Title Storage of *Canna* rhizomes

Author W. Lu and W.B. Miller

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Abstract

Experiments were conducted to assess environmental conditions (temperature and moisture barrier) on weight loss during storage and subsequent survival and growth of *Canna* rhizomes. Weight loss during storage was highly influenced by cultivar, storage temperature (1, 4, 7 10 and 13°C) and packaging (placing rhizomes in micro-perforated plastic *versus* open storage) and two interactions involving packaging were significant. Weekly weight loss ANOVA results were identical throughout the 5 week storage period. While rhizomes lost more weight when stored open or at warmer temperatures, maximum weight loss was seen with warm temperatures and open storage. Survival (growth after planting) was affected by cultivar, presence of moisture barrier and by their interaction. Regression of survival versus fresh weight loss showed a general relationship of reduced survival with increasing weight loss during storage, but differences existed between the five cultivars. Final dry weight, fresh weight and height (after growing in the greenhouse) were affected by cultivar, moisture barrier, the interaction of temperature and barrier, and the three way interaction of cultivar x temperature x moisture barrier. The main effect of temperature on these responses was nonsignificant. In summary, results suggest conditions should be chosen to minimize water loss during *Canna* storage, and while temperature had no direct effect on growth parameters after storage, an optimum storage condition is probably 1-4°C with a moisture barrier, especially for longer-term storage.