

The Effect of CCC and BA on the Formation of Potato (*Solanum tuberosum* L.) Microtubers

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Microtubers formed *in vitro*—which are usually in the range of 7 to 10 mm in diameter—should be a useful size for the convenient storage, long distance transport and circulation of elite clones. To date, many studies have reported on the promotive effects of cytokinins and growth retardants on the formation of microtubers. In the present experiment, using the micropropagated shoots of potatoes originated from meristem culture, we investigated the mode of formation of microtubers on solid medium and the effects of CCC (chlorocholine chloride) and BA (benzyladenine) on the formation of microtubers. Two types of *in vitro* tuberization were observed in dark conditions. One was a sessile microtuber, formed from axillary buds on the shoot, which occurred in an early stage of culture, and the other was a microtuber formed on a stolon arising from the shoot. The external morphology of a small organ transforming into a tuber from an axillary bud after two days of culture was observed by scanning with an electron microscope. The number of microtubers formed after 28 days of culture was the largest in the Murashige and Skoog medium solidified with 0.2% Gelrite and supplemented with CCC (500 mg liter⁻¹) and BA (5 mg liter⁻¹) in the dark at 20°C. Increasing the concentration of CCC resulted in an increase in the number of microtubers, while that of BA was more effective for the increase of the fresh weight than of the number of microtubers.