol are still sound. And all but one robusta post treated with chromated copper arsenate are still sound. Life of untreated posts of both species averaged about 4 years. Decay was the cause of failure.

Oxford: 831.51:841.21:176.1 *Eucalyptus robusta* [+ 176.1 *Metrosideros collina*].

Retrieval Terms: *Eucalyptus robusta*; *Metrosideros collina*; fence posts; pressure processes; pentachlorophenol; chromated copper arsenate; Makiki Exposure Site; Hawaii.

The Honolulu Wood Treating Co., Ltd. treated the posts and helped to install them. The Hawaii Division of Forestry provided the posts and the exposure site.

Table 1—Retention and penetration of preservatives in pressure-treatment of Robusta and ohia posts, Honolulu, Hawaii

Species	Preservatives used	Retention	Penetration
		<i>lbs./cu. ft.</i>	<i>inches</i>
Robusta	Pentachlorophenol	4.9 of solution	0.5
Robusta	Chromated copper arsenate	.85 of salt	.6
Ohia	Pentachlorophenol	12.4 of solution	.9
Ohia	Chromated copper arsenate	1.4 of salt	.6

NOTES

¹Skolmen, Roger G. *Preservatives extend service life of ohia and robusta posts.* U.S. Forest Serv. Res. Note PSW-171. Pacific Southwest Forest and Range Exp. Stn., Berkeley, Calif. 2 p. 1968.

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