

Cold storage of Geraldton wax, kangaroo paw and banksia

K.A. Seaton and D.C. Joyce

Western Australian Department of Agriculture Baron-Hay Court, South Perth W.A. 6151

Export of native Australian cut flowers is a rapidly expanding industry. In 1988, about 60% of the flowers exported from Western Australia were native, 90% of which were fresh (1). Geraldton wax, Kangaroo paw and banksia were the main export lines. These species were used in experiments investigating the potential for cold disinfestation (e.g. 0°C, 2 weeks (2)) to control insects.

Methods

Pink Geraldton wax (*Chamelaucium uncinatum* Schau.), banksia (*Banksia prionotes* Lindl.) and red kangaroo paw (*Anigozanthos rufus*) were picked in the early morning at 75-100, 20 and 10% flower opening respectively. Flowers were dipped in 0.05% w/v iprodione, allowed to dry overnight with stems in water, wrapped in perforated polyethylene bags or loose polyethylene wrap, and stored at 0°C for up to 6 weeks. After storage, vase life and change in mass of the flowers were evaluated in a vase life room (20°C, 40-60% rh, 12 hr light of 8 $\mu\text{mol}\cdot\text{s}^{-1}\cdot\text{m}^{-2}$ flux). Stems were placed one per vase containing 2% w/v sucrose plus 200 mg/L 8-hydroxyquinoline sulphate. Replication was 10 fold.

Results and discussion

As a consequence of increasing duration of storage, kangaroo paws suffered a dramatic loss in vase life (Fig. 1a). Banksia fared best after cold storage and the rate of decrease in vase life for Geraldton wax was intermediate. After 2 weeks at 0°C, kangaroo paw, Geraldton wax and banksia respectively lost 78, 47 and 2% of their control (unstored) vase life level. Decreasing vase life with longer period of storage was associated with a more rapid decline in shoot weight following removal from storage (e.g. Geraldton wax, Fig. 1b). Thus on the basis of these data cold disinfestation is only feasible for banksia. Improved conditioning and/or better storage technology is required to extend the storage life of native Australian flowers.

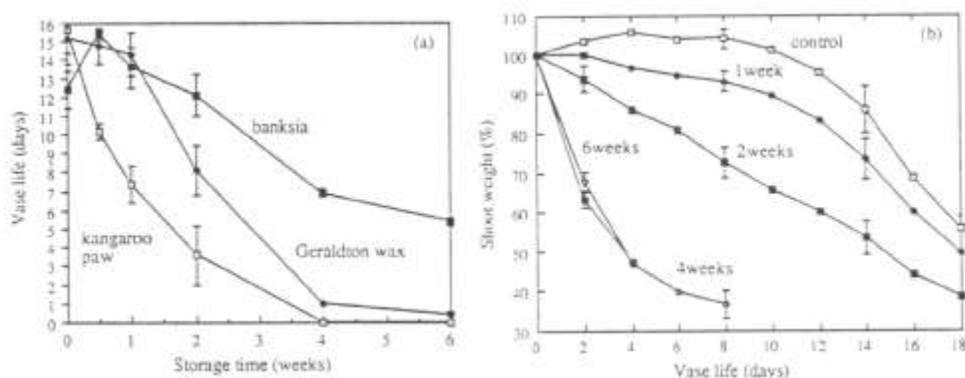


Fig. 1. Vase life of Geraldton wax, kangaroo paw and banksia flowers following storage at 0°C for up to 6 weeks (a), shoot weight changes (%) of Geraldton wax during vase life assessment (b).

1. Seaton, K.A. and Joyce, D.C.. (Submitted to Aust. J. Exp. Agric.).
2. Hill, A.R., Rigney, C.J. and Sproul, A.N. (1986). J. Econ. Entomol. 81, 257-260.