

Effects of N6-benzyladenine and thidiazuron on proliferation of phalaenopsis gigantea protocorms

Abstract

Cytokinins are known to promote multiplication and development of protocorms in orchid plants. Potential effects of N6-benzyladenine (BA) and thidiazuron (TDZ) on the proliferation of *Phalaenopsis gigantea* protocorms were investigated. The seed-derived protocorm sections were cultured on solidified NDM (New Dogashima Medium) basal medium containing 0-5.0 mg l⁻¹ BA; or 0-1.0 mg l⁻¹ TDZ. Sections cultured on the media containing low concentrations of BA (0.5 to 3.5 mg l⁻¹) or TDZ (0.1 to 1.0 mg l⁻¹) multiplied faster as compared to those cultured on other media with higher concentrations of BA and the control medium. Approximately 28% of the sections proliferated after 40 days in culture. The percentage of protocorm sections proliferate increased significantly up to 58 -66% (with 1-20 new protocorms per section) on media containing TDZ at the concentrations of 0.1 - 0.3 mg l⁻¹ after 80 days of culture. In the presence of BA, however, the percentage of sections produced new protocorms was significantly lower, ranging from 5 to 30% with 1-46 new protocorms formed per section.