

Abstract:

Postharvest trials showed marked differences in the length of vase life and in bud opening of *Freesia* stems of the same cultivar, obtained at a similar time from various nurseries. The factors that cause these differences in vase life and bud opening are yet unknown. We therefore made a detailed comparative investigation on the effect of greenhouse conditions. Corms of *Freesia* 'Yvonne' from the same stock were delivered to 29 nurseries. Various factors in the greenhouse that may influence vase life and bud opening were monitored. The vase life and bud opening of both the main and the lateral stems were examined with and without transport simulation. Using multivariate statistical techniques, the measured greenhouse conditions were related with the variance in vase life and bud opening. The main factors affecting vase life and bud opening were temperature, light level, CO₂ level, and relative humidity. The values of these factors during the last two weeks of production explained about half of the variance in bud opening and vase life. The results provide useful advice for growers on how to optimise greenhouse conditions in order to get the best possible postharvest quality of their product.