

Research Progress Report

Enhancing Protea Flowering in Hawaii

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The objective of this study is to utilize a combination of pruning times and application of cytokinin to manipulate flowering times for *Protea* cultivars popularly grown in Hawaii.

Progress Report

Ten species/cultivars of the genus *Protea* were pruned back January 18, 2011 as the third of three pruning times designed to stimulate uniform return growth. At the time of pruning, shoots from the previous two pruning dates were inspected for their return growth. As would be expected, flushing differed among these proteas, with a few having two flushes of growth and most with a single flush, since the cooler winter period did not stimulate return growth readily. One cultivar was dropped from the trials as disease had wiped out all but one plant and it was not looking healthy.

By mid-May 2011, the research station technician reported that most of the September pruned plants were in their second flush of growth. Interestingly, many of the November pruned plants were also in a second flush. The January pruned plants were in their first growth flush. Additional pruning to remove competing laterals was undertaken so that the bearing stems would have two shoots instead of many.

Application of the benzyladenine treatments will begin when a third flush has completed its elongation as that is the time when South African researchers have determined that a floral meristem can be initiated (Stages B & C below). I will visit the station in July to determine if treatments can begin on some of the species/cultivars. If initiation of a floral apex can be stimulated in summer, cut inflorescences can be expected in late fall or winter, out of their normal flowering season.

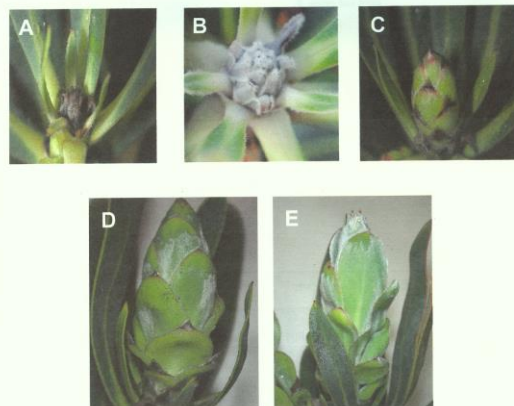


Figure 1. Morphological characteristics of the different stages of the terminal bud development in *Protea* cv. Carnival. A. Dormant B. Swollen C. Green point D. Elongation I E. Elongation II.