IN VITRO SEEDLINGS GROWTH AND ACCLIMATIZATION OF *COELOGYNE STRICTA* (D. DON) SCHLTR. AND *COELOGYNE FLACCIDA* LINDL.

A DISSERTATION
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ABSTRACT

In vitro seedlings growth of *Coelogyne stricta* (D. Don) Schltr. and *Coelogyne flaccida* Lindl., both- epiphytic, ornamental and medicinal orchids, from immature seeds were carried out on Murashige and Skoog (MS) medium with 15 different combinations of 6-Benzylaminopurine (BAP) and α-Naphthalene acetic acid (NAA). MS medium supplemented with BAP (1 mg/l) and NAA (1 mg/l) favoured optimum condition for the seedlings growth of *C. stricta* while *C. flaccida* showed best response on MS medium supplemented with BAP (0.5 mg/l) and NAA (0.5 mg/l). Complete plantlets with shoot and root primordia were first observed in the 23rd week and 22nd week of culture in *C. stricta* and *C. flaccida* respectively. Growth rates with respect to shoot lengths taken after 25 weeks of culture showed significant difference between the two intra-generic species grown under similar conditions of light, temperature and medium. Acclimatization of *C. stricta* (90%) and *C. flaccida* (70%) was best observed in coco-peat, sphagnum moss and sand in the ratio of 2:1:1. The present study has provided useful information that nutrient compounds supplemented with hormones are required for the fast growth of *in vitro* grown seedlings of both species.

Keywords: *In vitro*, *Coelogyne stricta*, *Coelogyne flaccida*, MS, BAP, NAA.

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ABBREVIATIONS AND ACRONYMS

℃	:	degree centrigrade
µM	:	micromolar
2,4-D	:	2,4- Dichlorophenoxyacetic acid
asl	:	above sea level
BAP	:	6-Benzylaminopurine
CITES	:	Convention on International Trade in Endangered Species of Wild Fauna and Flora
cm	:	centimeter
D. Don	:	David Don
df	:	Degrees of freedom
et al.	:	and others
Fig.	:	Figure
g	:	gram
HCl	:	Hydrochloric acid
IBA	:	Indole-3-butyric acid
KN	:	Kinetin
Lindl.	:	John Lindley
mg	:	milligram
mg/l	:	milligram per liter
ml	:	milliliter
MS	:	Murashige and Skoog (1962)
NAA	:	α-Naphthalene acetic acid
NaOH	:	Sodium hydroxide
NHPL	:	National Herbarium and Plant Laboratories
PLBs	:	Protocorm-like bodies
ppm	:	parts per million
psi	:	pound per square inch
S.D.	:	Standard Deviation
Schltr.	:	Schlechter
Sig.	:	Significance level
T.U.	:	Tribhuvan University
viz.	:	namely