

ABSTRACT

**THE EFFECT OF BASAL MEDIUM AND ORGANIC ADENDA ON
GROWTH OF DENDROBIUM SEEDLING IN VITRO**

By

VINCENTIA ATIKA SEPTIANA

The objective of this research was to study effects of basal media and various organic adenda on growth of *Dendrobium* seedlings in vitro.

The experiment was conducted in a completely randomized design with three replication. Treatments were arranged factorially with two basal media (i.e., ½ MS or Growmore) as the first factor and various organic adenda (i.e., tomato extract, mungbean sprout extract, potato extract or banana homogenate) as the second factor. Data on shoot length, number of leaves, number of roots, length of roots and shoot fresh weights were subjected to analysis of variance and if there was any significant difference among F values the analysis was followed by mean separation test using least significant difference (LSD) at $P_{0.05}$.

Result of the experiment showed that (1) both basal media and various organic adenda added in each medium significantly affected growth of *Dendrobium* seedlings in vitro, and there was significant interaction between the two factors in affecting seedling growth. (2) Growmore basal medium resulted in better

seedling growth compared to $\frac{1}{2}$ MS basal medium as showed by greater values of shoot length, number of leaves, number of roots, root length, and shoot fresh weights if supplemented by mungbean sprout extract. Growmore medium also resulted in higher values of number of leaves and number of roots if supplemented by potato extract, whereas if supplemented by tomato extract, Growmore medium only resulted in higher number of roots when compared to $\frac{1}{2}$ MS medium. (3) $\frac{1}{2}$ MS medium resulted higher number of roots when compared to Growmore medium if supplemented by banana homogenate.

Keyword: medium, $\frac{1}{2}$ MS, Growmore, adenda, tomat, potator, mungbean sprout, banana, *Dendrobium*, in vitro.