The characteristics of purple passion fruit (*Passiflora edulis* Sims.), detached at intervals from the vine and ripened, were compared with fruit left attached until just before analysis. The objective was to determine the minimum time between anthesis and harvest that allowed the production of good-quality fruit. Analysis of the rates of increases in size and weight showed a single sigmoidal curve; while size reached a maximum at 20 days after flowering (DAF), fruit weight continued to increase gradually. The respiration rate of fruit left attached to the vine until just before measurement decreased gradually with time but without showing a climacteric peak; ethylene production increased sharply soon after 70 DAF, thereafter remaining constant. After successive detachment of fruit at or after 40 DAF, a respiratory peak was shown, the onset of which occurred quicker the longer the fruit had remained attached. The onset of the rise in ethylene also depended on the length of attachment and then increased rapidly. As fruit matured, soluble solids content steadily increased and reached maximum levels at 70 DAF while titratable acidity increased rapidly up to 60 DAF and then decreased up to 80 DAF. Changes in fruit color from green to purple was attained between 70 and 80 DAF and this corresponded with the commencement of autocatalytic ethylene production. The results indicate that purple passion fruit appear to attain physiological maturity at about 60 DAF and can be harvested with acceptable quality at about 70 DAF for commercial use