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Callus Production and Plant Regeneration from Anther Culture of Some Turkish Barley Cultivars

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Abstract: Anther culture of four different barley cultivars (*Hordeum vulgare*L. cvs. Anadolu, Cumhuriyet-50, Obruk-86 and Tokak-157/37) currently cultivated in Turkey has been investigated. Two different culture media (BAC3 and FHG) were used and the effect of a 21-day cold pretreatment was studied. Androgenesis on BAC3 medium was evaluated statistically in all genotypes and the percentage of anther response and the frequency of calli production were found significantly different ($P<0.01$) between the pretreatments in all cultivars. The cultivar Cumhuriyet-50 displayed the highest number of transferable calli without cold pretreatment (70.1%) and 51.0% of the regenerated plants formed roots. For plants without roots, high auxin level (NAA and IAA) was used to stimulate root formation.

Key Words: Anther culture, *Hordeum vulgare*L., androgenesis, plant regeneration

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