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Fruit development and maturity of mrig bahar Nagpur mandarin fruits

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ABSTRACT : Maturation is the most important stage of fruit development which is most active phase, involving high metabolic activity and cellular changes which lead to changes in colour, aroma, flavour and texture of fruits. The knowledge of these changes may be widely used to evaluate fruit maturity period of Nagpur mandarin. A change in peel colour is one of the indices used for maturity. Considering this, an experiment was carried out during 2010-11 at College of Horticulture; Dr. P.D.K.V., Akola comprising four stages of maturity in Randomized Block Design with five replications. The chlorophyll, carotenoid pigments and physico-chemical analysis of Nagpur mandarin fruits of mrig bahar was done. The significant difference was found in all characters recorded at different stages. The maximum fruit weight, volume and size were recorded in matured deep orange colour stage. Chlorophyll 'a' decreased from 0.0855 mg/g fruit weight in fully developed green stage to 0.0224 mg/g (fruit weight) in matured deep orange colour stage. The decreasing rate of chlorophyll 'a' content was very rapid in fruit sample between fully developed green stage 0.0855 mg/g to colour break stage 0.0399 mg/g. Similar results were recorded in chlorophyll 'b' and total chlorophyll content in fruits. The progressive increase in carotenoid content was observed during advancement of fruit maturation.

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