

**Propagation of some mono and multigerm sugarbeet
cultivars by using tissue culture technique.**

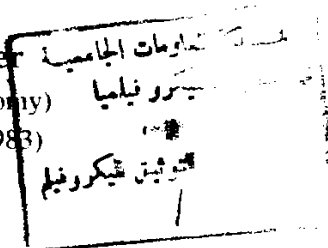
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Essam Ahmed Amer

B.Sc. Agriculture (Agronomy)

Ain Shams University (1983)

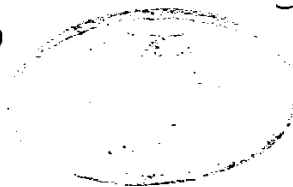


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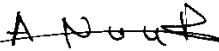
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Propagation of some mono and multigerm sugarbeet cultivars by using tissue culture technique.

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ABSTRACT

Nine varieties of sugar beet i.e. (five multigerm i.e Ras poly, KWS 793, Tribel, Gloria and Maribo maroc poly) and (four monogerm i.e Eva, Sofie, Magna mono and Despereze mono N). Three concentrations of 2,4-dichlorophenoxyacetic acid (2,4-D) (1.5, 2.0, and 2.5 mg/l) for callus induction and four concentrations of benzyladenine (BA) (1., 2.0, 3.0 and 4.0 mg/l) for plant regeneration were used on modified Murashige and Skoog medium (MS).

The main results which were obtained:-

Maribo maroc poly variety as multigerm had the superiority in callus induction percentage, callus fresh weight (CFW), callus growth rate (CGR) and callus growth value (CGV) than the other varieties.

Magna mono as monogerm variety was the earliest in days for callus induction (25 days).

Ras poly as multigerm variety scored the highest value in number of formed plants, plant formation percentage, number of leaves and plant height.

Days for callus initiation was not affected significantly with changing the concentration of 2,4-D in the media, while, callus induction %, callus fresh weight, callus growth rate and callus growth value were decreased significantly with increasing the concentration of 2,4-D up to 2.5 mg/l.

The media supplemented with 2.0 mg/l BA gave the highest value of number of formed plants, plant formation %, number of leaves and plant height.

Number of formed plants and plant formation % recorded the highest values in the media containing 1.0 mg/l BA and explants derived from Ras poly genotypes.

Leaf explants was the superior in callus induction than petiole. Media supplemented with 1.5 mg/l 2,4-D and cultured with leaf explants scored the highest callus induction.

Maribo maroc poly variety (multigerm) and its leaf explants gave the highest percentage of callus induction, while, Sofie variety (monogerm) and its petiole explants scored the lowest percentage.

Key words: Tissue culture, sugarbeet, callus induction, callus fresh weight, callus growth rate, callus growth value, 2,4-dichlorophenoxyacetic acid (2,4-D), Benzyladenine (BA), plant regeneration (formation).

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