Pengaruh Suhu dan Lama Pra-Kultur Anther Terhadap Induksi Kalus dan Regenerasi Tanaman Padi (*Oryza Sativa* L.). *Effect of Temperature and Anther Pre-treatment Duration on Callus Induction and Plant Regeneration of Rice (Oryza Sativa* L.*)* ***Advisor: Netty Ermawati, S.P, PhD and Ir. Suwardi, M.P.***

Luky Eka Rahmawati
Seed Production Techniques
Agriculture Production Department

ABSTRACT

Anther culture is one of in-vitro culture techniques that can be used to obtain genetic diversity of plants through doubled-haploids (DHs). This research aims to determinated temperature and anther pre-treatment duration to increase callus induction and plant regeneration of Rice. The experiment was conducted at State Polytechnic of Jember from August to November, 2016, using Factorial Randomized Block Design (RAK) with three factors. The first factor was rice varieties, consists of: MSP1 (V_1), Gorontalo (V_2). The second factor was pre-treatment temperature, consists of: 4^0C (S_1), 7^0C (S_2), 15^0C (S_3). The third factor was Pre-treatment duration, consists of: 7 days (L_1), 14 days (L_2). The results showed that local variety Gorontalo and pre-treatment temperature at 7^0C (V_2S_2) was the best combination as it can provide significant interaction on callus induction and plant regeneration of rice on the observation parameters that include percentage of anther browning, the rate of callus formation, number of callus, number of embriogenic callus, and number of planlet.

***Keywords**: Callus induction, Plant regeneration, Pre-treatment duration, Rice Anther Culture, Temperature pre-treatment*