Agriculture

TREES & SHRUBS

for the Midlands and Northern Wheatbelt

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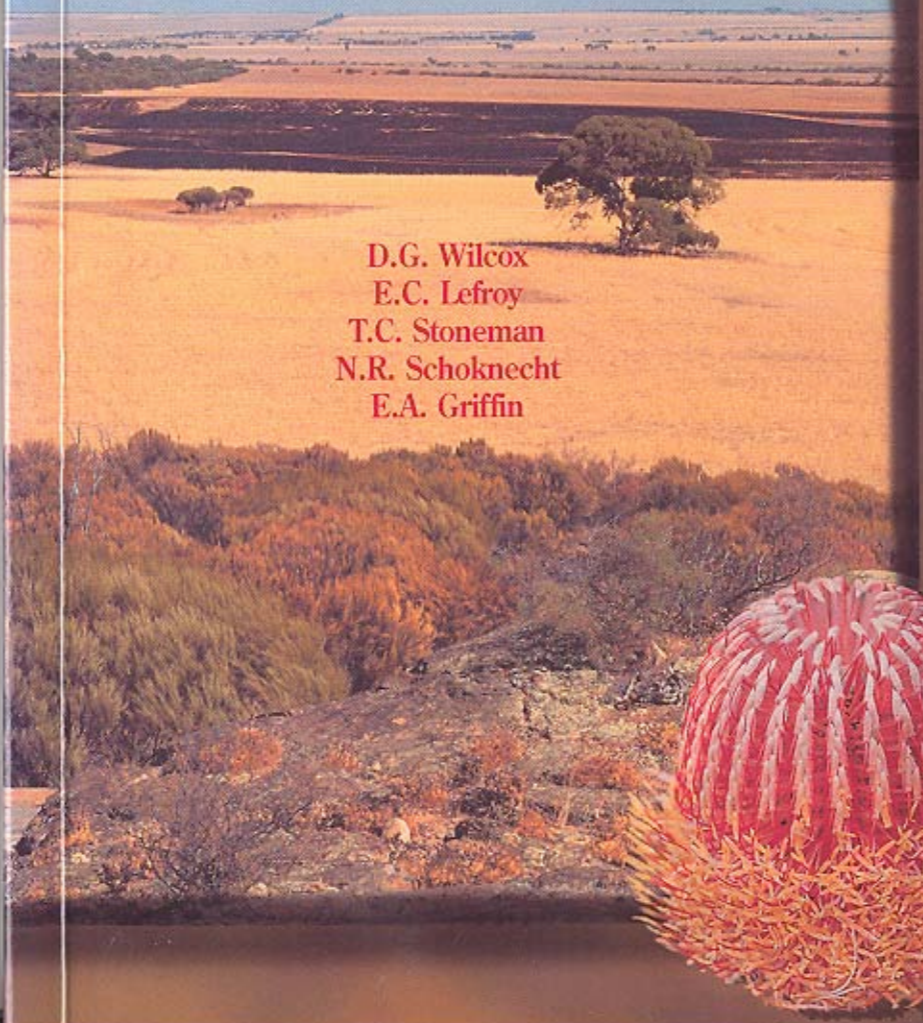

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Noel Schoknecht (Agriculture Western Australia) and Ted Griffin surveyed the western part of the region, together describing the landforms and soils with Ted Griffin describing the plants. This was carried out as part of a National Landcare Project. Ted Lefroy (Agriculture Western Australia) and David Wilcox coordinated the production of this book on behalf of the East Three Springs Catchment Group.

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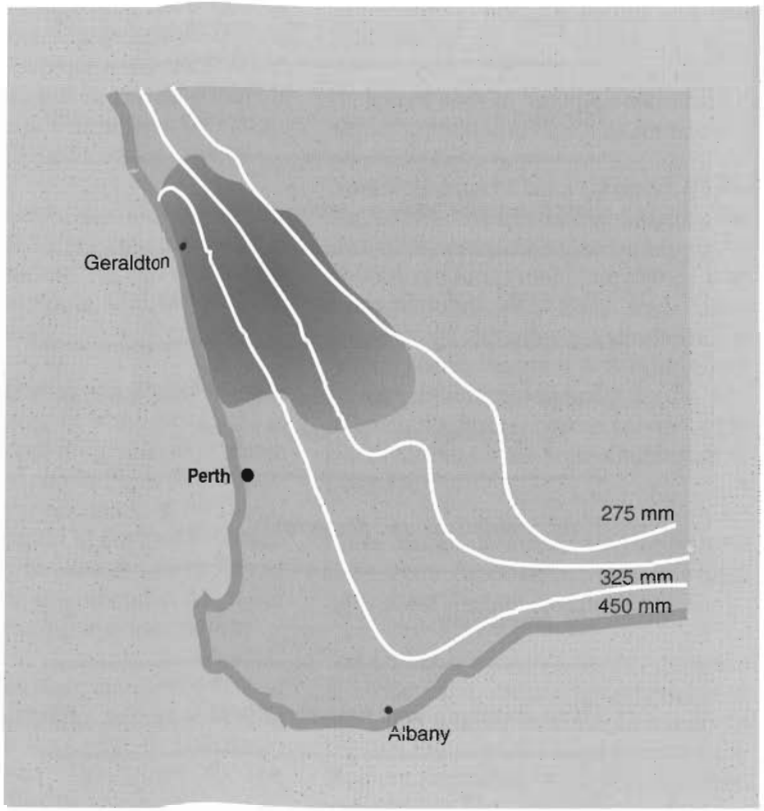

The Midlands and Northern Wheatbelt region covered by this book

FOREWORD

Farmers in the Midlands and Northern Wheatbelt are making great efforts to move towards sustainable and viable forms of land use. This book is a direct product of that effort.

The East Three Springs Catchment Group, in common with a great many other groups in the region, has been through a process of farm and catchment planning and is now implementing land use methods which are consistent with sustainable agriculture. A major concern they face is how to best tackle the large revegetation task they identified as a necessary step towards sustainable agriculture. Their initial response was to arrange for the production of this book, which has succeeded in clearly presenting basic information on the plants, soils and landforms of the region.

The need to increase the areas of land under perennial vegetation is a challenge faced by landholders throughout the south-west of Western Australia. It is becoming increasingly evident from catchment studies that more deep-rooted permanent vegetation is needed to reverse the effects of extensive clearing, which has resulted in land degradation in many forms.

This need to increase vegetative cover has been enthusiastically accepted by many landholders. However, specific information about native plants suitable for particular soils in different farming districts has not been readily available. The East Three Springs Catchment Group is to be congratulated for its initiative in producing this book which will not only make their task an easier one, but enable many others throughout the region to confidently set about re-establishing native vegetation on parts of their farms.

The use of landscape cross-section diagrams in this book combined with soil descriptions makes it very easy for the reader to identify a particular area. The clear and straight forward plant descriptions and the colour photographs enable farmers and others to identify plants they are interested in, with a particular emphasis on those which have the greatest chance of success in revegetation.

The growing interest in conservation issues in our community is reflected in the range of organisations that have assisted the East Three Springs Catchment Group in producing this book. The Gordon Reid Foundation for Conservation, the Save the Bush Fund administered by Landcare Australia, Greening Australia, Renison Gold Corporation and CSBP all provided financial assistance. I also wish to acknowledge the financial support given towards printing and publication which was provided by the Minister for Environment. Sustainable farming practices and the conservation of our natural heritage are clearly objectives shared by us both.

I believe that this publication will be welcomed not only as a valuable contribution to the objectives of sustainable agriculture, but also as a useful field guide for naturalists, tourists and others interested in the landforms and vegetation of this very diverse region.

Monty House
Minister for Primary Industry

Introduction

This book has been compiled to assist farmers and others in the Midlands and Northern Wheatbelt in the choice of the most suitable native plants for use in revegetation.

Trees and shrubs have many roles in the agricultural environment. It is now recognised that the total cover of perennial plants needs to be increased if our farming systems are to be sustainable in the long term. Trees and shrubs help to maintain the hydrologic balance, reducing rising watertables and the waterlogging and salinity which follow. Some species can be used to restore saltland and eroded land and to reduce waterlogging when used in association with contour banks and grade lines. Others can be used as windbreaks and will be essential parts of the alley farming systems being developed to increase crop and pasture production on some soils. Much of this perennial vegetation, when linked in corridors, will provide new habitat for native birds and other animals.

This guide is similar to the earlier publication *Revegetation Guide to the Central Wheatbelt* (Lefroy, Hobbs and Atkins 1991) and follows a similar format. However, because the Midlands and Northern Wheatbelt is much larger and more diverse, it has been divided into 22 districts. Throughout each district there are common features in terms of geology, topography, climate and plant communities.

Two hundred and ninety plants are described with notes on the flowering times and seed production and 126 of these are illustrated in colour.

The commonly occurring native trees and shrubs which are considered most likely to be successful in revegetation projects are listed for each soil type within each district. The list is by no means exhaustive as we have omitted those plants which are rare, those whose seed may be difficult to propagate and those where there is no information on germination or growth requirements. Some local species known to be difficult to propagate, such as the grevilleas and verticordias, have been included where they commonly occur and give a particular character to the vegetation.

Understorey plants are strongly represented as they have an important role in maintaining the vigour of newly established vegetation. They provide the necessary environmental conditions for the germination and re-establishment of new shrub and tree seedlings and play a vital role in the cycling of nutrients, especially nitrogen and phosphorus, but also of other minerals essential for plant growth. They also give plant communities the

layered structure which is lost through clearing and grazing, and provide a greater range of habitats and food sources for birds and other animals than trees alone.

In describing the vegetation we have departed from strict ecological convention by listing some of the tall shrubs as trees, particularly those from plant communities found on rocky outcrops and sandplain. In these cases we have called the tallest elements trees in order to distinguish them from the middle layer. In a well balanced revegetation program individuals should be chosen from each layer.

In general the most suitable plants for any location are those which occur there naturally and which are easily established from seed or seedlings. In some circumstances, plant species not native to an area may be better adapted to the changed conditions that have resulted since clearing. We have emphasised species found naturally in each location but have included a general list of trees and shrubs that have been used successfully in the region, both native and exotic, at the end of the book. These are listed by soil type.

The importance of using local seed when setting out to re-establish native plants should be stressed. Some plants which we have recommended, such as the York gum (*Eucalyptus loxophleba*), occur throughout the region, and although seeds and seedlings of a commonly occurring species such as this may be available from other areas, those grown from seed found in the immediate vicinity are more likely to be better adapted to the local conditions. So it is important to make sure that the seed is of a local provenance, in other words that it was collected in the same locality in which you are planting.

Where large quantities of seed are required and where the only source of seed is remnant bush already under stress, seed orchards are strongly recommended. These provide a local and reliable source of easily collected seed and help protect remnant areas that are coming under increasing threat from seed collection.

Seed orchards also serve as a valuable educational resource, helping people get to know the native plants of a particular area and appreciate the great diversity of trees and shrubs that have evolved in this region.