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ROOTING AND OVERWINTERING STEM CUTTINGS OF *STEWARTIA PSEUDOCAMELLIA* MAXIM. RELEVANT TO HORMONE, MEDIUM, AND TEMPERATURE

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Stewartia pseudocamellia Maxim. (Japanese Stewartia), a member of Theaceae (Tea Family), is an excellent garden plant with ornamental features for all four seasons. However, reproduction difficulty limits its popularity. Semi-hardwood cuttings were collected in July and prepared for rooting under the different types of hormones (KIBA and Hormodin) and media (perlite, ProMix, and perennial mix). All rooted cuttings were overwintered under the different temperatures. The results indicated that better overwintering temperature was 5 °C, which overwintered 65.6% of newly rooted cuttings. Temperatures lower than -12 °C were detrimental to the plants. Relative lower temperature is needed for better survival. Rooted cuttings without cold treatment had 21.9% new sprouts, which was three times lower than those received 5 °C treatment. Media did not have significant effect on rooting percentage. But perlite and perennial mix had 82.4% overwintering survival, which was significantly higher from perlite and ProMix. The quality of roots, indicated by total root length per cutting, was better (104.3 cm) with perlite and perennial mix, but not statistically significant. Under the same concentration (8,000 mg·L⁻¹), liquid growth hormones (KIBA) had significantly better effect on rooting percentage than powder one (Hormodin). The better hormone for subsequent overwintering survival was the combination of quick dip (5,000 mg·L⁻¹ KIBA) and Hormodin #2 (3,000 mg·L⁻¹ a.i.), which was 82.3% and significantly higher than KIBA and Hormodin alone. Obviously, reproduction (rooting and overwintering) of *Stewartia* was affected by many factors. Further studies are carrying on determining the lowest overwintering temperature for the newly rooted cuttings.
