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Dwarf Crop Response to a 16 or 24 hr Photoperiod Under Low-Light Conditions

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Plants were grown in ambient lab conditions under cool white fluorescent lights at a PPF of $90 \mu\text{mol m}^{-2} \text{s}^{-1}$ and a photoperiod of either 16 or 24 hours. Plants were watered with tap water once each day. Nutrients were supplied by Osmocote Plus slow-release fertilizer mixed into the media at approximately 7 g per 2 L pot.

Rice, and soybeans become excessively elongated and could not practically be grown at this low light level. Tomatoes, peppers and peas were successfully grown. The life cycle for peas and peppers was two to three times longer than in higher light. Triton pepper plants grown under a continuous photoperiod were slightly taller than those grown using a 16 hr photoperiod. Micro-Tina tomatoes grown under continuous light had no chlorosis but were twice as tall as those grown using the 16 hr photoperiod. Peas were the most adapted crop. Neither the height nor the life cycle was extended by low light nor affected by photoperiod length. The yield of peas, however, is proportional to the light level and, although less than peas grown under high light, was the same between the two photoperiods.