

The Effect of Cytokinin on the Micropropagation of bulblets of *Lilium japonicum*

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Lilium japonicum is a Japanese native plant and a favorite because of the beautiful pink flowers. However, *L. japonicum* has a low multiplication rate by scale propagation, therefore, micropropagation is used for the propagation of this plant. Although many papers have reported on the micropropagation of *L. japonicum*, there are few papers on the effect of cytokinin. In this paper, we report on the effects of various cytokinins on scale multiplication in culture.

Bulblets in vitro were used because *L. japonicum* from the wild is likely to be contaminated by bacteria. The scales were collected from the bulblets and were cut into 2-mm pieces. Three cytokinins; 2iP, BA, and kinetin were used for the experiment. Many green adventitious buds were differentiated when 2iP was used and these adventitious buds rooted and grew when culture was continued. The addition of NAA with 2iP enhanced rooting from adventitious buds, although the number of buds decreased. Benzyladenine enhanced the differentiation of abnormal white/yellow buds which appeared as protuberant domes. This abnormality was not prevented by NAA. Kinetin also enhanced the differentiation of abnormal buds and callus was formed with high concentrations.

Taking into account the mutations induced by some auxins, and that the many roots formed with other auxins decreased the need for handling in subculture and helped acclimatization and growth after transplanting, we decided that the medium supplemented with 5.0 μM 2iP was best suited for the micropropagation of bulblets of *L. japonicum* in scale culture.