

eucalypts, and the trees are everywhere healthy and in vigorous growth. The plantations are situated in an area where, in addition to cold winters, there are occasional severe frosts in summer. In commencing the cultivation of eucalypts under these conditions there was no option but to choose hardy species. Tender subtropical trees would have perished almost as fast as they were planted, or at the best would have struggled on as mere stunted shrubs. Hence the principal specific groups represented are those known as *amygdalina*, *coriacea*, *Risdoni* var. *elata*, *Muelleri*, *Gunnii*, *viminalis*, *obliqua*, *regnans*, *eugenioides*, and *sieberiana*. A few of these may serve only for shelter, firewood, and rough fencing; but the five or six last named are certainly valuable timber-trees that may be expected to grow to a large size. Quite possibly on the pumice land all of them will develop a degree of durability beyond that attained in their native habitat. The object-lesson as a whole is of immense value as showing what may be done with eucalypts in our colder inland districts, especially as the trees will soon yield an abundant supply of seed for distribution. The young forests of larch, pine, and eucalypt are already softening the climatic conditions, and thus preparing the way for species that have hitherto been unable to endure the winds and frosts. In judging timber values, we must remember that they are relative to circumstances. Thus, even in parts of Australia where more durable timbers are not obtainable and cannot be grown, the white-gums and stringy-barks come into demand and are gladly utilized.

In the grounds of Wesley Training College, on the Auckland isthmus, we have nearly forty species of eucalyptus under trial. They are distributed in small plantations, so that they may as far as possible be tested on different kinds of soil. Many of them are exposed to the full force of the prevailing south-west winds, and have consequently made less growth than would have been the case had they been effectively sheltered. The growth results to date for trees of twenty species are as follows:—

Name.	Number of Years from Planting.	Girth 4 ft. above Ground.	Height in Feet.
Red-gums—		Ft. in.	
Rostrata	9	3 2	42
Tereticornis	9	3 2	40
Ironbarks—			
Paniculata	15	3 0	43
Sideroxylon	15	2 9	40
Stringy-barks—			
Capitellata	15	3 0	40
Eugenioides	4	1 2	21
Obliqua	8	2 1	30
Macrorrhyncha	9	3 6	35
Miscellaneous—			
Macarthuri	9	4 0	50
Resinifera	9	1 11	40
Pilularis	7	1 10	30
Longifolia	7	1 4	27
Robusta	8	2 4	30
Globulus	35	8 0	80
Sieberiana	9	2 0	27
Viminalis	9	3 1	42
Gunnii	6	2 0	33
Amygdalina	8	2 6	35
Coriacea	9	2 6	40
Urnigera	6	1 8	25

Eighteen other species are represented by healthy specimens, but the plants are as yet not sufficiently advanced for detailed report. The complete list includes nearly all the most valued of the timber eucalypts; and the experiment as a whole is very encouraging, especially when it is remembered how many localities there are in the north more favourable for growing eucalypts than this isthmus.

To attain their best, eucalyptus trees must be closely planted in wide belts, so that they may have the benefit of mutual protection against winds and frosts, and so also that they may make long clean stems. The forest giants recorded in Australia and Tasmania have grown up in sheltered valleys or in the midst of other trees. We must heed the lessons of nature, and give our eucalypts congenial conditions. In all situations exposed either to cold alpine winds or to salt-sea breezes the plantation should have an outer screen of hardier species, or preferably of pines.

The initial difficulty in any attempt to grow eucalypts is to obtain a supply of seed from good parent trees and true to specific description. A eucalypt may be botanically true to type, and yet of an altogether inferior strain, as may often be seen in the case of *E. globulus*. In the Australian bush the seed-collector, even if he knows his business, is constantly tempted to gather from stunted, twisted, or spreading trees, simply because they are more accessible. He is also tempted to substitute one species for another. The city seed-dealer is himself deceived, and passes on the deception to his customers. It thus too often happens that the planter, after years of waiting, finds that his trees are quite different from what he expected, and more or less useless. The writer has himself several times been supplied by quite reputable seed-houses with parcels of seed that were either mixed or altogether wrongly named. If eucalyptus-growing is to be made a success in this country, it would seem imperative that some competent person shall visit Australia and Tasmania, and either collect the seeds