

Title Determination of leaf area of potted chrysanthemum associated with the accumulation of degree-day

Author M.A. Lessa, P.D. de Oliveira Paiva, C.M. Paglis, J.P.R.A. Delfino Barbosa, S.S. Barbosa, J.C.V. Barbosa and D.A. Nogueira

Citation Book of Abstracts. International Conference on Quality Management in Supply Chains of Ornamentals. 21-24 February, 2012. Golden Tulip Sovereign Hotel, Bangkok, Thailand.

Keywords chrysanthemum; degree-day; leaf area

Abstract

Chrysanthemum is very important in flower market due to its characteristics as well as its diversity in format, color and size of inflorescences, besides its fast growing cycle. In order to define and characterize the productive process, this study aimed to determine mathematical models to describe Rage chrysanthemum (*Dendranthema grandiflora* (Ramat) Tzvelev) cultivar leaf development using growing degree-days accumulation. Twelve trials were carried out from May 2007 to July 2008, when cuttings were planted and cultivated in plastic pots (14 cm) containing substrate and receiving fertigation. Experimental design was randomized blocks with 5 replications. Each useful parcel was composed of 3 plants per pot, totalizing 15 plants per evaluation. Every week, leaf number and leaf area were evaluated, totalizing ten evaluations. Four mathematical models, that describe the relation between leaf growth and GDD accumulation in chrysanthemum cultivar Rage cultivated in greenhouse without climatic control, were developed. The mathematical models were validated and are likely to be used in chrysanthemum to relate leaf area and growing degree-days. The models showed RMSE of 88.0 cm² (summer); 29.44 cm² (fall); 55.61 cm² (winter) and 80.01 cm² (spring).