

Adventitious Shoots Regeneration from Seed Explants of *Xanthoceras sorbifolium*

Hyunseok Lee

Division of Horticulture & Medicinal Plant, Andong National University, Andong 36729, Korea

Xanthoceras sorbifolium Bunge (yellowhorn) is a woody tree in the soapberry family, Sapindaceae, native to northern China. This species has been identified as a major woody bioenergy plant for bio-diesel production because of high oil content in seed. But the flowers do not bear fruit well while the many flowers blooming. This study was performed to regenerate in vitro plantlet using adventitious shoot formation. To establish the protocol of plant regeneration, adventitious shoots formation rate in the culture of cotyledon of immature zygotic embryos was 68.6% in 1/2 MS medium with 0.5 mg l-1 BA and 3% sucrose (w/v). In the culture of cotyledons of mature zygotic embryos, induction of adventitious shoots was needed to contain high sucrose in pre-culture medium and the frequency of shoot induction was 64.4%. Multiple shoots were induced in 0.5 mg l-1 TDZ, and rooting of shoot was induced 4.0 mg l-1 IBA. Flow cytometry analysis revealed that all the regenerated plantlets were diploid.

Key words: Bio-diesel, Seed, *Xanthoceras sorbifolium* Bunge, Regeneration