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Callus Induction and Shoot Regeneration in *Campanula* Species and Their F1 hybrids In Vitro

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In an effort to establish a plant regeneration system for *Campanula* species and their F1 hybrids, effect of genotype and plant growth regulator(PGR) on callus and shoot induction was investigated. Three *Campanula punctata* Gyepchorong and four hybrids obtained from crossings between them, *C. punctata* var. Rubiflora x *C. punctata* Lam, *C. punctata* Lam x *C. punctata* var. Rubiflora, *C. takesimana* var. Sunginbong x *C. punctata* Lam, and *C. punctata* Lam x *C. takesimana* var. Sunginbong, were cultured in vitro and were used as the plant material. Calli were induced in five weeks from the leaf explant of all species and hybrids on the modified MS medium containing various combinations of 2, 4-D and BAP. Shoots were induced in seven weeks on the modified MS medium containing various of 2, 4-D and BAP. Shoot regeneration response varied by species and hybrid, and the frequency of regeneration was low. Therefore, PGRs for promoted shoot regeneration was sought. Callus induced on the callus induction medium(4.5 μM 2, 4-D and 22 μM BAP) regenerated shoots on the modified MS medium containing NAA and BAP. The F1 hybrid *C. punctata* Lam x *C. punctata* var. Rubiflora was the most responsive to PGRs among the seven species and hybrids examined.