

In vitro ANTHHER-CULTURE RESPONSE OF SELECTED GENOTYPES OF CAPSICUM

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The experiment was conducted to study in vitro anther-culture response of selected genotypes of Capsicum (*Capsicum annuum* L.) with the objectives of finding a suitable callus induction and a regeneration media to speed up plant breeding programmes. The research was conducted in completely randomized design including (# of) replicates. Two concentrations of NAA 5mgL⁻¹ (CI-1) and 2.5mgL⁻¹ (CI-2) on MS medium were used induce callus from anthers. The highest percentage of callus induction (52.17%) was obtained in 2.5mgL⁻¹ NAA (CI-2). For comparing capsicum varieties for callus induction from anthers one inbred line (1782) and six F₁ hybrid varieties (HORDI CAH-43, HORDI CAH-44, HORDI CAH-45, HORDI CAH-46, HORDI CAH-47, HORDI CAH-48) were cultured on CI-2 medium. There was a significant effect of variety ($p < 0.05$) on anther callus induction. The HORDI CAH-45 recorded the highest percentage of callus (59.32%). Selected calli from above experiment were transferred into six different callus regeneration media of 1.5, 2.0 and 2.5mgL⁻¹ Kinetin, and 1.5, 2.0 and 2.5mgL⁻¹ Glycine to find out the suitable callus regeneration medium. Callus enlargement and greening was significantly influenced by ($p < 0.05$) the concentrations of Kinetin and Glycine, separately. The highest percentage of callus enlargement of 99.25% was obtained in 2.0 mgL⁻¹ Glycine from HORDI CAH-43 and the highest percentage of greening of 88.89% was obtained in 2.0 mgL⁻¹ Kinetin from HORDI CAH-45. Further studies on regeneration ability of callus have to be done with different combinations of Kinetin and Glycine to obtain plantlets.

Keywords: Callus enlargement, Callus induction, Callus regeneration, Glycine, Kinetin.