World Academy of Science, Engineering and Technology
International Journal of Biotechnology and Bioengineering
Vol:10, No:05, 2016

Multiple Shoot Induction and Plant Regeneration of Kepuh (Sterculia foetida L.) Tissue Culture

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Abstract : Kepuh (Sterculia foetida L.) is a potential plant contain mainly oil seeds that can be used as a source of alternative bioenergy and medicine. The main problem of kepuh cultivation is the limited supply of seed plants. Seeds development were very easy, but to produce fruit have to wait for approximately 5 years. The objective of this research was to obtain kepuh plants through direct in vitro regeneration. Hypocotyls and shoot tips explants were excised from sterile germinated seedlings and placed on shoot induction medium containing basal salts of Murashige and Skoog (MS) and various concentrations of plant growth regulators. The results showed that shoots induction from the apical and axillary buds on MS medium + 1.5 and 2 mg/L BAP and 0.5 and 1 mg/L IAA was growth very slowly. Increasing of BAP concentrations was increased shoot formation. The first subcultures were increased the rate of shoots growth on MS medium supplemented with 2 mg/L BAP and 0.5 mg/L IAA. The second of shoots subculture on MS medium + 1.5 to 2 mg/L BAP + 0.5 mg/L IAA was increased the number of shoots up to 4.8 in average. The best medium of shoots elongation were MS + 1 mgL-1 kinetin + 5 mg/L GA3. The highest percentage of roots (65%) occurred on MS medium with 5 mg/L IBA which average number of roots was 3.1. High percentages of survival and plants of normal appearance were obtained after five weeks of acclimatization.

Keywords : Kepuh, Sterculia foetida L, shoot multiplication, rooting, acclimatization, bioenergy, medicine
Conference Title : ICMBBB 2016 : International Conference on Molecular Biology, Biochemistry and Biotechnology
Conference Location : Tokyo, Japan
Conference Dates : May 26-27, 2016