



ALFALFA (*MEDICAGO SATIVA* L.) GENOTYPE SCREENING IN SEARCH OF SOMATIC EMBRYOGENESIS CAPABILITY

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Alfalfa (*Medicago sativa* L.) has been regarded as a plant species recalcitrant to plant regeneration under in vitro conditions. In addition, strong relation between genotype and ability to somatic embryogenesis (SE) and organogenesis in this species was described. In our studies we tested the ability for SE in several alfalfa cultivars (Bonat, Hamadany, Makojaran, Planet, Ulstar, Frawer, La Bella Campagniola, Comet, L104) which have not been used in plant regeneration experiments, so far. As explants we used hypocotyls and cotyledons of light- and dark-grown seedlings. The results revealed that media based on Murashige and Skoog's (MURASHIGE & SKOOG 1962) formula were insufficient for SE induction and only production of non-regenerative callus could be obtained. However, when sequence of media containing B5h (GAMBORG *et al.* 1968) and SH (SHENK & HILDEBRANDT 1972) salts and vitamins, for callus and somatic embryo induction were applied, the formation of numerous globular-shaped embryo-like structures was obtained

in culture of most of cultivars. Unfortunately, these structures never developed behind the globular-stage. Instead of, they increased in volume and either started to form non-regenerative callus or died when maintained continuously on induction media. In order to determine the possible reasons for difficulties with plant regeneration in alfalfa cultivars tested the histological studies have been undertaken.

References

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