

Abstract:

The quantitative and qualitative changes in the levels of carbohydrates in the growing plants are indicative of the environment. Temperature and light intensity responses for three ornamental crops (chrysanthemum, gladiolus and lily) were determined. Correlation between carbohydrate levels and vase life were investigated by growing these cut flowers under different environmental conditions. The total plant growth rate increased with increasing mean daily temperature. Reduced leaf numbers and smaller leaf area were associated with declining temperatures. Total chlorophyll content in the leaf increased and the starch content decreased with reduction in light. The rate of photosynthesis was lower at pre-flowering and complete flowering stages of the first experiment. Carbohydrates level was higher in all three crops during the reproductive compared to the vegetative phase. The percent healthy flowers were also drastically reduced due to the change in the days of post harvest environment. Insufficient amount of light and improper temperature reduced the vase life of this ornamentally important crop.