

Micropropagation of Garlic (*Allium Sativum L.*) on Various Concentration of 2,4 D

Rahman Hairuddin^{1,a,*}, Ulfah Zakiyah Hamdani^{2,b}, Hidayat^{3,c}

^aWara Selatan District, Palopo City, South Sulawesi, Indonesia. ^bWara Utara District, Palopo City, South Sulawesi, Indonesia. ^cMalangke District, North Luwu Regency, South Sulawesi, Indonesia

*rahmanhairuddin@uncp.ac.id, ²ulfahzakiyah@uncp.ac.id, ³dayat718@gmail.com

Abstract. This study aimed to determine the effect and its best concentration of 2,4-D on garlic callus induction using garlic bulb explants. The study was conducted with 6 treatment and consisted of 3 replications. The level of treatments respectively is 2 ppm 2,4-D + 0,3 ppm BAP (P1); 3 ppm 2,4-D + 0,3 ppm BAP (P2); 4 ppm 2,4-D + 0,3 ppm BAP (P3); 5 ppm 2,4-D + 0,3 ppm BAP (P4); 6 ppm 2,4-D + 0,3 ppm BAP (P5). The parameters are mass, diameter, colour, texture and appearance time of callus. The results showed that P5 was the best concentration which had a significant effect on the appearance time, diameter and mass of callus with average of each parameters are 8 days after planted, 1.2 cm and 1.3 g respectively. The texture of callus was crumbly with average colour was white. Increasing concentration of 2,4-D seems having significant effect on the growth and development of garlic callus.

Keyword: *in vitro*, callus, garlic, bulb explant, 2,4-D