

MICROPROPAGATION OF *Lycopersicon esculentum*

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ABSTRACT

Micropropagation of *Lycopersicon esculentum*

Lycopersicon esculentum or tomato is commercially cultivated vegetable crop grown all over the world. It is very versatile and is grown either for fresh market or processing. Tomato is gaining attention because of medical benefits and as sources of food. This study was done to obtain the seed from *Lycopersicon esculentum* to culture under sterile condition. The objective of this study is to determine the sterilization, to propagate the seed plant and to identify the performance of *in vitro* growth of *Lycopersicon esculentum*. Standard micropropagation technique is used with different sterilization method, followed by inoculation of explant into media with hormone treatment and without hormone treatment. The explant was cultured in incubation room for 6 week and 16:8 photoperiods. Observation was done to determine the growth performance of this plantlet. The number of leaf, the height of the plantlets and length of roots was measured at week 6. The contaminated seed from direct and indirect sterilization methods are 0% and 5%, respectively. Anyhow the germinated seed from direct and indirect sterilization method are 10% and 90% respectively. This study show that sterilization of explant indirectly (tomato pod) was better than directly sterile the seed. Direct sterilization can cause damage to explant cell. The germination rates of explant in media with hormone and without hormone are 89% and 78% respectively. Therefore, growing plantlet in media with hormone is better than media without hormone.