Micropropagation of strawberry cv. camarosa: Prolific shoot regeneration from in vitro shoot tips using thidiazuron with n6-benzylamino-purine

ABSTRACT

An efficient micropropagation system for strawberry cv. Camarosa was developed. Sterilized runner tips were cultured on hormone-free Murashige and Skoog (MS) medium with 3% sucrose, 1 mL L-1 Plant Preservative Mixture, and solidified using 0.25% phytagel to produce in vitro stock plants. Shoot tips derived from the in vitro stock plants were cultured on MS media containing 0, 2, 4, and 8 mM thidiazuron (TDZ) and 0, 4,9,18, and 27 mM N6-benzylamino-purine (BAP) for shoot induction. Shoots produced on the best shoot induction medium were rooted on MS media containing 1, 2, 3, and 5 mM of either indole-3-butyric acid (IBA) or naphthaleneacetic acid (NAA). Results showed that MS medium with 2 mM TDZ and 4 mM BAP was optimum for shoot multiplication from the shoot tips. The most suitable medium for inducing the highest number of roots per explant, the highest percentage of explant with roots, and the highest mean root length were 1 mM NAA, 1 mM IBA, and hormone-free MS medium, re-spectively. Plantlets were transplanted into substrate consisting of perlite + vermiculite + cocopeat (2:1:2 v/v/v) resulting in 90% survival. After 1 month, plants were irrigated using Hoagland's solution and runners were produced after 3 months.

Keyword: BAP, Hoagland's solution, IBA, Ms medium, NAA, TDZ