



ABSTRACT BOOK

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KEYNOTE SPEAKER

1. **Dr. Andhika Prima Prasetyo** - Researcher at Research Center for Conservation of Marine and Inland Water Resources, NRIA
2. **Dr. Jaspreet Kaur Dhanjal** - Computational Approaches for Mining Therapeutically Important Natural Compounds
3. **Assoc. Prof. Dr. Bimo A. Tejo** - Understanding The Role of Experimental Validation in Computer Based Drug Recovery
4. **Prof. Renu Wadhwa Ph.D** - Head, AIST-INDIA Diverse Assets & Applications International Laboratory National Institute of Advanced Industrial Science & Technology (AIST)
5. **Dr. Ingrid Tania, M.Si** - Recent Trends in Herbal Medicine in Indonesia
6. **Dr. Satria A. kautsar** - Biosynthetic gene cluster analysis
7. **Prof. Sutiman B. Sumitro** - Nanomedicine Prospect and Application



The Effect of Growth Hormones and Sucrose Concentration on The Growth of Red Ginger (*Zingiber Officinale* Roxb. Var. *Rubrum* Rosc.) Callus Culture

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Red ginger (*Zingiber officinale* Roxb. var. *rubrum* Rosc.) is a medicinal plant widely used for health purposes due to its rich content of the active compound gingerol, with many pharmacological activities. In vitro propagation of ginger can be achieved through the technique of callus culture. This study aimed to determine the optimal growth of red ginger callus on media with different plant growth hormones and sucrose concentrations. The hormones used were 2,4-D at 0.5; 1; 1.5 ppm and NAA at 1; 1.5; 2 ppm with different sucrose concentrations of 3; 4.5; and 6% incubated for 8 weeks. The findings indicate that the most optimal callus diameter growth was achieved by using 0.5 ppm of the 2,4D hormone combined with 3% sucrose concentration, resulting in a 9.00 ± 0.57 mm diameter. Additionally, the combination of NAA at 2 ppm and 3% sucrose concentration also produced a notable callus diameter of 7.33 ± 1.52 mm. These results are expected to provide a solution for the use of hormones and sucrose in the in vitro propagation process of ginger through callus culture.

Keywords: *Red ginger, Callus culture, growth hormones, sucrose*