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Poster

MANIPULATION OF DAY LENGTH TO CONTROL FLOWERING IN CHRYSANTHEMUM (*CHRYSANTHEMUM MORIFOLIUM* RAMAT.)

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ABSTRACT

Flowering at early stages prior to attaining a marketable stem length is an issue in commercial cultivation of chrysanthemum due to its short-day nature. Manipulation of day length by supplemental lighting to control flowering is a proven technique worldwide. This study aims to determine the correct stage and time of artificial light supply to delay flowering and increase stem length in local conditions. Chrysanthemum plants were exposed to two light durations; day extension from 6.00 p.m. to 10.00 p.m., and a night interruption from 10.00 p.m. to 2.00 a.m., by adjusting fluorescent bulbs above the plants to maintain 100 Lux at the canopy level. Plants were introduced to light at two-week intervals. Based on the results, plant height, flowering, basal and lateral shoot development was significantly affected by photoperiod. When plants were exposed to night interruption from two weeks after planting, plant height increased significantly up to 127 cm, compared to the control (66 cm) and a significant delay in flowering from 11 weeks (control) to 18 weeks was observed. Emergence of basal and lateral shoots was reduced to zero and three in both light durations, respectively. Therefore, plants should be exposed to night interruption lighting from 10 p.m. to 2 a.m. every night beginning from 2nd week after planting until the plant attained its desired marketable height, and then return to natural short day conditions for flowering.