

The average service lives quoted by Sedziak (1962) and Krzyzewski (1976) were estimated based on the number of posts that had failed and the number still in test at the latest inspection which may have been several years earlier. The true service life could only be determined once all posts had failed. Doyle and Dubois (1988) reported the final results of these tests and the true service life for round EWC fence posts was 18 years, not 27 years. This seemed to confirm that WRC and EWC were roughly equivalent in durability but there was still no direct comparison.

In 2004, field tests of WRC, EWC and YC lumber, old-growth and second-growth where available, with and without a sapwood segment where possible, were installed in ground-contact and above-ground field tests in Haney BC, Petawawa ON, Gainesville FLA and Hilo HI. Only one-year data are available so far but it appears the Haney and Petawawa test sites are highly aggressive and decay has already been initiated in some material. So far, WRC, EWC and YC are all showing equivalent performance. The rate of decay at Petawawa seems much faster than anticipated from the older data. Recent examination of the 1958 site revealed it was bulldozed level prior to installing test material. This removed all the topsoil, exposing the test material only to subsoil, which had a very low decay potential. Between 1958 and 2004, a new layer of topsoil had built up from leaf litter and vegetation. This new topsoil contains highly aggressive cord-forming wood-rotting basidiomycetes similar to those found at Haney where the topsoil was removed, the subsoil was leveled and the topsoil replaced. Different results can be anticipated in other soils and other climates.

It is also important to recognize that, as a natural material, the durability of all these species varies within the tree, among trees, and between different geographic regions such as coastal and interior BC. Consequently, even with direct comparison, it is quite possible for one species to appear better in one test and another species to appear better in another test.

While WRC, EWC and YC should be considered equally decay-resistant, WRC and EWC are merely non-preferred by termites whereas YC is highly termite-resistant (Grace 1994; Suzuki and Hagio 1998), due to the presence of nootkatone, a heartwood extractive not found in WRC or EWC.

References

Doyle E.E. and R.P. Dubois 1988. Performance of preservative treated fence posts. Report to the Canadian Forest Service. Forintek Canada Corp. Quebec QC 30p.

Grace. J.K. and R. Yamamoto 1994. Natural resistance of Alaska-cedar, redwood and teak to Formosan subterranean termites. Forest Prod. J. 44(3): 41-45

Krzyzewski J. 1976. Preservation of wood fence posts. Eastern Forest Products Laboratory Bulletin LD9E. 4p.

Sedziak, H.P. 1962. The preservative treatment of fence-posts by non-pressure processes. Canada Department of Forestry, Forest Products Research Branch Bulletin 107 Available from Forintek Canada Corp. Quebec and Vancouver. 24p.

Suzuki, K. and K. Hagio 1998 Results on termite resistance of building materials against *Coptotermes formosanus* by choice test. Internat. Research Group on Wood Preservation Document No. IRG/WP 98-10275 IRG, Stockholm, Sweden. 7p.

USDA 1975. Service records on treated and untreated fenceposts. US Department of Agriculture, Forest Service, Forest Products Laboratory, Research Note FPL-068 1975 Revised. 45p.

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