PRELIMINARY INVESTIGATIONS ON THE PROPAGATION OF
EUGENIA GRANDIS THROUGH TISSUE CULTURE

by

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Most of the information available on tissue culture propagation of plants has
been obtained from experiments of herbaceous and not woody plants. There have
been only very few reports on the successful propagation of woody species through
tissue culture.

An attempt has been made in the Botanic Gardens of Singapore to propagate
Eugenia grandis through tissue culture.

E. grandis (Jambu Laut) is a majestic and lofty tree which can grow to a
height of 25 to 30 metres. The crown has a dense foliage and can spread to a
diameter of about 40 metres which makes it a very good plant for shade. It grows
fast and is planted as a roadside tree in Singapore.

E. grandis seeds were collected and germinated in sand. The seedlings
obtained from these seeds were used as plant materials for tissue culture experi-
ments. Internodal sections of the seedlings were surface sterilised in chlorox
and cultured in medium with 2, 4-dichlorophenoxycetic acid (Fu Fan et al, 1978).
Sections of the nodes and the shoot tips were also surface sterilised but were
cultured in Ac medium (Table I).

| TABLE I |
|---------------------------------|------------------|
| Ac medium                       | per litre        |
| Murashige & Skoog inorganic salts| half strength    |
| Thiamine                        | 0.4 mg           |
| Myo-inositol                    | 100 mg           |
| Coconut water                   | 150 ml           |
| Indoleacetic acid               | 5 mg             |
| Kinetin                         | 2.5 mg           |
| Sugar                           | 30 g             |
| Agar                            | 9 g              |
| pH                              | 5.2              |

The internodal sections developed callus which turned green in colour. The
sections of the nodes and shoot tips in Ac medium produced roots and adventitious
shoots (Plates 1 and 2) within 8 weeks.

Observations made so far indicate that through tissue culture it is possible
to propagate E. grandis. Detailed results of current experiments will be published
later.

LITERATURE CITED

PLATE 1
Nodal section of *E. grandis*
showing roots (r).

PLATE 2
Nodal section of *E. grandis*
producing a shoot (s).