Biological Forum – An International Journal **14(1): 1772-1778(2022)**

ISSN No. (Print): 0975-1130
ISSN No. (Online): 2249-3239

Evaluation of Quality Attributes and Storage Studies of Guava Nectar

Poonam[1]*, P.K.S. Gurjar[2], Rajesh Lekhi[3], Shubham Singh Rathour[1] and Shubham Bhadoriya[4] and Pushpendra Rajput[5]

[1]Ph.D. Scholar, Department of Horticulture,
Rajmata Vijayaraje Scindia Krishi Vishwa Vidyalaya, Gwalior (Madhya Pradesh), India.
[2]Scientist, Krishi Vigyan Kendra, RVSKVV, Morena (Madhya Pradesh), India.
[3]HOD, Horticulture, College of Agriculture, RVSKVV, Gwalior (Madhya Pradesh), India.
[4]Ph.D. Scholar, Department of Agricultural Extension, RVSKVV, Gwalior (Madhya Pradesh), India.
[5]Ph.D. Scholar, Department of Horticulture, PAU, Ludhiana (Punjab), India.

(Corresponding author: Poonam)*
(Received 21 December 2021, Accepted 26 February, 2022)
(Published by Research Trend, Website: www.researchtrend.net)

ABSTRACT: Experiment was conducted to study the physico-chemical attributes with storage period of guava nectar prepared from different Guava cultivars *viz.*, Lalit, L-49, Shweta and Gwalior-27 and their pulp proportions. Guava is highly perishable fruit and processing is the only option to ensure prolong and off-season consumption of guava. Since guava nectar is popular and a favorite drink among folks, our study is to prepare guava nectar with different cultivars' pulp combination to analyze quality and storage life of the nectar.

Nectar was prepared according to the combinations under 12 treatments with same level of sugar (600g/kg pulp) and citric acid (1g/kg pulp) analyzed under Completely Randomized Design. Physico-chemical parameters *viz.*, TSS, acidity, ascorbic acid, total sugar and pH as well as organoleptic attributes *viz.*, colour, flavour, taste and overall acceptability of nectar were evaluated at 0, 30, 60 and 90 days of storage.

Nectar was found better under treatment T_2 [Lalit(100%)] followed byT_5 [G-27+Lalit (50%+50%)]. TSS was found significantly higher (16.23%) in T_2 [Lalit (100%)] followed byT_5 [G-27+Lalit (50% +50%)]while, lowest TSS content was recorded (14.60%) in T_{12} [G-27+L-49+Lalit+Sweta (25%+25%+25%+25%)]. Acidity was found maximum (0.38 %) in T_2 [Lalit (100%)] followed by T_5 [G-27+Lalit (50% +50%)] and minimum (0.28%) in T_3[L-49 (100%)]. Highest ascorbic acid and pH value was observed (18.29 mg/100ml and 3.40 respectively) in T_2 [Lalit (100%)] followed by T_5 [G-27+Lalit (50% +50%)] while minimum (14.11 mg/100ml and 3.23) in T_1 [G-27 (100%)]. Total sugar was found highest (13.34%) in T_2 [Lalit (100%)] followed by T_5 [G-27+Lalit (50%+50%)] while lowest (12.13%) in T_8 [Lalit+L-49(50% +50%)]. In terms of organoleptically treatments T_2 &T_5 were found better at all three storage periods.

Keywords: Ascorbic acid, Guava, Nectar, Physico-chemical parameters, Storage, TSS.

INTRODUCTION

Guava (*Psidium guajava* L.), belongs to Myrtaceae, native of Tropical America or southern Mexico. It is valuable fruit crop besides Mango, Banana and Citrus and cultivated in tropical and sub-tropical areas. India is the major producer of Guava in the world. Total area and production of guava in India during 2019-20 was 292 MH and 4361 MT (AGRICOOP, 2020) respectively. Uttar Pradesh is the leading producing state in India.

"The fruit consists of 20% peel, 50% flesh and seed core. Guava fruit contains 74-84% moisture, 13-26% dry matter, 0.8-1.5% protein, 0.4-0.7% fat and 0.5-1.0% ash and the fruit is considered as a fair source of vitamin C (299 mg/100 g) and pectin (1.15%). The fruit has an appreciable amount of minerals such as phosphorus (23-37 mg/100 g), calcium (14-30 mg/100 g), iron (0.6-1.4 mg/100 g) as well as vitamins like niacin, thiamine, riboflavin and vitamin A" (Bal *et al.*, 2014). Guava is nutritious, flavorful and juicy fruit with total soluble solid content ranges from 8.2 to 10.4° brix. Sucrose, glucose and fructose are the primary sugars in ripe guava fruits. Fructose (59% approx.) and sucrose are the main sugars in green ripe fruits and fully ripe fruits respectively.

Post-harvest losses significantly occur in guava. The fruit is consumed fresh or in processed form such as jam, jelly, juice, puree, concentrate, nectar etc. The processing reduces the post-harvest losses and add values to the fruit and generate more income (Bons and Dhawan, 2006; Sandhu *et al.*, 2001).

"Nectar is one of the fortifying beverage having zero carbonation, with few preservatives and good source of important vitamins and minerals. Guava can be processed to nectar for healthy drinks and allow it to

consume for an extended period with increased self-life during the off season" (Choudhary *et. al.,* 2008). "Preparation of guava nectar is very simple having at least 20% fruit juice/pulp and 15% total soluble solids and also about 0.3% citric acid. Nectar is not diluted before serving" (Bal *et al.,* 2014).

18-20 % guava pulp, 15 % TSS and 0.3 % acidity of is suitable for nectar preparation and storage, refrigerated storage extends the storage life. Changes in TSS, Acidity, Sugars and pH usually starts after 30 days of storage (Meghwal *et al.,* 2017; Ahmed *et al.,* 2016; Bal *et al.,* 2014). The acidity, TSS increases while ascorbic acid, pH, TSS/acid ratio, pectin content and organoleptic score usually decreases during two months of room storage (Anupam *et al.,* 2016; Kuchi *et al.,* 2014; Bal *et al.,* 2014; Byanna and Gowda, 2012). 600-800 ppm of sodium benzoate ensures best retention of quality of guava juices for colored pulp varieties (Piyush *et al.,* 2015). Karanjalker *et al.,* 2013 suggested 70 % guava nectar and 30 % soymilk provides good amount of ascorbic acid, protein and better organoleptic score. Jain and Asati (2004) indicated Allahabad Safeda and Lucknow-43 are good varieties for guava processing.

Various guava cultivars such as Shweta, L-49, Lalit, Gwalior-27 etc. possess important role in processing including nectar. Beside this Lalit has appealing pink colour pulp, becomes valuable cultivar for processing. These cultivars as a sole or in combinations of their pulp for preparation of nectar can be utilized which can give different better-quality nectar. Hence, the experiment has been performed to evaluate the effect of pulp percentage of cultivars and storage period on physico-chemical and organoleptic aspects of guava nectar.

MATERIALS AND METHODS

The experiment was conducted in thePost-Harvest Laboratory, Department of Horticulture, College of Agriculture, Rajmata VijayarajeScindia Krishi Vishwa Vidyalaya, Gwalior (M.P.) during the year 2018-19.

Treatment Details: T_1-G-27(100% Pulp), T_2-Lalit (100%Pulp), T_3-L-49 (100% Pulp), T_4-Shweta (100% Pulp), T_5-G-27 + Lalit (50%+50% Pulp), T_6-G-27 + L-49(50% + 50% Pulp), T_7-G-27 +Shweta (50%+50% Pulp), T_8-Lalit +L-49 (50%+50% Pulp), T_9-Lalit +Shweta (50%+50% Pulp), T_{10}-G-27+Shweta+L-49 (33. 33 %+ 33. 33% +33. 33% Pulp), T_{11}-G-27+ Shweta + Lalit (33.33%+33.33%+33.33% Pulp) and T_{12}-G-27+L-49 + Lalit + Shweta (25% + 25% + 25% + 25% Pulp).

Preparation of Guava nectar: In winter season**,** fresh fully mature and even size, free from physical injuries, damages and microbial attacked fruits of four Guava cv. Gwalior–27, Lalit, L-49 and Shweta were taken from the orchard. Before using fruits for nectar preparation, they were washed under tap water removing dirt & dust particles from the surface and were surface dried.

Extraction of pulp was done with the help of pulper machine and sieved through 1 mm stainless steel sieve. The quantity of pulp, sugar, citric acid, preservative (KMS@2 mg/lit) and water were calculated. Syrup of sugar, citric acid in water was prepared and stirred thoroughly, cooled and filtered through muslin cloth and then pulp was added as per ratio provided under treatments. After pasteurization of nectar, preservative (KMS@2 mg/lit) was added and cooled at room temperature. Prepared guava nectar filled in sterilized clean bottles of half liter capacity, bottle was capped and stored in dry place at room temperature. The nectar for physico-chemical and organoleptic assessment were observed at 0, 30, 60, and 90 days of storage.

Physico-chemical evaluation.

TSS: It was recorded via hand refractometer (Erma, Japan) of range 0-32 °Brix. Three readings were recorded and average values represented in °Brix.

Titratable acidity: The titratable acidity was analyzed by titrating aliquot against 0.1N NaOH solution using phenolphthalein indicator till light pink colour is visible and reading recorded for acidity estimation (Ranganna 1986).

Ascorbic acid: To estimate ascorbic acid, the titrimetric indophenol method was adopted (Ranganna 1986).

Total sugars: Total sugars were estimated byLane and Eynonmethod (Ranganna 1986).

pH: It was recorded using Elico digital pH meter.

Sensory analysis. The sensory parameters of nectar stored under ambient temperature *viz.*, colour, flavour, taste and overall acceptability were assessed at 30 days intervals from first day to 90th day with the help ten trained panelists based on 9-pointhedonic rating scale with maximum score considered as the best (Ranganna 1986).

Statistical analyses. The data were analyzed by completely randomized design suggested by Panse and Sukhatme, (1967). The treatment significance was tested by 'F' test at 5% level of probability.

RESULTS AND DISCUSSION

Biochemical changes in guava nectar during storage

Total soluble solids (°Brix). TSS was found positively correlated with increasing the storage period (0 to 90 days) of nectar (Fig. 1). Maximum reading of TSS were recorded in treatment T_2 (16.23%, 17.06%, 17.13% and 17.33%) followed by T_5 (16.17%, 16.36%, 16.53%, and 16.80%) at all four stages (0, 30, 60, and 90 days) of storage respectively. But minimum value was recorded at 0 days in T_{12} (14.60%), at 30 days in T_3 and at 60 & 90 days in T_4 (15.67%).

"The increasement of TSS in nectar during storage was probably due to conversion of left-over polysaccharides into soluble sugars and formation of water-soluble pectin from protopectin". Similar findings are also recorded by Jain *et al.* (2011); Kumari and Sandal (2011); Jakhar *et al.* (2012); Byanna and Doreyappa Gowda (2012b); and Byanna *et al.* (2013).

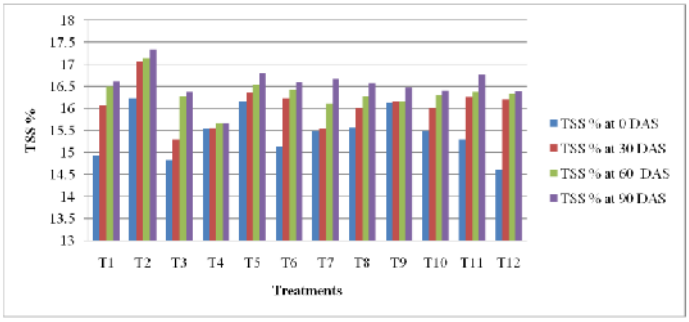

Fig. 1. Effect of different recipe on TSS (°Brix) of stored guava nectar.

Acidity (%). Acidity percent of guava nectar increased with storage time (Fig. 2). However, the maximum acidity was recorded in T_2 and T_5 at 0, 30, 60 and 90 days of storage. Acidity was maximum in treatment T_2 (0.38%, 0.49%, 0.55% and 0.69%) followed by T_5 (0.37%, 0.47%, 0.53% and 0.67%) at all four stages (0, 30, 60, and 90 days) of storage respectively. But minimum value was recorded at 0 days in T_3, T_4 and T_9 (0.28%), at 30 days in T_9 (0.35%), at 60 days in T_3 (0.48%) and at 90 days in T_1 (0.53%).

"The increase in acidity of nectar during storage might be due to formation of organic acids by ascorbic acid degradation as well as progressive decrease in the pectin content. It is also due to formation of acids from sugar". Similar results were reported by Nidhi *et al.* (2008); Balaswamy *et al.* (2010); Shankara Swamy and Banik (2011); Jakhar *et al.* (2013); Bal *et al.* (2014).

Ascorbic acid (mg/100ml). Ascorbic acid content in guava nectar of all the treatments showed negative correlation with increasing storage time from 0 to 90 days. The treatment T_2 and T_5 recorded significantly maximum ascorbic acid, while minimum noted in treatment T_1 at 0, 30, 60 and 90 days after storage. Maximum ascorbic acid content was found in treatment T_2 (18.29 mg, 18.24 mg, 18.07 mg, and 17.80 mg) followed by T_5 (17.91 mg, 17.54 mg, 17.46 mg and 17.05 mg) while minimum value of ascorbic acid was noted in treatment T_1 (14.11 mg, 13.45 mg, 13.18 mg and 12.64 mg) at all four stages (0, 30, 60, and 90 days) of storage respectively (Fig. 3).

"This reduction might be due to oxidation of ascorbic acid into dehydro-ascorbic acid by oxygen. These losses of ascorbic acid were attributed to the effect of processing, storage time and exposure to light". Similar findings were recorded by Tiwari (2000); Divya (2009); Nilugin (2010); Kumari and Sandal (2011); Byanna and Doreyappa Gowda (2012b); Jakhar *et al.* (2013); Malav *et al.* (2014).

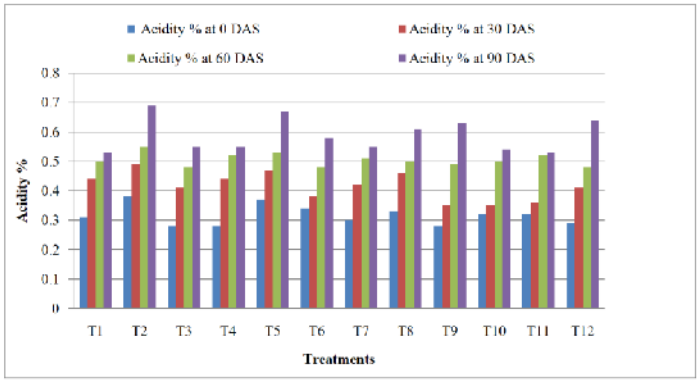

Fig. 2. Effect of different recipe on acidity (%) of stored guava nectar.

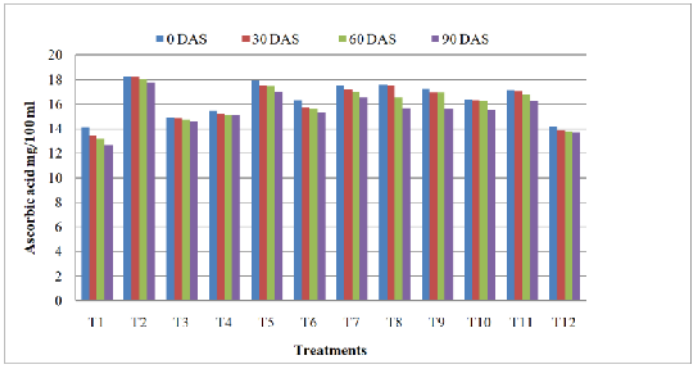

Fig. 3. Effect of different recipe on Ascorbic acid of stored guava Nectar.

pH value: As per the data analyzed, pH value of nectar decreased with advancement of storage time (0 to 90 days) (Fig. 4). The treatment T_2 and T_5 recorded significantly maximum pH value, while minimum noted in treatment T_1 at 0, 30, 60 and 90 days of storage. Maximum pH was found in treatment T_2 (3.40, 3.28, 3.25 and 3.23) followed by T_5 (3.39, 3.26, 3.23 and 3.22) while minimum pH value was noted in treatment T_1 (3.23, 3.14, 3.13 and 3.12) at all four stages (0, 30, 60, and 90 days) of storage respectively. The differences between all other treatments were found statistically at par.

Reduction of pH is due to increase in titratable acidity with storage time. These findings are the similar to the findings of Nilugin (2010); Shankara Swamy and Banik (2011); Kumari and Sandal (2011); Byanna *et al.* (2013).

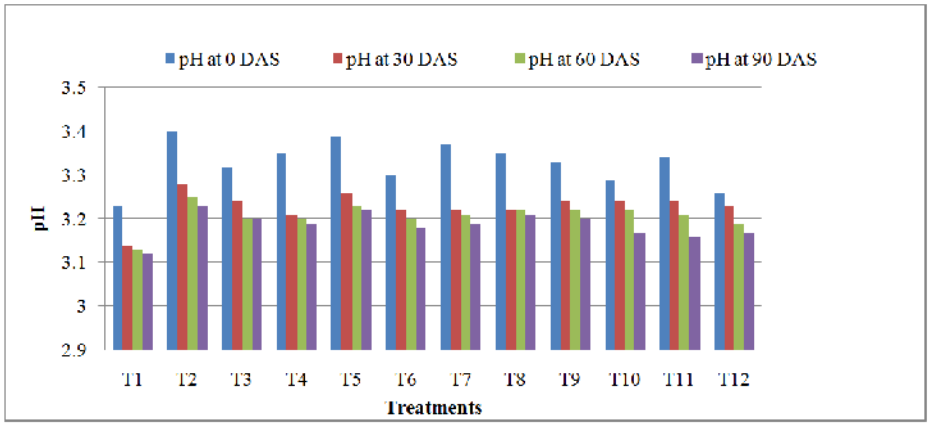

Fig. 4. Effect of different combination on pH of stored guava nectar.

Total sugar (%). Data showed in the Fig. 5 depicts that total sugar content of nectar have positive correlation with increasing storage period. Maximum reading of total sugar was observed in treatment T_2 (13.34%, 13.47%, 13.70% and 13.90%) followed by T_5 (13.18%, 13.37%, 13.49%, and 13.81%) at all four stages (0, 30, 60, and 90 days) of storage respectively. But minimum value of total sugar was recorded at 0 days in T_8 (12.13%), at 30 and 90 days in T_6 (12.34% and 12.76 %) and at 60 in treatment T_{12} (12.41%).

"The variation in different fractions of sugar might be due to hydrolysis of polysaccharides like starch, pectin and inversion of non-reducing sugar into reducing sugar, as increase in reducing sugar was co-related with the decrease in non-reducing sugar. The increased level of total sugar was probably due to conversion of starch and pectin into simple sugars". Similar results were reported by Tripathi *et al.* (1992); Choudhary *et al.* (2006) in guava nectar.

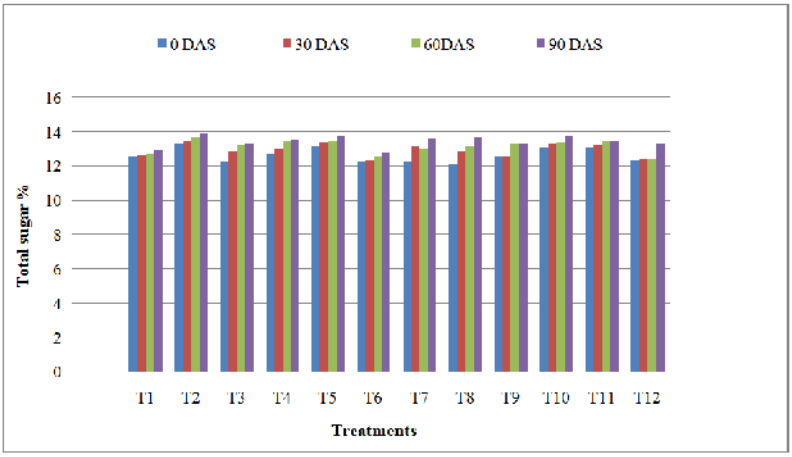

Fig. 5. Effect of different recipe on Total sugar (%) of stored guava nectar.

Organoleptic evaluation of guava nectar. Colour: Colour represent the quality of nectar and presence of natural pigments in it. Among the all-recipe combination colour value showed decreasing trend with increasing storage period. However, the maximum colour reading was noted out in T_2 and T_5 at 0, 30, 60 and 90 days of storage (Fig. 6). It was found maximum in treatment T_2 out of 10 were(8.53, 7.87, 7.77 and 6.87) followed by T_5 (8.43, 7.80, 7.73 and 6.63)at all four stages (0, 30, 60, and 90 days) of storage respectively. But minimum value was recorded at 0, 30, and 60 days in T_6 (6.87, 6.60 and 6.27 respectively), and at 90 days in T_{10} (4.77).

Decreasing trend in colour value with increasing storage period might be due to "the action of acidity which enhances the hydrolytic reaction causes

browning, acid also enhances the Millard reaction and caramelization which causes more browning in product. Polyphenolic compound present in fruit pulp also reacts with enzymes to get discoloration". These findings are in accordance with Nilugin (2010); Balaswamy *et al.* (2010); Jakhar *et al.* (2012); Byanna and Doreyappa Gowda (2012a); Jakhar *et al.* (2013); Pasupuleti *et al.* (2014).

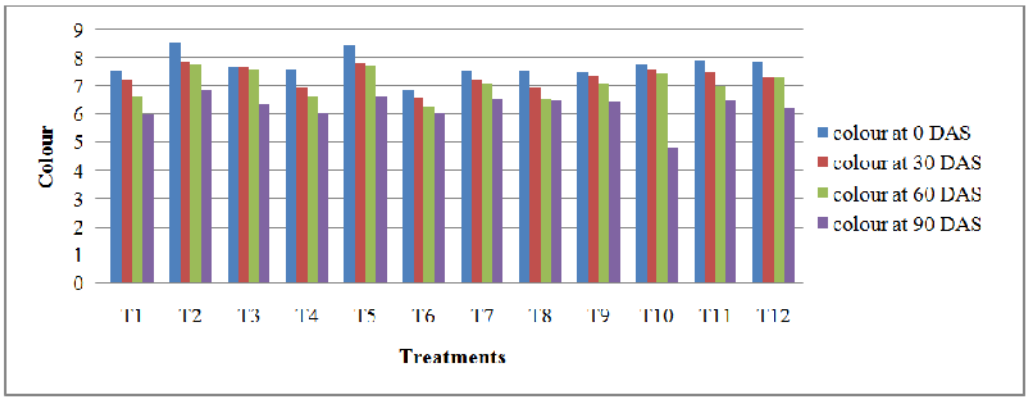

Fig. 6. Effect of different recipe combinations on Colour of stored guava nectar.

Flavour: The mean score recorded for flavour of different treatments at 0, 30, 60 and 90 days revealed that score of flavour continuously reduced with increasing storage period in all treatments (Fig. 7). However, it was found maximum in treatment T_2 out of 10 were (8.70, 8.33, 7.70 and 7.50) followed by T_5 (8.67, 8.10, 7.60 and 7.30) at all four stages (0, 30, 60, and 90 days) of storage respectively. Whereas, the minimum mean score flavour was recorded at 0 days in the treatment T_{12} (7.56), at 30 days in T_9 (6.90), at 60 and 90 days in T_3 (6.23 and 5.53 respectively). Significantly, "decreasing in the reading of the flavour during storage due to reaction of acids with the product and it also may be due to the slight fermentation of nectar and production of unpleasant volatile gases". These findings are in agreement with the findings of Kannan and SusheelaThirumaran (2004); Nilugin (2010); Balaswamy *et al.* (2010); Jakhar *et al.* (2012); Byanna and Doreyappa Gowda (2012a); Byanna and Doreyappa Gowda (2012b); Jakhar *et al.* (2013); Pasupuleti and Kulkarni (2014).

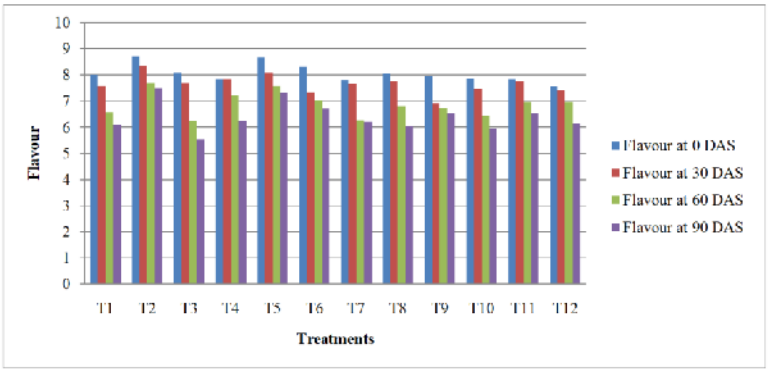

Fig. 7. Effect of different recipe combinations on flavour of stored guava nectar.

Taste: Mean score for taste of all treatments were negatively correlated with increasing time of storage (Fig. 8). The maximum mean for taste score was recorded in T_2 were(8.87, 8.73, 7.90 and 7.67) followed by T_5 (8.80, 8.17, 7.73 and 7.33)at all four stages (0, 30, 60, and 90 days) of storage respectively. But minimum mean score of taste was recorded at 0 and 30 days in the treatment T_7 (7.27 and 7.20), at 60 days in T_1 (6.47) and at 90 days in T_4 (5.77).

"It may be due to more pulp percentage and the physico-chemical constituent of fresh guava pulp. This could be caused by development of acidity and caramelization". Both of these are negative to taste Nilugin (2010); Jakhar *et al.* (2012); Jakhar *et al.* (2013) reported the same results.

Overall acceptability. The mean score for overall acceptability of all the treatments revealed that it was continuously lowered up to 90 days of storage (Fig. 9). However, it was found maximum in treatment T_2 (8.67, 7.90, 7.80 and 7.70) followed by T_5 (8.47, 7.67, 7.17 and 7.03) at all four stages of storage respectively. But the minimum mean score of overall acceptability was recorded at 0 and 60 days in the treatment T_9 (7.20 and 5.33), at 30 days in T_1 (6.23) and at 90 days in T_8 (5.27).

"It may be due to non-enzymatic and oxidative reaction which deteriorate the scores of colour, flavour as well as taste". These findings are similar to that of Nilugin (2010); Balaswamy *et al.* (2010); Shankara Swamy and Banik (2011); Kumari and Sandal (2011); Jakhar *et al.*, (2012); Byanna and Doreyappa Gowda (2012a); Byanna and Doreyappa Gowda (2012b).

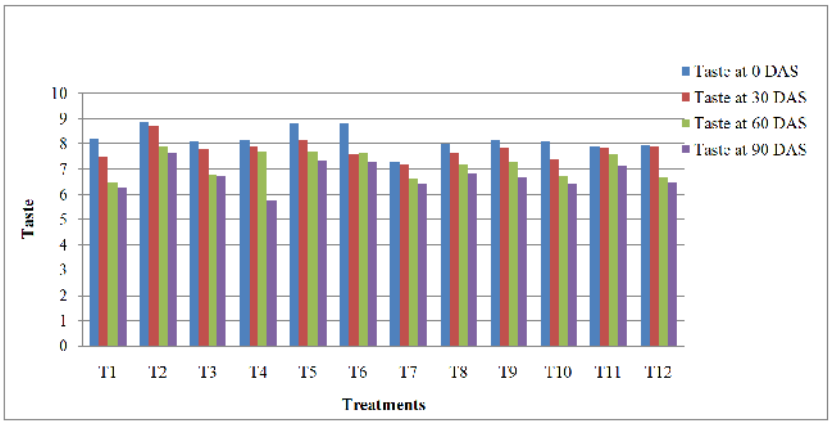

Fig. 8. Effect of different recipe combinations on taste of stored guava nectar.

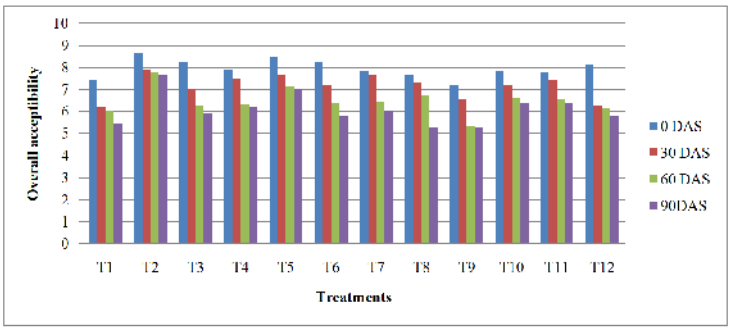

Fig. 9. Effect of different recipe combinations on overall acceptability of stored guava nectar.

CONCLUSION

Treatments were considerably dissimilar from one another with respect of all parameters. The physico-chemical and organoleptic parameters under all storage periods were found best when nectar was prepared using 100 % pulp of Lalit cultivar alone followed by combination of pulp with 50 % Gwalior-27 and 50 % Lalit.TSS, acidity and total sugar content in nectar were increased while ascorbic acid, pH and mean score of sensory attributes *viz.*, colour, taste, flavour and overall acceptability were decreased in all treatments under 0, 30, 60 and 90 days after storage. Future scope of this study includes guava nectar preparation with more different preservatives, combination of other different varieties and also with other fruits.

Acknowledgement. Authors are thankful to Dr. Rajesh Lekhi for providing the necessary financial assistance and support for the investigations. This research is a part of Master's research (thesis) program of Rajmata VijayarajeScindia Krishi Vishwa Vidyalaya, Gwalior (M.P.), India.
Conflict of Interest. None.

REFERENCES

Anonymous (2020). Department of Agriculture and Farmers Welfare, Government of India. https://agricoop.nic.in/en.

Ahmed, T., Raj, D., Senapati, A. K., Tandel, Y. N., Tak, M. K. and Kumar V. (2016). Fruit nectar as a refreshing beverage an overall review. *Journal of Plant Development Sciences, 8*(7): 321-328.

Anupam, T., Pal A. K., Singh, S. P., Singh, S., Singh, B. K. and Singh, P. (2016). Evaluation of guava cultivars for quality pulp production, *9*(11): 1406-1408.

Bal, L. M., Ahmad, T., Senapati, A. K. and Pandit, P. S. (2014). Evaluation of quality attributes during storage of guava nectar cv. Lalit from different pulp and TSS ratio. *Journal of Food Processing and Technology*, *5*(5): 329-334.

Balaswamy, Karakala, Prabhakara Rao, PamidiGhantam, Nagender, Allani and Satyanarayana, Akula (2010). Preparation of sour grape (*Vitis vinifera*) beverages and evaluation of their storage stability. *Journal of Food Processing and Technology*, *52*(2): 60-68.

Bons, H. K., Dhawan, S. S. (2006). Effect of heating/freezing with added chemical preservation on pulp preservation of guava (*Psidium guajava* L.). *Haryana Journal of Horticultural Sciences*, *35*: 22-25.

Byanna, C. N. and Doreyappa Gowda, I. N. (2012a). Studies on standardization of RTS beverage production from sweet orange (*Citrus sinensis* var. sathgudi) and storage. *Food Science and Technology*, *44*(1-2): 102-108.

Byanna, C. N. and Doreyappa Gowda, I. N. (2012b). Standardization of sweet orange and pomegranate blended RTS beverage preparation and its storage. *Food Science and Technology*, *44*(1-2): 109-115.

Byanna, C. N., Doreyappa Gowda, I. N. and Rao, V. K. (2013). Standardization of sweet orange and pomegranate blended RTS beverage using sugar substitutes. *Food Science and Technology*, *45*(1-3): 237-243.

Choudhary, M. L., Dikshit, S. N. and Sharma H. G. (2006). Studies on preparation and biochemical changes in guava RTS beverage during storage. *Indian Journal of Arid Horticulture*, *1*(1): 78-79.

Choudhary, M. L., Dikshit, S., Shukla, N. N. and Saxena, R. R. (2008). Evolution of guava varieties and standardization for nectar preparation. *Journal of Horticultural Science*, *3*: 161-163.

Divya, Archana Kumari (2009). Effect of different temperatures, timings and storage periods on the physico-chemical and nutritional characteristics of whey-guava beverage. *Food Science and Technology*, *4*: 118-122.

Jain, P. K., Jain, P. and Nema, P. K. (2011). Quality of Guava and Papaya Fruit Pulp as Influenced by Blending Ratio and Storage Period. *American Journal of Food Technology*, *6*: 507-512.

Jain, P. K. and Asati, V. K. (2004). Evaluation of guava cultivars for pulp preparation. *J. Fd. Sci. Technol.*, *41*(6): 684-686.

Jakhar, M. S., Vaish, P. K. and Pathak, S. (2013).Studies on the standardization and preservation of guava (*Psidium guajava* L.) and barbados cherry (*Malpighia glabra* L.) blended ready-to-serve beverage. *Progressive Horticulture*, *45*(1): 95-99.

Jakhar, M. S. Vaish, P. K. and Pathak, S. (2012). Studies on the standardization and preservation of guava (*Psidium guajava* L.) and barbados cherry (*Malpighia glabra* L.) pulp blended ready-to-serve beverage. *International Journal of Processing and Post Harvest Technology*, *3*(2): 246-250.

Kannan, S. and Susheela Thirumaran, A. (2004). Studies on the storage life of Jamun (*Syzygium cuminii* Rom) fruit products. *Journal of Food Science and Technology*, *41*(2): 186-188.

Karanjalker, G. R., Singh, D. B. and Rajwade, V. B. (2013). Development and evaluation of protein enriched guava nectar. *Environment and Ecology*, *29*(4): 1911-1917.

Kuchi, V. S., Gupta, R., and Tamang, S. (2014). Standardization of recipe for preparation of guava jelly bar. *Journal of Crop and Weed*, *10*(2): 77-81.

Kumari, A. and Sandal, A. (2011). Quality evaluation of products prepared from local mango. *Food Science and Technology*, *24*(2): 131-135.

Malav, M., Gupta, R. and Nagar, T. (2014). Studies on bio-chemical composition of orange based blended ready-to-serve (RTS) beverages. *Bioscience Biotechnology Research Communications*, *7*(1): 78-83.

Meghwal, M. L., Dalal, S. R., Meena, N. K. and Shivaputra. (2017). Changes in chemical constituents of Guava Nectar cv. 'Lalit' during different storage conditions. *Research Journal of Agricultural Sciences*, *8*(2): 404-407.

Nilugin, S. E. (2010). Preparation of Ready-To-Serve (RTS) beverage from Palmyrah (*Borassus flabellifer* L.) fruit pulp. *Journal of Applied Horticulture*, *15*(**1**)**:** 72-80.

Panse, V. G. and Sukhatme, P. V. (1967). Statistical methods for agricultural workers, ICAR Pub, New Delhi.

Pasupuleti, Vijayanand and Kulkarni, Gururao S. (2014). Lycopene fortification on the quality characteristics of beverage formulations developed from pink flesh guava (*Psidium guajava* L.). *Journal of Food Science and Technology*, *51*(12): 4126-4131.

Shrivastava, P., Prashad, V. M., Kumar, J., Mishra, P. K. and Singh, R. K. (2015). Preservation of guava (*Psidium guajava* L.) juice with sodium benzoate and ginger extract. *An International Journal of Society for Scientific Development*, *10*(6): 3411-3415.

Ranganna, S. (1986). Hand book of analysis and quality control for fruits and vegetables products. Tata Mc Graw Hill Publishing Co Ltd, New Delhi, India.

Sandhu, K. S., Singh, M., and Ahluwalia, P. (2001). Studies on processing of guava into pulp and guava leather. *Journal of Food Science and Technology*, *38*: 622-624.

Shankara Swamy, J. and Banik, A. K. (2011). Processing and quality evaluation of guava squash. *Journal of Applied Horticulture*, *13*(1): 82-84.

Tiwari, R. B. (2000). Studies on blending of guava and papaya pulp for RTS beverage. *Indian Food Packer*, *54*(2): 68-72.

Tripathi, V. K., Lyndgoh, K. and Singh, S. (1992). Studies on blending of pineapple juice with different ratios of guava juice for preparation of RTS beverages. *Progressive Horticulture*, *24*(1-2): 60-65.

How to cite this article: Poonam, P.K.S. Gurjar, Rajesh Lekhi, Shubham Singh Rathour and Shubham Bhadoriya and Pushpendra Rajput (2022). Evaluation of Quality Attributes and Storage Studies of Guava Nectar. *Biological Forum – An International Journal*, *14*(1): 1772-1778.