

The Commission's Plant Propagation Branch comprises the Manjimup Nursery, Seed Technologies, and the Tree Breeding Centre. The following research and development projects have commenced:



Establishing the radiata pine clonal trial at Ferguson Valley.

Manjimup Nursery...

- The Commission's 226 hectare nursery produced 18 million seedlings for sale and planting. Species grown included Maritime pine, radiata pine, Tasmanian bluegum, karri, Sydney bluegum, sugar gum, and jarrah.



Measuring salinity with the EM38.

Seed Technologies...

- Genetic gain trials of Sydney bluegum have been established in Cranbrook and Frankland.
- Clones of radiata pine have been planted through somatic embryogenesis, which allows large numbers of like-embryos to be produced. This allows the highest level of genetic selection to be used to produce the fastest growing trees with the wood attributes favoured by local industry.
- Field and tank trials of various salt tolerant species including *Eucalyptus occidentalis*, *Eucalyptus camaldulensis*, *Eucalyptus cladocalyx* and various *melaleucas* have been conducted.
- Indian sandalwood (*Santalum album*) seedlings have been established in the Seed Technologies Research Nursery to test pot host relationships, seed germination and growth performance.



Grafting Sydney bluegum.



Hardened-off radiata emblings.

*(top) Salt and water log trial site at Cranbrook.
 (middle) Radiata tissue culture plants.
 (bottom) The Hon Minister for Agriculture, Forestry and Fisheries inspects a young Maritime pine with the Commission's Tree Breeding Manager.*

Tree Breeding Centre...

- A total of 12 hectares of radiata pine have been planted to demonstrate the growth potential of this species on sites where water is not limited. Over 13,000 seedlings were planted using superior genetics and optimal site location.
- In partnership with the New Zealand Radiata Pine Breeding Cooperative, a series of international trials were conducted to evaluate the growth, wood quality and disease resistance of Western Australian radiata pine. Trials were planted in South Africa (two sites), Spain (four sites), France (two sites), Chile (two sites) and in New Zealand (three sites).
- Four hectares of the drought-tolerant species brutian pine were planted in new trials at Marchagee, Brookton and Esperance.

- As a partner of the JVAP Australian Low Rainfall Tree Improvement Group (ALRTIG), the Commission participated in a series of genetic trials across Australia. Spotted gum, river red gum, and ALRTIG brutian pine were planted.
- Intensive malformation assessments have been conducted on 19,000 Maritime pine pedigree trees. Ongoing studies will identify the causes of stem malformation and its association with certain site types.
- A review of mature Western blugeums from 20 hectares of genetic trials identified elite trees for vigour and wood density. Over 1,000 grafts were made at the Manjimup Propagation Branch and 43% of these were successful. The elite trees have been planted in orchards and genetic archives.



Establishing an Indian sandalwood seed orchard with hosts.