

**THE EFFECT OF VARIOUS STERILIZATION MATERIALS OF LEAF
EXPLANTS ON IN VITRO CULTURE OF ROBUSTA COFFEE
(*Coffea canephora* L.)**

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ABSTRACT

This study aims to determine the effect of various kinds of sterile materials on the effectiveness of Robusta Coffee (*Coffea canephora* L.) leaf explants in vitro. This research was conducted at the Jember State Polytechnic Tissue Culture Laboratory in July – August 2021. This study used a non-factorial completely randomized design (CRD) with four treatments and five replications. The treatments used included treatment A by soaking a mixture of fungicide and bactericide 0.1% (1 hour), 50% alcohol (3 seconds), Bayclin 0.25% (15 minutes), Bayclin 0.35% (15 minutes). Treatment B was washing the explants with liquid detergent, 2 g/L dithane (15 minutes), 70% alcohol (3 seconds), 10% Bayclin (7 minutes). Treatment C was soaked in a detergent solution of 20 gr/L (15 minutes), Agrymycin 20 gr/L (15 minutes), erythromycin 4 gr/L (20 minutes), 70% alcohol (2 minutes), HgCl₂ solution, 0, 2 grams (1 minute), 0.2 gram HgCl₂ solution (2 minutes) and treatment D by washing the explants with detergent and then soaking in a detergent solution of 2 gr/L, bayclin 10% (10 minutes), bayclin 20% (10 minutes), 0.1% HgCl₂ (5 minutes). Parameters observed were browning explants, fungal contamination, speed of fungal contamination in explants, and live explants. Data were analyzed using descriptive quantitative. The results showed that the sterilization of robusta coffee explants in treatment C had the highest percentage of success with a contamination percentage rate of 12% and a percentage of live explants 80%.

Keywords: Sterilization Techniques, Robusta Coffee, In Vitro Culture.