High-frequency induction of adventitious shoot formation from hypocotyl segments of *Liquidambar styraciflua* L. by thidiazuron

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Abstract. The effects of thidiazuron on adventitious shoot formation from hypocotyl segments of *Liquidambar styraciflua* were tested either alone or in combination with 2,4-dichlorophenoxyacetic acid. The combination of 0.01 mg/L 2,4-D with TDZ stimulated bud production up to 1 mg/L TDZ and gave the most buds at 1 mg/L of TDZ with 0.01 mg/L of 2,4-D. Lower concentrations of TDZ stimulated shoot production, generating the most shoots at 0.1 mg/L of TDZ with 0.01 mg/L of 2,4-D. The hinderance of TDZ on shoot elongation was overcome by transfer of shoot cultures to a shoot proliferating medium lacking TDZ or containing NAA and BA in addition to TDZ. Transferred bud and shoot clumps were subjected to two different culture systems, solid culture and liquid culture. The performance of shoot proliferation in liquid culture was significantly improved compared to that in solid culture. In addition to in vitro rooting, we attempted to establish ex vitro rooting to save labor and time. On the basis of our results, ex vitro rooting is believed to be a reliable system for rooting and acclimatization of adventitious sweetgum shoots.

Key words: Adventitious shoot, ex vitro rooting, *Liquidambar styraciflua*, thidiazuron.