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THE EFFECT OF LOCAL FERTILIZERS ON GROWTH OF *BULBOPHYLLUM FASCINATOR* AND *DENDROBIUM CRETACEUM* PROTOCORMS.

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ABSTRACT

Currently orchids industrial get a high demand from the global market. Plant tissue culture technique provides an alternative ways to propagate orchid protocorms effectively compared to conventional method. Nowadays, researchers have manipulated basal medium by incorporating different materials to enhance the growth of orchid protocorms. Therefore, the aim of this study is to investigate the influence of two different local fertilizers, namely, Gaviota and B'GREEN Seaweed fertilizer on the growth of *Bulbophyllum fascinator* and *Dendrobium cretaceum* protocorms. The protocorms were cultured on the half strength Murashige and Skoog(MS) basal medium supplemented with 30 g/l sucrose, 2 g/l Gelrite agar , 1 g/l charcoal and various concentrations of Gaviota and B'GREEN Seaweed fertilizer. For the media that incorporated Gaviota as a fertilizer, the most optimum growth of *Bulbophyllum fascinator* was observed on Media I (½ MS added with 150 mg/l of Gaviota fertilizer). The most optimum growth of *Dendrobium cretaceum* was observed on Media L (½ MS added with 300 mg/l Gaviota). For media using B'GREEN Seaweed as a fertilizer, it was observed on Media A (½ MS added with 1 ml/l B'GREEN Seaweed fertilizer) showed the positive influence on the growth of *Bulbophyllum fascinator* and *Dendrobium cretaceum* protocorms. Based on the observation, the growth of these protocorms was retarded on Media F (½ MS added with 6 ml/l B'GREEN Seaweed Fertilizer). From our findings, Gaviota enhanced the optimum growth of *Bulbophyllum fascinator* and *Dendrobium cretaceum* protocorms

CHAPTER ONE

INTRODUCTION

1.1 Background of study

Orchids are among the most diverse of the flowering plant families, with over 800 described genera and 20,000 species. According to Chugh et al., 2009, orchid family are grown as ornamental crops and are valued as a cut flowers because of their exotic beauty and long shelf life. Orchids are full of mystery regarding to their sizes, shapes, colors and fragnances. Besides that, high demands of orchids in floriculture field make it as a million dollar industry in a several countries like Thailand, Malaysia, Singapore and Australia (Paek et al., 2011). Growing or planting orchids is one of the most popular hobbies worldwide.

Unfortunately, Chugh et al., 2009, stated that several species of orchids like *Rhynchostylis* and *Paphiopedilum* are threatened due to extensive deforestation and indiscriminate collection. Some of *Vanda* sp. has also been identified as one of the threatened species (Decruse et al., 2003).