Induction of Rice Callus (Oryza sativa L.) Paketih Variety with the Addition of ZPT IAA (Indole-3-acetic acid) and BAP (Benzil Aminopurine) In Vitro

Supervised by Rudi Wardana, S.Pd., M.Si.

Denang Dwi Prayoga

Food Crop Production Technology Study Program
Departement of Agriculture Production

ABSTRACT

Rice (Oryza sativa L.) is a major food commodity in Indonesia that can be developed through plant tissue culture approaches. One of the techniques used is in vitro culture through callus induction as an initial step in plant propagation and plant material development. The purpose of this study was to analyze the optimal concentrations of IAA and BAP for callus induction in Paketih rice varieties. This study was conducted at the Tissue Culture Laboratory of the Jember State Polytechnic. The study was designed using the RALF method consisting of two factors. The first factor was the IAA concentration, which consisted of 0.1 mg/l, 0.2 mg/l, and 0.3 mg/l, while the second factor was the BAP concentration, which consisted of 1 mg/l, 2 mg/l, and 3 mg/l. The results showed that there was an interaction between the treatment of compact callus texture and the dominant brownish-white callus color. The 3 mg/l BAP treatment had a very significant effect on callus weight (0.95 grams). The 0.1 mg/l IAA treatment affected callus weight (0.87 grams). The interaction between IAA and BAP did not have a significant effect on callus diameter in the Paketih rice variety.

Keywords: BAP, Callus Induction, IAA, Rice Culture.