

FIG. 5. Impatiens — Effect of Greenhouse Night Temperatures When Stored at 50°F.

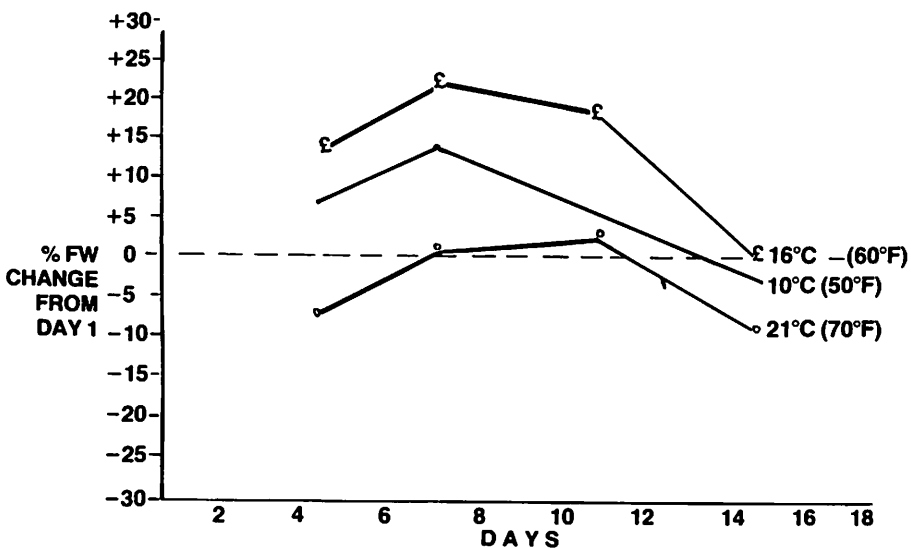


FIG. 6. Impatiens — Effect of Greenhouse Night Temperatures When Stored at 70°F.

Chilling Results

Research on the effects of using cold water on plants during mid-winter reported by Michigan Florists disclosed that cold water significantly reduces the greenhouse temperature and partially or completely closed the stomates of roses and mums. Height and weight of the plants were also reduced. The report concludes that there is a definite relationship between soil temperature, plant growth and flowering. Cold soils reduce water uptake and soil temperatures vary markedly during the winter months when irrigation water can be cold.

The effect of cold water on 15-cm. pot mums was equally significant. Water just a few degrees above freezing produced plants with stems 10 cm. shorter than those that received 18°C. water; heights

increased as water temperature increased.

The speed of returning to better growing temperature after cold water irrigation was also noted during these tests. 15°C soil temperature dropped below 7°C. when near freezing temperature water was used and it took more than 6 hours for the soil to warm up, not reaching above 15°C. in that time. Thus, soils watered continuously with cold water might rarely get to the desirable 18°C. ranges when mid-winter weather was dull. 8°C. water dropped the soil temperature only to 10°C. and the bounce-back took about 3 to 4 hours.

Reprinted from Michigan Florists report in the Canadian Florist.