

**The Thinning of Plantations.** British Forestry Commission, Forest Operations Series, No. 1. London. His Majesty's Stationery Office. 1945. 40 pp., 9d.

This booklet is the first of what promises to be a series intended to deal with different silvicultural operations. It is stated in the introduction that it is concerned with Improvement Thinnings, but it does not say what that term covers. It is based for the most part on Forestry Commission experience.

The pamphlet is in three parts with an introduction. The first part is concerned with general considerations; the second deals with the treatment of individual species and the third with the handling of mixtures. The last two parts are over-ambitious in their scope as it seems clear that the somewhat limited experience of the Forestry Commission, so far, cannot be so extensive as to be competent to deal equally authoritatively with all the species and mixtures mentioned.

The proper technique of thinning plantations cannot be said to have become rigidly determined and certainly not in respect of the many exotic species and unusual and abnormal mixtures which have been artificially planted in these islands and it will be many decades before such a technique can be laid down with confidence. The writing of a practical treatise at this stage on such a subject is,

therefore, by no means easy. There is a good deal of inconsistency in the advice given, which should be accepted with great caution and reserve. With some of the more general observations on the value of and need for systematic thinning and with some of the general principles stated there will be little disagreement, but many of the detailed recommendations on the treatment of the various species and mixtures cannot be accepted as entirely sound.

The truth is that each plantation must be handled with reference to all the circumstances holding at the time when treatment is desired and that no text-book can possibly cover every case. It will be a long time before a machine is devised to take the place of the human intelligence in such matters.

The book has a number of rather serious defects. The most important of these is the complete failure to handle the extremely important practical types of thinning known as "crown thinnings." These are dealt with in three lines and in these we are referred to certain unnamed text-books.

Another fault is the tendency to stress the necessity for securing an even distribution of stems over the area, supported with tables giving average spacings and average numbers per acre for various heights. It is wrong in the first place to try to space stems and it is very questionable whether it is, in the long run, desirable to have any plantation at any stage with stems evenly distributed. A thinning deliberately aimed at introducing irregularity of stocking and height is sometimes of especial value in handling neglected stands.

Too much use is made of the terms "wolves" and "whips." They are frequent in badly managed plantations but in well-managed woods after one or two thinnings they should be very rare indeed.

It is not made clear, if it is admitted at all, that the strength of any thinning is gauged by the proportion of the canopy removed or by the proportion of the basal area removed. The definitions of light, moderate and heavy thinnings are very loose, in consequence. For the same reason the particular recommendations made remain obscure. For normal stands of all species, excepting pines, our experience is that early thinnings should be heavy in the true sense, and that later thinnings, until the regeneration stage is reached, become lighter. On the other hand the writer of this booklet in most cases recommends beginning with a light thinning and following on with moderate or heavy thinnings. The procedure outlined for the shade-bearing conifers, for Sycamore and for mixtures of Oak with coniferous nurses does not accord with our experience.

English silvicultural nomenclature includes a number of unfortunate weaknesses. We are introduced to a new technical term which scarcely seems necessary, namely "rack." This over-worked word has already seven different dictionary meanings, not one of which agrees with that which it receives here, unless it be the last,

which reads "the neck and spine of a fore-quarter of veal or mutton." The words "lane" or "alley" would seem to be more appropriate, preferably the former as the latter has application in the nursery. Moreover, the term "brash" should surely not include the operation of pruning off lower branches with saws since the real meaning of the word is to break into pieces, which correctly describes the process of breaking off dead and brittle branches from such a species as Larch—a rather different operation but with the same object in view.

On the whole, therefore, we find this production disappointing and somewhat amateurish. It would be improved by much pruning so that the subject matter is reduced to consist mainly of general observations, supplemented by particular reference to a few species only, the experience in handling which would warrant authoritative statements in respect of thinning technique being published.

Although the booklet cannot be classed as a valuable addition to silviculture literature, its price should not deter anyone from obtaining and perusing it with discrimination.