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Keywords: Regeneration of plantlets through anther culture of maize (Zea mays L.)

Abstract: Maize (Zea Mays L.) is one of the most important crops around the world because of its importance in direct and indirect production of food for human consumption. Because of limited land resources, expanding population, plant diseases and insect pests stresses, traditional breeding methods have not consistently met the demand for maize, considering both quality and quantity. Androgenesis via anther culture is one of the efficient methods for producing haploid and double haploid plants. In maize, anther culture is an effective technology for the production of DH population. In the present study it has been tried to establish an efficient in vitro method for haploid plant regeneration via anther culture of Zea mays which was limited by low response rate and high genotype dependence for haploid regeneration. For decontamination during surface sterilization of Z. Mays, the highest recorded survival percentage of explants (variety BM-1, BVM-2 and Suwan) were achieved by treating the anthers with 0.5% of HgCl₂ for five minutes. Absolutely no response was observed in Anther either in MS and N6 basal media supplemented with different concentrations of hormones. However only some swelling in the anther was observed in MS medium after 40 days of inoculations with 2 mg/l 2,4-D and 4 mg/l 2,4-D and 30 days of inoculations for N6 medium with 1mg/l 2,4-D, 2mg/l 2,4-D, 3mg/l 2,4-D and 2mg/l 2,4-D +1mg/l Kn. Apart from change in colour in the anthers after 30 days of inoculation in N6 medium supplemented with charcoal, no further response were observed.

Description: Regeneration of plantlets through anther culture of maize (Zea mays L.)

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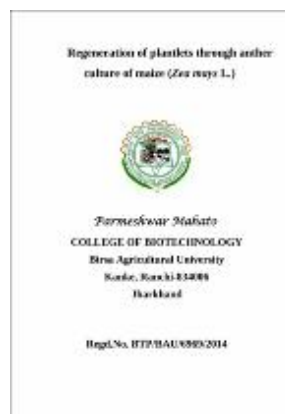
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