

Title Effects of silver thiosulfate complex (STS), sucrose, surfactant and their combination on the vase life of cut flower of *Lathyrus latifolius* L.

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Abstract

Perennial pea (*Lathyrus latifolius* L.) is a perennial new florist crop introduced to Japan in the 1990s. Flowering behavior and pretreatment method to extend the vase life of this plant is unknown. This study was carried out to develop a useful and practical pretreatment method using an STS solution to extend the vase life of cut perennial pea flowers. Cut flowers were treated with 1) 100gL⁻¹ sucrose for 2h, 2) 0.05% surfactant for 2h, 3) 0.2 mM silver thiosulfate complex (STS) for 2h, 4) 0.2mM STS + 10% sucrose + 0.05% surfactant for 2h, and 5) water (control). To evaluate effects of the treatments on vase life they were transferred to vessels containing distilled water and kept at 22°C, 70% relative humidity, under 10 μmol m⁻² s⁻¹ light intensity and a 12-h photoperiod. Compared to the control, all treatments extended longevity. In particular the vase life of cut flowers treated with 0.2mM STS + 10% sucrose + 0.05% surfactant for 2h was extended by 3 times compared with that of control. This pretreatment is recommended to extend the vase life of cut perennial pea flowers.