Determination of maturity indices of *Abelmoschus esculentus* variety Haritha by estimating physical and biochemical changes during the growth of pods

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A study was conducted to identify the optimum maturity and correct harvesting period of *Abelmoschus esculentus* variety Haritha. A total of 50 plants were cultivated in identical pots providing identical soils and soil moisture and agrochemical conditions for a period of January 2004 to June 2004. Flowers were tagged based on the sequence of their appearance and pods were harvested for a period of 20 days with 2 days intervals from the time of flowering. Harvested pods were subjected to estimation of physical changes; length, weight and biochemical changes; crude fiber, moisture, reducing sugar, vitamin C and pectin at one- hour interval from the time of harvesting using standard methods. 25 pods produced from 20 different plants were used for length measurements and a total of 150 pods were used for chemical analysis. Results were presented by calculating mean, standard deviation (SD) and coefficient of variance (C.V). The results indicated that the mean length increased to a maximum of 18.03 (±0.729) within the period of 9 days from the date of flowering and became stable. The weight of pods increased from 2 to 20 days and stabilized. Crude fiber content increased throughout the period of observation and the highest increment observed between the 14^{th} and 16^{th} days. Moisture contents increased to a maximum of 90% within 6 days and then gradually decreased. The moisture content of 8 day pods were closer to the standard value of moisture content recorded for *Abelmoschus esculentus*. Reducing sugar content of pods showed an increment up to the age of 12 days and showed a gradual decrease followed by a narrow constant period. The vitamin C content and pectin contents were found to decrease with age. A rapid reduction of pectin was noted between 8^{th} and 10^{th} days.

According to these findings, pods at the age between 6^{th} – 8^{th} are recommended for harvesting. As an alternative to days, once the length of pod reaches the range of 16 –18 cm it could be harvested. Therefore, the first harvesting could be started on or after 55^{th} day from the date of sowing of seeds.