in a plantation by themselves. The natural habit of this tree is gregarious, and it is found mostly in "beds" in Tasmania, Gippsland, and Cape Otway, a rule which applies to most of the Eucalypts.

In Europe various trees are used as "nurses"—*i.e.*, fast-growing trees are planted alternatively with superior kinds of slower growth. The latter are intended to form the standard or matured crop, and the former, after serving their purpose as shelter, are cut out at six or eight years. Many persons in Canterbury, no doubt, mixed their plantations with this in view, but as they mixed incorrectly they made a mistake. They got shelter certainly, but at the expense of timber. Again, in planting Eucalypts no regard was paid to the fact that the several varieties of this tree affect widely differing soils and situations. For example: To plant blue-gums on a dry stony ridge, with little or no soil or moisture, or on a dry upland exposed to winds on every side, must be fatal to a tree which is native to deep sheltered valleys and sandy and moist subsoil. It is equally a mistake to plant stringy bark in low wet places, since this variety requires a dry sandy heathy soil with clay bottom, or deep rich soils of vegetable humus. Then, I noticed the *Eucalyptus amygdalina*—the giant tree of Australasia—our mountain ash, or, as it is sometimes called in Victoria, blackbut*—planted in schist formations, whereas it is only suited to the deep mountain soils of the lower valleys of Gippsland and Cape Otway, where exist the rich vegetable humus in which it flourishes.

These examples illustrate the necessity for scientific knowledge and special care, not only in the selection of trees for planting in New Zealand, but also in determining the suitability of soil and situation to each particular variety. When these have been determined, trees should be planted only in the localities where the conditions agree with their natural proclivities. In order that mistakes of the kind referred to may be avoided in future, I give hereunder a list of Eculypts and the soils they affect in their natural habitats. The list, of course, embodies merely general rules, to which there are equally, of course, exceptions.

—	Localities.	Habit.
Eucalytus rostrata (red-gum) ..	Victoria, South Australia, New South Wales, Western Australia	River-banks, swamps, and flooded lands; silt and alluvial deposits; sandy or vegetable soils, with clay bottom.
„ *teretecorius* Gippsland red-gum) ..		
Eucalyptus globulus (blue-gum) ..	Victoria, Tasmania ..	Littoral; deep sheltered gorges; vegetable humus, or sandy soil, with clay or moist bottom.
Eucalyptus amygdalina (giant tree, mountain ash, or blackbut)	Victoria, Tasmania ..	Two forms, lowland and mountain. Former is useless; latter, with Tasmanian stringy bark and Victorian blue-gum, assumes giant size. Schistose soil, with vegetable humus.
Eucalyptus leucoxylon (ironbark)—		
Var. *siderophloia*	New South Wales, Victoria	Auriferous quartz gravel; generally following known leads of gold; dry lands. In South Australia it affects quartzite formations and dry lands.
„ *sideroxylon**	Victoria, New South Wales	
„ *leucoxylon*	South Australia, Victoria	
Eucalyptus goniocalyx (grey-gum)..	Victoria, Tasmania, New South Wales, South Australia	This tree is a good grower in poor soils, quartz gravel, with clay subsoil; a fine useful timber tree.
Eucalyptus obliqua	Victoria	Poor sandy soils in mountain districts; grows to large size; requires deep ground.
„ *macrorhyncha* ..	Tasmania	
„ *capitelata*	Victoria	
„ *piperita*	„	
„ *muelleriana*†	„	
Eucalyptus sieberiana (white-gum, silver-top: in Gippsland, white-ironbark)	Victoria, Tasmania ..	Mostly good soils, top of mountains, up to 3,500 ft.; vegetable humus or alluvial deposits in lower valleys; a lowland form, with clean straight stems, not unlike stringy bark in Gippsland; grows in sandy soils.
Eucalytus marginata (jarrah) ..	Western Australia ..	Sandy, loamy, heathy soils, deep, with clay subsoil; affects coastal or littoral situations.
Eucalyptus diversicolor (yate-tree, or karri)	Western Australia ..	Sandy loam, coastal districts.

* Red ironbark. Dry ironstone gravel and quartz reefs, mostly following, in Victoria, auriferous leads or the strike of gold-bearing reefs, and is therefore an indicator of gold-bearing lodes.

† Yellow stringy bark of Southern Victoria. A valuable timber tree for wood-paving, sleepers, piles, and marine work generally.

The greater number of these trees could be successfully grown in New Zealand. Those best suited for the open plains of Canterbury and Otago I place in the following order:—

Eucalyptus globulus (blue-gum).
„ *sieberiana* (white-gum top, ironbark).
„ *goniocalyx* (grey-gum).
„ *leucoxylon* (white ironbark)
„ „ var. *sideroxylon* (red ironbark).
„ *obliqua* (common stringy-bark).
„ *muelleriana* (yellow stringy-bark).
„ *marginata* (jarrah): North Island only.
„ *diversicolor* (karri): North Island only.

These timber-trees are among the very best of the genus, which contains 170 species. I am satisfied that if planters will select from the above list they will obtain satisfactory results both as to timber and shelter.

There are, of course, other gums in New South Wales and Tasmania which might do well, but those named represent, from a commercial point of view, the very best timber-trees; and it should

* This is not the New South Wales blackbut, which I believe is our ironbark.