

真空预冷对非洲菊切花温度和瓶插寿命的影响 Effect of Vacuum Cooling on Temperature and Vase Life of Gerbera Cut Flowers

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关键词: 真空预冷 热红外成像 鲜切花

摘要: 利用热红外成像远程动态控制系统, 实时检测非洲菊单支花和花束的舌状花瓣、管状花瓣、茎秆在真空预冷过程中的温度分布和变化, 并对冷藏后瓶插期间切花的鲜质量变化率、气孔导度和蒸腾速率进行分析。实验发现, 在相同降压速率、冷却时间条件下, 单支花和花束不同部位的降温速率和瓶插指标均有明显差异 ( $P < 0.05$ ), 单支花的预冷终温平均比花束低 $11.2^{\circ}\text{C}$ , 瓶插寿命比花束长 $1.7\text{ d}$ 。 The temperature distribution and variation of the ligule-shape petal, tubular petal and stem of individual and bunches of cut gerbera during vacuum cooling was measured by thermal infrared imaging. Relative fresh weight, stomatal conductivity and transpiration were analyzed during vase period. The results showed that the temperatures and three indexes were marked differently ( $P < 0.05$ ). The average pre-cooling end-temperature and vase life of individual flowers were  $11.2^{\circ}\text{C}$  lower and  $1.7$  days longer than bunches of flowers respectively. This research has important value in the determination of pre-cooling end-temperature, the optimization of cooling processes and the evaluation of pre-cooling effect of different amounts of cut flowers.

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