Turkish Journal

of

Botany

Keywords
Authors

bot@tubitak.gov.tr

Scientific Journals Home Page

Turkish Journal of Botany

Plant Regeneration from Unfertilized Ovaries of Sugar Beet (Beta vulgaris L.) Cultured In Vitro

Ekrem GÜREL
Abant İzzet Baysal University, Faculty of Science & Arts. Department of Biology 14280, Bolu-TURKEY
Songül GÜREL
Sugar Institute, Plant Breeding Department, Etimesgut 06790, Ankara-TURKEY

Abstract: A. method is described for plant regeneration from unfertilized ovaries isolated from a diploid male sterile sugar beet (Beta vulgaris L.) breeding line that was developed at the Sugar Institute, Ankara, Turkey. Ovary explants were cultured on Murashige & Skoog (MS) medium containing 2.0 mg/l benzylaminopurine (BAP). Two treatments were tested by incubating all of the explants in darkness for 15 days, and then transferring one half to light and keeping the other half in darkness throughout the culture. Callus formation occurred in both treatments more or less at similar rates: however, there was a significant difference between the treatments with regard to the shoot-forming capacity of the explants, those transferred to light after an initial incbation in darkness producing more shoots (14.6%) than those kept in darkness continuously (4.2%). Root induction was readilyachieved within two weeks when shoots were transferred to MS medium supplemented with 2.0 mg/l naphthaleneacetic acid (NAA) and 2.0 mg/l silver nitrate (AgNO 3). An inverse relationship between the callus and shoot-forming capacity of the individual explants was apparent. The determination of ploidy levels of the regenerants was performed by chromosome counting in leaf samples of regenerated plants and the results revealed that all of the regenerants were diploid.

Key Words: Beta vulgaris L., tissue culture, ovary culture, plant regeneration

---

Turk. J. Bot., **22**, (1998), 233-238.
Full text: pdf
Other articles published in the same issue: Turk. J. Bot.,vol.22,iss.4.