

COMPARATIVE PHYSICO-CHEMICAL AND SENSORY EVALUATION OF FRUITS OF GUAVA (*PSIDIUM GUAJAVA*) CULTIVARS

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Guava (*Psidium guajava* L.) is one of the most important fruit crops of Tropical and Subtropical regions of the world. The adequate nutritional quality, availability throughout the year and economical value compose it as most capable crop particularly in Allahabad region of Uttar Pradesh, India. Allahabad is privileged for producing the best guava fruits (Rathod, 2001) especially cultivar Allahabad Safeda. The admirable vitamin C content in guava makes it even competent with that of oranges (Conway, 2001). With the valuable and cheapest source of guava fruits the balance provision of vitamin C can be made. Guava is also capable of producing sufficient processed products (Karanjalker *et al.*, 2013) *viz.* juice, jelly, jam, nectar, blended products *etc.* In this attempt, physical, chemical and sensory qualities of three guava cultivars *viz.* Allahabad Safeda, Allahabad Surkha and Apple Colour were compared to identify most suited cultivar for value addition. Such comparative studies would be beneficial for evaluating the suitability of cultivars for marketing and processing into various products.

The fresh guava fruits of Mrig bahar were procured from the local market of Ram-Baug, Allahabad. One hundred fruits of each cultivar were distributed into five groups. The evaluations for various parameters like physico-chemical and sensory tests were done within 6 h of procurement. Length and diameter of the fruits were measured using scale. Parameters such as pulp recovery percentage and specific gravity were determined using standard procedures. Total soluble solids (TSS; °B) and pH were determined using hand refractometer and digital pH meter, respectively. Moisture content (%), titratable acidity, ascorbic acid and total sugars were determined following methodology described by Ranganna (1997). The sensory evaluation was performed by a panel of five

judges based on 9- point hedonic scale (Amerine *et al.*, 1965) for flavor, colour, texture and overall acceptability of the fruits. The experiment was laid in completely randomized design with five replications each and results were interpreted using Web Agri Stat Package 2.0 (ICAR Research Complex for Goa).

The green peel coloured 'Allahabad Safeda', pink fleshed 'Allahabad Surkha' and pink tinge peeled 'Apple Colour' cultivars were evaluated for various physico-chemical parameters in present study. As revealed from the data presented in Table 1, heavier fruits of 256.06 g were recorded in 'Apple Colour' followed by those of 'Allahabad Safeda'. Similarly the highest average diameter (77.27 mm) and specific gravity (1.20) was observed in 'Apple Colour' but did not differ significantly from that in 'Allahabad Safeda'. The pulp recovery of 52 - 60 % was obtained from three cultivars. No significant result for pulp recovery gives indication about the equal processing ability of these cultivars. Similar percentage of pulp recovery was also observed by the Sandhu *et al.* (2001) and Kumar *et al.*, 2013 in 'Allahabad Safeda' fruits.

Amongst chemical parameters (Table 2), non-significant results were obtained for moisture and pH. Significant differences for TSS and ascorbic acid content were recorded amongst the cultivars studied. Maximum ascorbic acid content of 261.40 mg/100g was observed in fruits of 'Allahabad Safeda'. Titratable acidity was highest (0.65 %) in cultivar 'Apple Colour'. These values find more or less resemblance with the figures mentioned by Gouri Shanker (1967), Choudhary *et al.* (2008) and Singh *et al.* (2008) for 'Allahabad Safeda' and 'Apple Colour'.

To differentiate general consumer preference for three cultivars sensory evaluation was conducted,