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THE CHALLENGE OF USING SECONDARY OR BYPASSED SPECIES

With continued reduction in the availability of prime domestic and southeast Asian veneer, it is natural that we learn to use species previously bypassed for various commercial applications. As an example of meeting this challenge, we have been able to institute processing techniques that have enabled us to utilize two previously bypassed species—red alder from the Pacific Northwest and Alan Bunga from Sarawak, Malaysia.

Red alder is rotary-peeled and used both as a decorative face veneer and a reject back in our Eugene hardwood plywood plant. It replaces the thin ($1/24$ -inch) reject Lauan back in prefinished and stock panel construction. As a decorative face veneer, it has gained a formidable place in the prefinish market. It is a good substitute for yellow or white birch and is sometimes called a "poor man's walnut" when toned suitably.

The natural growth range of red alder extends from Santa Barbara, California, to southeastern Alaska, in elevations below 2,500 feet, and no further inland than 100 miles. The majority of alder is in Oregon and Washington, with about 9,000,000 board feet in each state.

Pulp wood has been the primary use of alder in the past, but because of its uniform grain, smooth texture, and ease of machinability, it has become a substitute for more expensive woods in furniture. The logs are small and have to be selected for "peelers," but yield a good percentage of rustic, prefinishable faces. With the advances in prefinishing and printing techniques, red alder and other such "weed" subspecies should be considered for the prefinish paneling market, as well as the character stock panel market.

Alan Bunga, or Meranti Bunga, is rotary-peeled and manufactured into a 2-ply core-back platform in Sarawak, Malaysia. The platform replaces $1/6$ -inch Philippine mahogany core and a reject hardwood back that is normally constructed in the conventional single-step layup manner in the United States. The sanded 0.195-inch platform is shipped to the United States, entered with the same duty as veneer, and overlaid with a fancy face veneer, making a nominal $1/4$ -inch prefinish hardwood wall panel. The pressing cycle is reduced by 50% and a glue line is saved. The uniqueness of the product is the fact that Alan Bunga logs are very difficult to process, especially into veneer. The veneer logs are quite small by Asian standards—12 inches to 26 inches in diameter. Above 26 inches in diameter, the juvenile wood has deteriorated, leaving a hollow log with only a heavy adult rind. The juvenile wood or small logs have a relatively

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Current Thesis Titles

Oregon State University

Model and procedure for determination of strength and stiffness of wood studs, (Strength, stiffness, studs, mechanical properties) *Virgilio Asuncion Fernandez*, Ph.D.: Forest Products; Major Professor: Anton Polensek, 1978.

The influence of various resin parameters on the physical properties of oak flake-board (Composition board, flakeboard, oak, physical properties) *Gregory Lynn Jay*, M.S.: Forest Products; Major Professor: James B. Wilson, 1979.

The effect of wood density on the kraft pulping properties of Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco), (Douglas-fir, kraft pulping, wood density) *Montree Promachotikool*, M.S.: Forest Products; Major Professor: Walter J. Bublitz, 1979.

Economic value of the Pacific Northwest hardwood industry, 1977, (Hardwoods, Pacific Northwest, economics) *Curt S. Cunningham*, M.F.: Forest Products; Major Professor, Robert O. McMahon, 1979.

On the fracture mechanics of oriented flakeboard, (Composition board, flakeboard, fracture mechanics) *Young-Kong Lei*, Ph.D.: Forest Products; Major Professor: James B. Wilson, 1979.

Effect of solvent extraction and planing of veneers from South-East Asian species upon glue-line characteristics and bond durability, (Glue-lines, veneer surface treatments, microscopy, fluorescence, bond durability, Southeast Asian woods) *Edward Dougal*, M.S.: Forest Products; Major Professor: Robert L. Kraemer, 1979.

Bypassed Species

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low density of 20 to 40 lbs per cubic foot, seasoned. The texture is coarse, and the grain is interlocking, causing checking when dry. As a "substrate" product, Alan Bunga works well and makes utilization of a previously bypassed species profitable.

Conversion of these two species into a salable, profitable product has not been easy, but long-term product and cost rewards have made the research and development of these products worthwhile.

GAIL OVERGARD

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