Title Shelf-life extending of fresh-cut rose flower using pulse treatment in a tropical environment

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Abstract

Fresh-cut products such as fresh-cut rose have characteristics of a short shelf-life in a tropical environment, and it can affect the competitiveness of this product in the fresh flower market. To increase this competitiveness, we will apply extending shelf-life of the fresh-cut flower through the pulse treatment using sucrose and germicide. In this research, six variations of pulse treatments which being tested are P1 (5% sucrose and 20 mg/L $AgNO_3$), P2 (150 mg/L $AgNO_3$), P3 (1,2% sucrose and 0,2 mM Silver Thiosulfat(STS)), P4 (5% sucrose, 20 mg/L $AgNO_3$ and 320 mg/L citric acid), P5 (1,2% sucrose, 0,2 mM STS and warm water (40^0C)), P6 (5% sucrose, 20 mg/L $AgNO_3$ and 320 mg/L citric acid with warm water (40^0C)) and those treatments were compared with control. Water content, change of color of flower and texture of stem were also measured for quality parameters of fresh-cut freshness. Furthermore, shelf-life evaluation was measured manually and based on those parameters that mentioned above. The results showed that water content of the flower that combine with pulsing was decreased slowly compare with the control, texture of stem was firstly decreased just after pulse was applied then increased for several days later and color of flower relatively stable for lightness and redness. Shelf-life of fresh cut flower from these treatments of P1 to P6 was 8 days, 6 days, 4 days, 6 days, 5 days, and 5 days, respectively and for control only 4 days. The longest shelf life is 8 days obtained from P1 treatment.