

작은방울유리화법을 이용한 딸기 생장점 초저온동결보존

이영이1)*, 백형진2), 윤문섭2), 코트날라 발라라주3), 송재영3)

1)농촌진흥청 국립농업과학원, 연구사, 2)농촌진흥청 국립농업과학원, 연구관

3)농촌진흥청 국립농업과학원, 박사후연구원

A successful regeneration from shoot tips of *Fragaria x ananassa* DUCH following cryopreservation by droplet-vitrification

Young-yi Lee1), Hyung-Jin Baek2), Mun-Seop Yoon2), Kotnala Balaraju3), Jae-young Song3)

1)Researcher, National institute of agricultural science, RDA, 2)Senior Researcher, National institute of agricultural science, 3)Post-doc fellowship, National institute of agricultural science

ABSTRACT

This study describes an efficient and widely applicable droplet-vitrification following cryopreservation for shoot tips of (*Fragaria x ananassa* DUCH. cvs. 'Derunoka' and 'Jumbo pure berry'. The shoot tips of strawberry were precultured in Murashige and Skoog (MS) liquid medium supplemented with sucrose (0.3–0.7M). Precultured explants were treated with loading solution (LS, C4) containing glycerol 17.5% and sucrose 17.5% for 40 min and exposed to dehydration solution (B1) containing 50% of glycerol and 50% of sucrose for 60 min at 25°C, and then transferred onto droplets containing 2.5 μ l PVS3 on sterilized aluminum foils (4 cm \times 0.5 cm) prior to direct immersion in liquid nitrogen (LN) for 1 h. The highest regeneration rate (%) was obtained when shoot tips were precultured with treatment-2 (exposing of shoot tips to MS + 0.3M Sucrose for 30 h and then treated with MS+0.5 M sucrose for 16 h) at 25°C in both the cultivars. The viability of cooled samples, followed by culturing on MS medium for 4 weeks was 77.8% and 60.0% for 'Derunoka' and 'Jumbo pure berry', respectively. This result shows droplet-vitrification would be a promising method for cryobanking strawberry germplasm.

*(Corresponding author) E-mail: youngyi@korea.kr Tel: +82-31-299-1804

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