

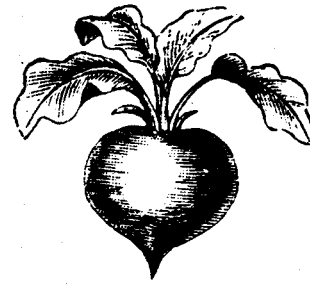
INTERACTION BETWEEN PHOTO- PERIOD, TEMPERATURE FLUCTUA- TIONS AND CYTOKININS ON *PHARBITIS* FLORAL INDUCTION

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Etiolated seedlings of *Pharbitis nil* Chois. cv 'Violet' were germinated and grown at 24C for 4 days and were then placed in controlled environment chambers (CEC) maintained as 12, 18, 24, 30 or 36C for flower induction. Seedlings were rotated among chambers to result in 25 day/night temperature (DT/NT) treatments. Photoperiod was 8, 12 or 16 hr ($250 \mu\text{mol s}^{-1}\text{m}^{-2}$). N-6-benzyladenine (BA) ($120 \mu\text{M}$) was applied to half of the seedlings in each treatment 1 hr prior to the inductive night period. After the inductive night period, seedlings were placed in a CEC maintained as 24C under continuous light. Data were collected on percent flowering and flower number at anthesis. Flowering was a function of NT and photoperiod. Flowering increased as night length increased and as NT approached 30C. DT (30C) promoted flowering to a lesser extent than NT. Flowering did not occur on plants grown with an 8 hr night length. Flowering occurred on plants grown with a 12hr night length when BA was applied and when plants were grown with a 12hr night length when BA was applied and when plants were grown at 30/24 or 30/30C DT/NT. Seedlings flowered under the 16hr night length when NT was 30C without BA application; flowering occurred with 24 to 30C NT when BA was applied.

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Low temperature promotion of flower induction was studied on 4 Japanese radish cultivars: 'Early 40 days', 'Chinese Radish Jumbo Scarlet', 'Everest' and 'Minowase Early Long White'.



VARIATION IN RESPONSES OF FOUR JAPANESE RADISH (*RAPHANUS SATIVUS* L.) VARIET- IES TO VERNALIZATION TREAT- MENT

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Low temperature promotion of flower induction was studied on 4 Japanese radish cultivars: 'Early 40 days', 'Chinese Radish Jumbo Scarlet', 'Everest' and 'Minowase Early Long White'. Germinated radish seed were vernalized in a petri dish as 6C (inductive) or 18C (non-inductive). Photoperiod was maintained as 16hr using a mixture of Fluorescent and incandescent lamps (75:25% total wattage). Japanese radish is classified as a cold promoted long day plant. Cultivars were vernalized for 5, 10, 15, 20, 25 or 30 days. Data were collected on node number and days to anthesis. Node number and days to anthesis decreased on all cultivars after a 20 day vernalization treatment. Node number and days to anthesis decreased on 'Early 40 days' and 'Everest' when they were vernalized for only 5 days. 'Chinese Radish Jumbo Scarlet' did not flower under non-inducing temperatures and long days even after 30 days which suggested that this cultivar was a cold obligate (requiring) variety. 'Early 40 days', 'Everest', and 'Minowase Early Long White' flowered under non-inductive temperatures and long days implying that these cultivars exhibit a facultative rather than obligate vernalization response.