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Big onion requires a minimum of 12 - 16 h of photoperiod (day length) for the onset of bulbing, depending on the photoperiodic sensitivity of the cultivar. If the prevailing photoperiod is shorter than that required for a given cultivar, it takes a longer period for the onset of bulbing leading to only poor quality bulbs with thick necks. Natural photoperiod in Sri Lanka is marginal for bulbing of most of big onion cultivars. Therefore, it is important to identify the most suitable time for planting big onion in Sri Lanka in order to obtain a high yield of good quality bulbs.

An experiment was conducted at the FCRDI, Maha Illuppallama, during 2 Yala seasons, 1991 and 1992, to identify the effect of time of planting on bulb quality and yield of tropical big onion cultivar "Pusa Red" in the dry zone of Sri Lanka. Planting was done from end March to mid August in biweekly intervals during which the available photoperiod varied from 11 h 45 min to 12 h 25 min. Other climatic factors such as ambient temperature (T°) did not vary during the period of the study. Results indicated that the planting of 5 weeks old seedlings during mid May to mid June is the most suitable for obtaining a high yield of good quality bulbs. Early or late planting resulted in delay in on-set of bulbing leading to a high percentage of poor quality bulbs indicating that tropical cultivars of onion are highly sensitive to the length of the photoperiod. Even a change of 30 min in the available photoperiod during the growing season under tropical conditions could affect the process of bulbing.

This suggests that the tropical cultivars of onion required a photoperiod of more than 12 h at least for a period of 6 weeks from planting in order to accumulate a sufficient amount of photoperiodic stimulus to induce bulbing. Under the lower photoperiod conditions it may be taking longer to accumulate the required concentration of photoperiodic stimulus resulting in delay in bulbing.