# CULTIVATION AND CONSERVATION OF ZIZYPHUS JUJUBA MILL USING BIOTECHNOLOGICAL METHODS

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## Abstract

Zizyphus jujube. Mill. is a multipurpose species. It is very important for the pharmacological values of fruits and leaves, and also has a very common use in food industry and for its fragrance. Micropropagation is considered as a useful method to produce the homogeneous plants for large scale cultivation. The aim of this study is to obtain a protocol available for *in vitro* multiplication and medium-term germplasm conservation. Shoot tips were cultured onto MS medium supplemented with MS vitamins, BAP 1 mg $l^{-1}$, IBA 0.05 mg $l^{-1}$ and sucrose 3%. The medium was adjusted to pH 5.6 and solidified by 0,57 % agar-agar. For subsequent subcultures was used the same medium, while for rooting resulted effective IBA 0.1 mg $l^{-1}$ After inoculation, all cultures were grown under a photoperiod of 16 h light from white fluorescent tubes at a temperature of 25 ± 2$^{o}$C. This mocropropagation protocol resulted optimal in obtaining a great number of plantlets. For mid-term conservation were tested the effect of reduced sucrose and MS salts concentrations, combination of low temperature and light regime and absence of growth regulators in the medium. To test the regeneration of the conserved cultures, they were transferred onto fresh culture medium. The examined methods differed significantly in the survival rate of the explants. The effect of low temperature (4$^{o}$C) combined with reduced light regime is the most effective method of medium term preservation. The optimal time of conservation on 4$^{o}$C was 14 months.

**Keywords:** *In vitro, micropropagation, MS medium, conservation, low temperature, Z.Jujuba.*