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**Micropropagation of orchids at the Singapore Botanic Gardens and the use of organic additives in culture media**

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The Micropropagation Laboratory at the Singapore Botanic Gardens (SBG) has a long and rich heritage dating back to 1928 when it was established by Prof. Richard Eric Holttum, the then director of the Gardens. Initially, the lab's primary function was to germinate the seeds of orchid hybrids in sterile *in vitro* cultures. The first hybrid to flower through this aseptic seed germination method was *Spathoglottis* Primrose, in 1931. Over the course of its history, the laboratory has successfully germinated the seeds of numerous orchid hybrids of international renown. In the 1970s, the lab expanded its function to include the cloning of orchid hybrids. Currently, one of the core functions of the Micropropagation Lab is to support SBG's VIP Orchid Hybridisation Programme by germinating seeds of new orchid hybrids and cloning named hybrids. Additionally, the lab plays a crucial role in the conservation of native plant species including orchids and other plants. The cloning process utilises apical meristems and axillary buds as explants. Culture media typically consist of a basal medium, such as Knudson C or Vacin & Went, supplemented with organic additives like coconut water, bananas, potatoes, or tomatoes. These additives contain carbohydrates, proteins, vitamins, amino acids, organic acids, natural plant growth regulators, and potent antioxidants, which enhance shoot and root proliferation. To absorb phenolic compounds that may be produced by the explants, activated charcoal or polyvinylpyrrolidone is sometimes used. Through its ongoing endeavours, SBG's Micropropagation Laboratory continues to make advancements in the fields of orchid seed germination, cloning, and the conservation of native plants.

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