

FASTER SEEDLINGS UNDER LIGHT

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In January 1973 a simple germination chamber was built (in the greenhouse at the Plant Science Research Farm at the University of Connecticut) to determine the effect of seed germination under artificial light on subsequent development of bedding plants. The germination chamber consisted of a standard double 40-watt fluorescent light fixture, with a reflector, suspended over a greenhouse bench and covered with black polyethylene film. The light was on from 6:00 a. m. to 6:00 p. m. Steam pipes under the greenhouse bench provided some bottom heat. Comparison plants were germinated on the same greenhouse bench adjacent to the light chamber and covered with clear polyethylene film.

The night temperature was 65^oF. The day temperature under lights was 75-78^oF and variable under clear plastic.

The Marigold cv. 'Dwarf Double Petite Yellow' was seeded in flats of peat-vermiculite mix, watered thoroughly, and germinated under the above conditions. The seedlings (12 paks of 6 plants each for each treatment) were transplanted 23 days after seeding into peat-vermiculite mix and placed on the greenhouse bench. At that time the seedlings grown under

lights were about 50% larger. From the time of transplanting until the end of the experiment, the two lots of plants were handled identically.

The effect was considerable (Figure 1). Marigolds planted under the fluorescent fixture emerged in half the time required for germination on an open bench. Seedlings germinated under fluorescent lights reached transplanting size 10 days earlier, and this increased rate of growth continued for the duration of the experiment. Appearance of the first flower occurred 8 days earlier on plants started under fluorescent lights. There was an average of 5 flowers per pak 45 days after seeding on plants started under lights. There were only 2 flowers per pak on plants grown entirely in sunlight. After 66 days, the same paks of marigolds averaged 13 and 5 flowers respectively.

(Figure 1--page 16)

National recognition was given to two Connecticut horticultural agents in Baltimore at the National Association of County Agricultural Agents annual meeting.

Achievement Awards were received by Joe Maisano (Western Connecticut Regional Agent) and Fred Nelson who worked with Hartford County greenhouse operators for many years.

A bouquet to each of you!

Figure 1. Effect of Early Exposure to Artificial Light on Rate of Growth of Marigold in Dwarf Double Petite Yellow.

