Abstract

The objective of this study was to investigate on greenhouse irrigation and fertilizer management system that suitable for chrysanthemum. The study was conducted in the Royal Project Foundation Huayluk, Chiang dao, Chiang Mai. The varieties of chrysanthemum investigated in this study including ; Huyluk 4, Celebrate, Oneway improve and Orange day were evaluated in 2 irrigation systems (hose and drip tape system) combined with two fertilizers formulation i.e., formulation 1 (Stock A : $NH_4H_2PO_4$ 10 kg, KNO_3 15 kg, $MgSO_4$ $_7H_2O$ 4 kg and Unilate 500 g Stock B : $Ca(NO_3)_2H_2O$ 5 kg Urea 25 kg and KNO_3 10 kg) and formulation 2 (Stock A : $MgSO_4$ $_7H_2O$ 4 kg and Unilate 500 g Stock B : $Ca(NO_3)_2H_2O$ 5 kg and Urea 2 5 kg). Both, irrigation and fertilization experiments, were conducted to observe the growth and flowering performances of chrysanthemum. At 12 weeks after treatment, the obtained results showed that both irrigation systems were not significant different between treatments in the growth of plant height and plant width. In addition, the both fertilizers formulation were found that were not significant different between treatments in term of plant height, plant width, fresh weight and dry weight. However, it was found that the drip tape system combined with fertilizer formulation 1 in Celebrate had the most plant height (136.83 cm.). While the treatment of hose system combined with fertilizer formulation 1 in Huyluk 4 had the most of the fresh weight (129.30 g/plant). And the treatment of the drip tape system combined with fertilizer formulation 2 in Huyluk 4 had the most of the dry mass (20.93 g/plant). However, when compared to each varieties of chrysanthemum found that fresh weight per inflorescence, number of flowers, flower diameter and vase life there were statistically significant differences in each varieties of chrysanthemum. While the hose system showed the most effective with the weight flowers per inflorescence (48.16 g) and inflorescence diameter (0.56 mm) were significantly different. But number of flowers per inflorescence, flower diameter and vase life did not differ significantly among the two systems. In addition, formulation 1 exhibited the highest effective with fresh weight per inflorescence (48.37 g), flower diameter (53.39 mm) and vase life (15.66 day) which were significantly different.

Keywords: chrysanthemum, management system