

Title Post harvest control of *Botrytis cinerea* on *Leucospermum* 'High Gold' flowers
Author C.M. Bezuidenhout, G. van den Berg and S. Denman
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Abstract

Leucospermum spp. are indigenous to South Africa and are produced commercially as cut-flowers. The largest proportion of flowers produced in South Africa is exported via air freight to the Netherlands, but also to other European countries. *Botrytis cinerea* is a damaging post-harvest pathogen on *Leucospermum* spp. However, with the recent introduction of shipping as a method of transport there has been an increase in post-harvest losses due to spoilage of flowers because the conditions and extended travelling time are more conducive to disease development than air freight. This research project aimed to identify chemical and biological agents for effective control in commercial *Proteaceae* production. Furthermore, there is a need to identify new chemical and biotic agents for disease management, since many of the pathogens show resistance to the fungicides currently used. Some chemicals are also no longer accepted by the European Union (EU) markets in keeping with EU regulations. During 2006, fungicides with the potential for control of *B. cinerea* were screened in vitro, and included benomyl, carbendazim + flusilazole, chlorothalonil, cyprodinil + fludioxonil, fenhexamid, iprodione and pyrimethanil. The results of the in vitro test guided selection of fungicides to be evaluated under field conditions. The following fungicides were tested in the field in 2006 at Elsenburg: cyprodinil + fludioxonil, fenhexamid and pyrimethanil. During 2007, two biological control agents (*Trichoderma* and *Bacillus*) were also tested under field conditions, as well as alternations between two fungicides (iprodione and fenhexamid) and these biological agents. It was concluded that the fungicides are able to control field infections and that alternations between fungicides and biological agents show potential field control. The biological agents alone were not successful in controlling the pathogen post-harvest.