

**MICROSPORE CULTURE RESPONSE OF SUNFLOWER (*HELIANTHUS ANNUUS* L.)
CULTIVARS**

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ABSTRACT

Androgenic methods are used for the production of haploid plants such as anther and microspore culture. The microspore culture technique plays an important role for efficient production of haploid plants and genetic potential of cultivars is very important for being successful in this method. In this research, different hybrid sunflower cultivars obtained from Trakya Agricultural Research Institute have been selected and their responses to isolated microspore culture were evaluated. Meanwhile the effects of different plant growth regulators and media on androgenic microspore culture were studied in selected cultivars. Effects of microspore developmental stages and sterilization methods on isolation of uninucleate, pure and viable microspores and their culture were examined with the aim of optimizing culture conditions. Capitulum containing anthers were collected when the microspores were at the late uninucleate stage from the field. The florets containing uninucleate microspore were detached from the sterilized capitulum were blended with a blender in 30 ml of cold microspore isolation solution containing 13% sucrose at pH 6 and transfer to modified NLN- medium. After the last centrifugation the microspore density in the pellet was determined. Further studies with isolation method, different media compositions and culture conditions will be necessary in order to develop an efficient microspore isolation and culture technique in sunflower. This research has been supported by TUBITAK KBAG (Project No: 214O274).

Key Words : Sunflower, microspore culture, haploid.