

filled in yards. The sapwood only of certain comparatively newly or partially seasoned hardwoods (including ash, elm, oak and walnut) is subject to attack; softwoods are immune, and well-matured hardwoods in old buildings are not affected. The presence of holes (up to about $\frac{1}{2}$ -in. in diameter) on the surface of the wood, and small piles of flour-like dust cast out from the holes (hence the name of the beetle), are characteristic of infected timber. The beetles emerge from the wood during the spring and summer; eggs are laid in the pores of the sapwood and are hatched out within a fortnight into white larvæ or grubs (about $\frac{1}{2}$ -in. long when fully grown), and these develop into pupæ and, finally, beetles which issue from the timber within one to two years after the larval stage.

There are several proprietary solutions available for treating infested timber and which are brush-applied to the surface during the spring and summer, but such insecticides are ineffective unless several applications are made. Proper seasoning of the timber destroys any *Lyctus* present, but frequent inspection of it should be made when stacked in the yard in order that any re-infestations may be detected.

CHARACTERISTICS AND USES OF TIMBER

There are several hundred species of commercial timbers. A selected number of softwoods used in this country are classified in Table I, and some hardwoods are listed in Table II. The map shown in Fig. 4 shows the distribution of most of these timbers and may be a convenient reference. A large proportion of these selected species are grown either in the British Isles, and known as *Home-grown Timbers*, or within the British Empire and specified as *Empire Timbers*.¹

A few of the characteristics and uses are also given in these tables. The weight of timber varies with the moisture content and the proportion of wood tissue to voids; the greater the m.c. the greater the weight. The weights given in the tables are the average when the m.c. is 15 per cent. The m.c. also influences the strength of timber, and well-seasoned wood is stronger than that in the green condition. Thus, for example, the maximum compressive strength of pitch pine increases from approximately 3,700 to 7,500-lb. per sq. in. as the m.c. decreases from 75 (its green condition) to 12 per cent.

¹ These are listed in "A Handbook of Home-grown Timber" and "Empire Timbers," both publications of the Forest Products Research Laboratory.

TABLE I
SOFTWOODS

STANDARD NAME.	BOTANICAL NAME.	SOURCE.	WEIGHT (lb. per cub. ft.).	CHARACTERISTICS.	USES.
Cedar, Western Red (Pacific red cedar)	<i>Thuja plicata</i>	British Columbia, Western U.S.A.	24	Reddish brown, weathering to silver grey; distinct growth rings; straight grained, easy to work; very durable, brittle; stains, paints and enamels well.	General carpentry and joinery; decorative work, including panelling; roof shingles. weather-boarding.
Fir, Douglas (British Columbia, Columbian and Oregon pine)	<i>Pseudotsuga douglasii</i> <i>P. taxifolia</i>	British Columbia, Western U.S.A. British Isles	33	Pink to light reddish brown; well defined growth rings and prominent figure; straight grained with tendency to wavy or spiral grain; difficult to work, strong; available in large sections and long lengths; stains but does not paint well.	"Clear grade": first-class joinery, as for doors, windows, panelling, plywood, floor boarding and blocks. "Merchantable grade": carpentry. Home-grown (of inferior quality): rough boarding.
Hemlock, Western (grey fir)	<i>Tsuga heterophylla</i>	British Columbia, Western U.S.A.	31	Pale brown; distinct growth rings and good figure; usually straight grained, fairly even textured; not durable when subjected to alternate dry and wet conditions; stains, paints and enamels well.	General joinery; best quality for decorative work, including panelling and furniture; flooring.
Kauri, New Zealand (Kauri pine)	<i>Agathis australis</i>	New Zealand	38	Pale yellow to light brown; straight and interlocked grain producing mottled figure; strong, very durable; works easily; stains, paints and polishes well.	Good-class joinery, including floor boarding and blocks; mottled varieties for panelling, etc. Limited supply.
Kauri, Queensland Larch, European	<i>Agathis palmerstonii</i> <i>Larix decidua</i>	Queensland, Australia Europe, including British Isles	30 37	Similar to, but softer than, N.Z. Kauri. Reddish brown heartwood, yellowish white sapwood; distinct growth rings; straight grained; very durable, tough and strong; resinous; difficult to work; stains and paints satisfactorily. Most valuable home-grown softwood.	Good substitute for N.Z. Kauri. Carpentry and heavy construction; fencing, gates, wood buildings, piles, sleepers, scaffolding.

NOTE.—Some timbers are also known by those names appearing within the brackets in the first column.