

ABSTRACT

Novika Ditasya Putri. 24020123420012. Optimization of Germination and Seedling Growth of *Coelogyne rochussenii* Orchids with Pepton Addition in Different Culture Media. Under the guidance of Nintya Setiari and Yulita Nurchayati.

Coelogyne rochussenii is an orchid with great potential for cultivation as an ornamental plant. One cultivation method that can increase diversity is the in vitro germination of orchid seeds. The success of in vitro orchid seed germination is greatly influenced by the appropriate choice of base medium used in combination with added organic materials. This study aims to determine the effect of different types of base medium and variations in the concentration of added peptone on the in vitro germination and growth of *C. rochussenii* orchid seedlings. This study was conducted using a factorial Complete Randomized Design (CRD). The first factor was the difference in base medium types (MS and NDM), and the second factor was the difference in peptone concentration (0, 2, 4 g/L) added. Each treatment was replicated three times. The quantitatively observed parameters included the germination percentage on day 120, the time of protocorm formation, the percentage of seedlings formed, the time of seedling emergence, the fresh weight of seedlings, the number and length of leaves, and the number and length of roots. Qualitative parameters included the morphology of orchid seeds and seedlings during the germination phase. Quantitative data were analyzed using ANOVA, followed by the DMRT test at a 95% confidence level. Overall, the results indicated that the NDM + 2 g/L peptone medium composition was the best treatment, resulting in the most optimal germination and seedling growth of *C. rochussenii*.

Keywords: *Coelogyne rochussenii*, Germination, MS medium, NDM medium, Peptone, Seedling