

• Excerpts & Abstracts •

PRELIMINARY STUDY ON BREAKAGE IN FELLING AND BUCKING TREES*

By NAPOLEON T. VERGARA

The study was conducted to determine the causes and extent of damage to the boles of trees as they are felled and bucked in the forest.

Work of the felling and bucking team was carefully studied and observed inside observation sites clearly established within concession areas in Camarines Norte. In the North Camarines Lumber Co., in whose concession the first hectare of fifty-one merchantable trees was studied, a team was composed of three men. The first man selected the trees to be cut, made the undercut with a double-bitted axe and made the platform when necessary; the other two followed with a bucking saw and made the felling cut. The trees were power-hauled by tree-lengths so were bucked in the log deck except where the trees were too large or were perpendicular to a line running straight from a proposed spar tree, which trees were bucked in the forest. The arbitrary log length used was five meters and the diameters were measured at five-meter intervals. In the two hectares within the concession of the Philippine Manufacturing Co., only two men composed a felling and bucking crew. The trees were bucked in the forest. The log lengths ranged from 4.7 to 9.7 meters and the diameters were measured at the points where the trees were bucked.

The use of the Smalian formula in computing for the volumes necessitated the measurement of diameters inside bark (d.i.b.) at both ends of a log. The average cross-sectional area of both ends of a log was multiplied by its length for its volume. The thickness of the bark was measured and subtracted from the measured diameter outside bark (d.o.b.) for the diameter inside bark. The natural defects and the breakages incurred in both felling and bucking were also scaled and their volumes computed.

It was found out that the over-all damage in felling under natural forest conditions is about 3 per cent. The damage in felling that occurs in the merchantable portion of the tree is about 1 per cent. The damage in bucking is negligible, being only about 0.08 per cent. Other results obtained were: (1) The damage in felling increases as the

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PRESERVED WOOD AND ITS USE

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Authorities agree that a wood preservative, in order to be suitable for outdoor industrial use, should be permanent, non-leachable, highly penetrative, safe to handle and use, harmless to wood and metal, plentiful and economical. For building purposes and many special uses it also should be clean, paintable, odorless, non-toxic to plant and animal life, and burn no more readily than untreated wood.

Up to 20 years ago there was still a great supply of original-growth pine lumber that needed little, if any, protection against rot or termites. This may be proven by the use of this lumber for many years in the tropical islands to the south of us. As we all know, this supply is now sadly diminished, and we cannot deny the gibes of metal men that much of the wood sold today is short-lived. We can answer this by making available a supply of properly treated lumber at a price they cannot meet with their products. Custom is on our side, and we must not let the public switch from their present preference for wood, which they will do only if they become convinced that wood is too perishable to be invested in.

It is true that lumber cannot hope to compete with concrete for some uses, but there are few places in the home where lumber is not more desirable—if it can be made rot-proof and termite-proof. Treating lumber can lengthen its life by more than triple the normal expectancy. We are faced now with the problem of conservation of our forests, so we should be even more treated-lumber conscious.

Concrete is now being used in many places where wood should be used. To build a house with concrete walls and floor that will compare with a frame house, so far as dryness and warmth are concerned, is an extremely hard thing to do and one that very few are doing or have ever done. You can't build one that will meet the requirements of an ideally built home unless you are sure that the materials used will stand the attack of rot and termites. Termites will not eat the blocks, but they will eat the wood unless we do something to it.

—F. P. M.

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tation of logs to Japan be limited to what that country needs for local use.

In order to help in the conservation of our forest and insure the stability of the lumber industry, it is recommended that (1) selective method of cutting should be applied on permanent forest lands where conditions warrant; (2) reduce and utilize wastes in logging and sawmilling through improved methods of manufacture and by establishing a system of integrated industries; (3) lessen the drain on our forest through the use of less popular but just as good wood and by means of wood preservation; (4) conduct studies on the chemical and physical properties of woods through the Forest Products Laboratory; and (5) limit exportation of logs to Japan to at least what that country actually needs for her local use.

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still remains to be a serious one. Millions of dollars are spent every year on painting, decorating, maintenance, and repairs, because of disfigurement and damage caused by cold weather condensation.

Another problem which this section has been doing a lot of work in preliminary studies is how to prevent water entering between outside wall sidings caused by capillarity. It has not been only causing failures in paints but has also been the root cause of decay, thereby shortening the life of the building.

Thermal insulation is another study that is considered of great importance because of the peculiarly cold climate during winter and the exceedingly hot weather during summer. To make the houses as comfortable as possible during the period of climatic extremes the houses should be properly insulated.

The inflow of heat through outside walls and roofs in hot weather or its outflow during cold weather has important effects not

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estation projects. It is, therefore, to the best interest of the public if the reforestation projects be removed from the responsibility and supervision of the District Foresters and be placed under the five Supervising Foresters who should devote their full time supervising the projects under them. These Supervisors will in turn be responsible to the Director of Forestry through the Chief, Division of Reclamation and Reforestation. This set-up will reduce the span of control, hence less red tape and better efficiency.

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diameter of the tree above buttress becomes bigger; (2) The damage in felling increases as the tree grows taller; (3) The damage in felling increases with the volume of the tree; (4) The damage in felling increases with the per cent of slope if the trees are felled downslope; (5) The damage in felling largely occurs in the unmerchantable tops with a ratio of 1 per cent damage for every 2 per cent in the unmerchantable top; and (6) The damage in bucking is low and negligible. These findings may not be applicable to all cases since conditions in different places are different.

—P. D. Bautista

A good reputation; a clear conscience; appreciation of nature; a peaceful heart; the knowledge of having given happiness to others; a trained and well-filled mind; satisfaction from duty well done; faith in the outcome of right; contentment; well-adjusted social relationship: these make for true happiness.

only on the occupants but also on the furniture and fixtures as well as the building materials of the house. Besides, during cold weather, such heat flow also governs fuel consumption to a great extent. Most structural and finishing materials used in building are low in resistance to heat transmission. Hence, the necessity for the use of insulating materials to be incorporated in exterior walls, ceilings, and floors so as to increase resistance to heat passage.

(To be continued)