
The late Professor R. S. Troup’s “Exotic Forest Trees in the British Empire” was published in 1932 and was based in part on information supplied to the Third British Empire Forestry Conference in 1928. In view of the greatly increased experience with exotics since then, the Sixth Conference meeting in Canada in 1952 recommended the collection of information in a standardised form for presentation to the Seventh Conference in 1957. This substantial volume is Great Britain’s response to this request.

Part 1 discusses general considerations affecting exotic forest trees. The first chapter “The Place of Exotic Trees in British Silviculture” is an admirable review with much that is pertinent to New Zealand. It stresses the paucity of indigenous trees, due mainly to geological accident, and the long period of exotic introduction going back at least to Roman times. The process gained impetus with the great developments since the sixteenth century. Most introductions were initially for arboricultural rather than silvicultural purposes, and were stimulated by increasing wealth at home and the enormous growth of maritime trade and colonization. In New Zealand the need for exotics arose, not from the lack of indigenous tree species, but from their intractability. But here too we find the earliest introductions were made, not on forestry grounds, but because the colonists desired to surround themselves with the traditional species of their homeland.

Generally an exotic tree passes through three stages before it is accepted for widespread use in the forest. On first introduction it is planted as a specimen in gardens and arboreta. Those showing promise are then tried under forest conditions in small plots, but usually still under favourable conditions. In the third stage the chosen species is planted more widely and on more difficult sites than it has hitherto met. In the briefer period of development of exotic forest species in New Zealand the second stage has often been the use of a tree as a shelterbelt. In addition to passing through these developmental stages, an exotic must be reasonably easy to rear in the nursery and to establish in the forest, and have a regular seed supply, before it can come into widespread and general use. In short, it must be amenable to domestication as well as acclimatisation. A feature of the long history of exotics in Great Britain is that only a very few, for example, sycamore, have become naturalised in the sense that they can maintain and extend their position naturally.

Use of exotics in British forestry may be considered to have begun seriously in the eighteenth century with Norway spruce, silver fir and European larch. Douglas fir came into general use from the middle of the nineteenth century and Sitka spruce in its last decades. These were joined in the early years of the present century by Japanese
larch and Corsican pine, while such Pacific Coast species as *Abies grandis*, *A. procera*, *Thuja plicata* and *Tsuga heterophylla* were planted on a small scale. In the main, however, most reliance continued to be placed on European larch and Norway spruce until a turning point was reached with the setting up of the British Forestry Commission in 1919, and afforestation of large areas of more difficult, treeless country. With the trend towards softwoods and with Scots pine the only native coniferous timber tree, it was inevitable that exotic conifers should be more widely used, particularly as several had proved satisfactory pioneer species on open land. With broadleaved trees the position has been quite different. The market for anything but high quality hardwoods remains problematical, and it is difficult to see any important place for exotics in the limited areas of the very best sites that are likely to be devoted to hardwoods in the future.

Some promising exotics so far occupying a minor role in British forestry have rather similar site requirements, and care is needed in their selection to avoid complications of management and marketing. These complications appear to be regarded as outweighing the biological protection advantages of diversification of species and genera. Britain’s forestry programme, like our own, includes the afforestation of large areas with exotics, often in pure stands. On the face of it, this would seem to carry with it a great risk of insect damage, particularly as many non-indigenous pests have entered with and become firmly established on the imported host tree. However, only in the case of *Abies alba* has the use of an exotic tree in Britain been seriously curtailed by insect attack. Nor is there evidence that the exotic trees are more or less subject to fungal and bacterial diseases than the native trees, though it is unfortunate that a number of diseases have been introduced, apparently with their hosts. Experience in Britain gives little support to any general condemnation of exotics on grounds of liability to disease.

There, as elsewhere, increasing attention is being paid to provenance in exotic trees. This should not only obviate bad blunders due to the use of quite unsuitable provenances, but add more precision to the use of exotics leading to improvements in growth and performance. However, more immediate results are considered to be obtainable by studying the wide range of introductions already in the country, restricting seed collection to elite stands and establishing seed orchards. Even with our much shorter history of introductions, this observation seems equally applicable to New Zealand, where the eucalypts provide a striking example. In spite of the general similarity of the climates of Britain and New Zealand, we should bear in mind the great difference in latitude and should not expect any provenance to behave similarly in the two countries.

Chapter 2 describes the climate of Great Britain, more particularly temperature, rainfall, humidity, evaporation, sunshine and atmospheric pollution. There still appears to be no general agreement on the most
suitable system of classifying climate for forestry purposes, but it is considered that it must include the significant extreme temperatures, the amount and distribution of rainfall, and some measure of summer warmth. As in New Zealand, winter minimum temperatures are of less importance than unseasonable frosts during the growing season.

Chapter 3 deals with soils and stresses the uncertainty of long term results on land previously devoid of forest or carrying trees of a very different kind from the exotic conifers now being planted. Chapter 4 describes techniques of establishment and tending, including nursery techniques, ground preparation and planting methods. Much work has been done on the mechanisation of preparation but actual planting is apparently still mainly manual.

Part II comprises a description of more than a hundred exotic conifers. The major species are fully described under the headings specified in the Standing Committee’s questionnaire: scientific, local and trade names, country of origin and provenance, historical notes, extent of planting, climatic requirements, site requirements, establishment techniques, tending and thinning, other silvicultural characteristics, rate of growth and yield, diseases and pests, other forms of damage, seed and seed bearing, genetics and breeding, natural regeneration, timber, potentialities of the species in the national economy, and references to published information. These references are fairly full, those for Sitka spruce, for example, numbering 62.

Part III, dealing with exotic broadleaved trees, is naturally more restricted, for none fills a really important role in British forestry. Unexpectedly, no less than 79 species, varieties and hybrids of *Eucalyptus* are listed. None is much more than a curiosity and they have been included only because of the importance of the genus as an exotic in many other lands.

Compilation of reviews of exotic trees in several Commonwealth countries must be counted as one of the most valuable outcomes of the Seventh Forestry Conference, and Great Britain’s contribution is quite the most comprehensive. As this book must be regarded as an indispensable reference, it is unfortunate that volumes and basal areas are given on a quarter-girth basis and consequently cannot be compared directly with the records of most English-speaking countries.

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**FORESTRY, AGRICULTURE AND MARGINAL LAND.** A report by the National Resources (Technical) Committee. H.M. Stationery Office 1957. 67 pp. Price 4/-.

This is a highly informative document, deserving of a wider public than it is likely to attain in this country. Issued last year from the Office of the Lord President of the Council, the report deals with an important aspect of land utilisation policy in the United Kingdom, and uncovers much that has a familiar ring to New Zealand ears.