

Recovering Taraxacum Taraxacum kok-saghyz Rodin via Seed and Callus Culture

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Abstract : This experiment was performed to optimize the medium for tissue culture of Taraxacum kok-saghyz Rodin. Different tissue culture approaches such as shoot regeneration from seed, callus formation from leaf explants and plant regeneration from callus were investigated in this study. All the explants were cultured on MS basal medium supplemented with 20 g/l sucrose, 7 g/l agar and different plant growth regulators. Seeds of Taraxacum kok-saghyz were cultured on media containing different levels of BA and 2,4-D (0.5 and 1.0 and 3.0 mg/L) to direct shoot regeneration study. Leaf explants were cultured in different combination of BA (at three levels: 0.5, 1.0 and 3.0 mg/L) and zeatin (at two levels: 0.5 and 1.0 mg/L) to examine callus formation. After the callus formation the formed calli were cultured on different combinations of BA and NAA for shoot regeneration. BA at three levels (0.5 and 1.0 and 3.0 mg/L) and NAA at two levels (0.5 and 1.0 mg/L) in all possible combinations were used for shoot regeneration from callus. The results showed that the treatment containing 1.0 mg/L 2,4-D in combination with 1.0 mg/L BA was found to be the best one for shoot regeneration from seeds. The treatment with 1.0 mg/L BA in combination with 1.0 mg/L zeatin were found to be suitable treatments for callus production from leaf explants, as well. Moreover, 0.5 mg/L BA alone or in combination with 1.0 mg/L NAA were found to be the best treatments for shoot regeneration from callus.

Keywords : Taraxacum kok-saghyz Rodin, shoot regeneration, callus, plant

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