Title An effective storage protocol for improving the postharvest performance in cut spikes of *Consolida ajacis* Nieuwl cv. Violet blue

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Abstract

The synergistic effect of cold treatment and protein synthesis inhibition was investigated in cut spikes of *Consolida ajacis* cv. Violet blue to determine the effective postharvest storage and transportation protocol, and to improve the postharvest performance. The 35 cm cut spikes were cool wet stored at 5 °C for 72 h before or after pulse treatment with protein synthesis inhibitor, cycloheximide, at 0.01 mM concentration. A set of unpulsed spikes wet stored at 5 °C represented control. The treatment effects were evaluated by placing the spikes in holding solutions containing distilled water (DW) or sucrose 0.2 M + 8-HQS 100 mg/l (SUC + HQS) at room temperature under laboratory conditions. The spikes pretreated with CHI before 72 h wet storage at 5 °C showed an enhancement of vase life besides maintaining higher fresh and dry mass of flowers, soluble protein content in sepals and sustained rate of blooming as compared to controls. The present study recommends that pulse treating the spikes of *C. ajacis* with 0.01 mM CHI before wet storage at 5 °C for 72 h, followed by transfer to holding solution containing SUC + HQS can be used as an effective postharvest storage treatment to bring out their transportation within 72 h without affecting their vase life.