

Evaluation of physico-chemical characters and processing quality of some tomato hybrids

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SUMMARY :

Nine new hybrids of tomato namely NBH-Shakti-2005, NBH-666, NBH-Deshi number-1, NBH-Tripti-2010, NBH-3355, NBH-333, SNTH-1, SNTH-2 and SNTH-3 were evaluated for various physico-chemical characteristics and its suitability for processing into puree. The changes in quality characteristics of puree were studied in storage in ambient condition (Max. temp. 22.1°C to 38.9°C; Min. temp. 14.3°C to 26.7°C and R.H. 31 to 93 %). Average length, diameter and weight ranged from 4.29 to 7.07cm, 4.89 to 5.56 cm and 71.15 to 104.36g, respectively. Higher fruit weight of NBH-666 (104.36g) and NBH-3355 (101.66g) is accompanied by large fruit size (5.05cm length, 5.56cm diameter and 7.07cm length, 4.89cm diameter, respectively) compared to other varieties. Among the 9 hybrid varieties studies the variety SNTH-3 and NBH-Shakti-2005 were significantly less in weight and size. Locule number varied from 2.16 (in NBH-333) to 4.41 (in SNTH-1). In general, firmness of the hybrid varieties NBH-Tripti-2010, NBH-3355, NBH-333 and NBH-666 were high (>1kg/cm²) while that of NBH-Shakti-2005 and SNTH-3 were low compared to other varieties. Juice yield was high in SNTH-3, SNTH-2, SNTH-1, NBH-3355, NBH-Tripti-2010 and NBH-Deshi number-1 (above 80%). TSS content was high in NBH-Deshi number-1, SNTH-3 and SNTH-2 (>4 °Brix). Acidity and pH ranged from 0.26 (in NBH-333) to 0.53 (in SNTH-2) and 4.07 (in SNTH-2) to 4.43 (in NBH-333). Among the hybrids lycopene content was high in NBH-666 (2.56mg/100g), NBH-3355 (2.38mg/100g) and NBH-Shakti-2005 (2.02mg/100g) while lycopene content of NBH-Deshi number-1 was least (0.95mg/100g). After preparation of puree, quality analysis and sensory evaluation revealed that NBH-666 and SNTH-1 were superior for processing, since these varieties possess higher chemical composition and scored high value for colour, flavour, consistency and overall acceptability score. Next preference can go to NBH-333 and SNTH-2. In storage however, the quality of puree deteriorated and after four months only the variety NBH-666 and NBH-333 retained the maximum colour, consistency, flavour and overall acceptability (total) as revealed from sensory score.

KEY WORDS : Physico-chemical characters, Processing quality of tomato

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