

The Selection of Tree Species.

Mark L. Anderson.

Oliver and Boyd. 146 pp. 12/6.

The aim of this book can best be expressed in the words of the Author's Introduction: "to strive to provide what still seems to be lacking—some relatively objective means of distinguishing and classifying plantable site types which will serve, not only as an aid in the choice of tree species, but as a basis upon which a sound silvicultural practice can be built." That final phrase is typical of the author's outlook. He is not satisfied merely to provide us with a method of choosing a species which will produce a crop on any particular planting site but he aspires to relate his choice so closely to all the site factors that something approaching the natural ecological unit will result. Such a unit under proper management will have considerable powers

of resistance to disease and may well be capable of natural regeneration, even though the species used be exotic.

As in his previous booklet (published in 1932) Dr. Anderson relies on the ecological method of selection. He has summarised his experience in two tables based on six fertility and four moisture classes; the first table distinguishes twenty plant communities for which the second table lists suitable species in 'ready-reckoner' fashion. In addition he has included a useful section on other aids to locality assessment—data to be gleaned from existing stands or cleared woodlands, from geological and topographical maps, from general and local information etc. There is also a section which summarises for all the species in common use in afforestation valuable information under such heads as Range and Importance, Ecology, Uses of Timber, Scope for Use, and Technique. There are 21 excellent photographs to illustrate the text.

Irish foresters will note that the selections recommended are those which have been put into practice with good results in our own State forests over the past 20 years. Thanks to the implementation of Dr. Anderson's ideas, as now expressed in this book, it can be fairly claimed that Irish selections show a very sensitive response to site factors. In other respects too, particularly in the use of *Pinus contorta*, practice here has taken a distinctive and pioneer course which is likely to be followed elsewhere. A careful study of the author's remarks on tree species is strongly recommended and we would be glad to see him enlarge on these observations at some future date.

We would have wished that the author had enlarged on the descriptions of soil types corresponding to his typical plant communities using the modern descriptions of soils based on differentiation into horizons. It is felt that a systematic description of soils using macroscopic characteristics only and which could be applied without undue difficulty in the field would add considerably to the value of this work and would help the user to avoid error and to place the site in its correct class with greater certainty.

The author anticipates that some subdivision of his general vegetational types may be necessary within specific regions and this would appear to be the case at the lower end of the fertility scale for Ireland. Unfortunately our western peat types have been insufficiently studied from the aspect of pure ecology as well as from the aspects of plantability and selection, and further research and experimental plantings are indicated and may enable us to elaborate on the author's more general classification. Further research is also indicated for our limestone esker ridges and shallow soils over limestone pavement and also for our *Calluna-Molinia* community which appears to be a degradation of the *Calluna* heath type as described by him and which is not extensively developed here.

One might have expected in a work of this nature some reference to the modern technique of mechanical cultivation and manurial applica-

tions and how far they can be expected to alter permanently the essential characteristics of the site. Nevertheless this work represents the first comprehensive approach in these islands to a very intricate problem and is likely to remain for many years an invaluable aid in selection. No forester should neglect its careful and detailed study.

T. McE.