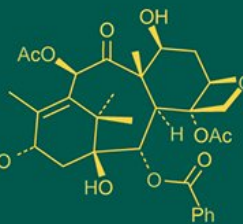
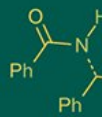


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Jyoti Patel

M.Sc. Scholar, Department of
Post-Harvest Management,
College of Horticulture and
Research Station, MGUVV,
Durg, Chhattisgarh, India

Amit Dixit

Professor, Department of
Vegetable Science, College of
Horticulture and Research
Station, MGUVV, Durg,
Chhattisgarh, India

SD Khunte

Assistant Professor,
Department of Fruit Science,
College of Horticulture and
Research Station, MGUVV,
Durg, Chhattisgarh, India

Surbhi Tiwari

M.Sc. Scholar, Department of
Post-Harvest Management,
College of Horticulture and
Research Station, MGUVV,
Durg, Chhattisgarh, India

Gayatri Sahu

M.Sc. Scholar, Department of
Post-Harvest Management,
College of Horticulture and
Research Station, MGUVV,
Durg, Chhattisgarh, India

Standardization and sensory evaluation of RTS prepared from blended juices of Pineapple (*Ananas comosus* L.), Aloe Vera (*Aloe barbadensis* M.) and Ginger (*Zingiber officinale*)

Jyoti Patel, Amit Dixit, SD Khunte, Surbhi Tiwari and Gayatri Sahu

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Abstract

The current study entitled “Standardization the recipe of RTS prepared from blended juices of Pineapple (*Ananas comosus* L.), Aloe Vera (*Aloe barbadensis* M.) and Ginger (*Zingiber officinale*)” was conducted at the Processing Laboratory of the Department of Post-Harvest Management, College of Horticulture and Research Station, Sankara-Patan, Durg (C.G.) during the academic year 2024–25. The experimental work was laid out under Completely Randomized Design (CRD) with three replications. The blended RTS was prepared using seven different treatment combinations which included varying proportions of pineapple, aloe vera and ginger juice as follows: T₀ (100:0:0), T₁ (80:15:5), T₂ (70:20:10) T₃ (60:25:15), T₄ (50:30:20), T₅ (40:35:25) and T₆ (30:40:30). All the formulated treatments were assessed at 0, 15, 30 and 45 days intervals during storage. The study revealed that treatment T₅ (pineapple juice 40%, aloe vera juice 35%, ginger juice 25%) was identified as the most preferred formulation of the blended RTS based on sensory evaluation with mean scores of taste (7.98), colour (8.17), appearance (8.22), flavour (7.77) and overall acceptability (8.03) on the 9-point hedonic scale during different storage period followed by the treatment T₃ and T₄.

Keywords: Pineapple, aloe vera, ginger, sensory evaluation, overall acceptability

Introduction

Pineapple has long held its place as one of the most favoured non-citrus tropical and subtropical fruits, primarily due to its appealing flavour and refreshing sugar-to-acid ratio. It mainly contains water, carbohydrates, sugars, vitamin A, C, carotene, refreshing sugar acid balance and a very rich source of vitamin C and organic acids (Bartolomew *et al.*, 1995) [2]. 100 grams of pineapple pulp contains 87.3 g of water, 0.54 g protein, 13.7 g carbohydrates, 16 mg calcium, 11 mg phosphorus, 12 mg magnesium, 130 IU of vitamin A, 0.079 mg of vitamin B1, 0.031 mg of vitamin B2 and 24 mg of ascorbic acid, providing a total of 52 kilocalories of energy (Hossain *et al.*, 2015) [8]. Globally pineapple juice is widely consumed with much of it produced as a by product of the canning industry (Reinhardt and Rodriguez, 2009) [16].

Aloe vera has long been recognized for its therapeutic benefits. The most widely used species of aloe vera are *Aloe barbadensis* and *Aloe aborescens* (Ramchandra and Rao, 2008, Dubick and Michsel, 1983) [13, 6]. It contains a wide range of bioactive compounds including vitamins, enzymes, saponins, amino acids and essential minerals (Talukdar *et al.*, 2023) [20]. Aloe vera gel and juice are commonly used for treating skin burns, relieving itching, lowering cholesterol levels and managing digestive issues such as ulcers, heartburn and constipation. Aloe vera gel contains various essential and trace minerals including aluminium, boron, barium, calcium, iron, magnesium, sodium, phosphorus, silicon and strontium. (Yamaguchi *et al.*, 1993) [22]. It also possesses antibacterial, antifungal and antiviral properties (Maharjan and Laxmipriya, 2014) [11].

Ginger is a powerful natural antioxidant and is widely recognized for its diverse medicinal applications. Fresh whole ginger is commonly used in pickling and candy making while its juice is often added to various beverages for flavor and health benefits (Umair *et al.*, 2025) [21]. It has long been esteemed as a culinary spice and holds significant medicinal value. It is

Corresponding Author:**Jyoti Patel**

M.Sc. Scholar, Department of
Post-Harvest Management,
College of Horticulture and
Research Station, MGUVV,
Durg, Chhattisgarh, India

known for its potential to treat conditions such as rheumatoid arthritis and ulcers as well as for its role in preventing heart attacks and strokes (Haniadka *et al.*, 2013) [7]. Additionally ginger exhibits antiviral, anticancer and anti-ulcerogenic properties making it a valuable component in traditional and modern medicine (Denyer *et al.*, 1994; Katiyar *et al.*, 1996; Johji *et al.*, 1988, Ayustaningwarno *et al.*, 2024) [5, 10, 9, 1].

The blending of two or more fruit juices in varying proportions can be effectively used for the preparation of Ready-to-Serve (RTS) beverages. This approach not only enhances the aroma, flavour and nutritional profile of the final product but also opens up possibilities for developing innovative health-orientated drinks that may serve as appetizing refreshments (Deka and Sethi, 2001, Rathinasamy *et al.*, 2021) [4, 15]. The incorporation of spices and medicinal plant extracts such as mint, ginger, turmeric, cumin, black pepper, cardamom and aloe vera further enhances the organolaptic properties of Ready-To-Serve (RTS) fruit beverages (Sindumathi *et al.*, 2013) [19].

However one of the key challenges faced by the beverage processing industry is the limited availability of well-established recipes suitable processing techniques and adequate storage solutions for such nutritionally and therapeutically rich drinks (Shagiwal and Deen, 2022) [18].

Keeping all the above facts in mind the present experiment was conducted to formulate a novel Ready-To-Serve (RTS) beverage enriched with the medicinal properties of pineapple, aloe vera, and ginger.

Materials and Methods

The study was carried out in the Post-Harvest Laboratory, Department of Fruit Science, College of Horticulture and Research station Durg (C.G), during the year 2024-25.

Raw materials

Mature and ripe pineapple and ginger were purchased fresh from the local market. Aloe vera leaves were collected from the home kitchen garden located at DDU Nagar, Raipur. In addition to the primary ingredients and other essential materials used in the preparation included sugar, citric acid and sodium benzoate as a preservative. Clean and sterilized juice bottles required for packaging and storage were also purchased from the local market. All materials were handled and stored under hygienic conditions to maintain their quality throughout the study.

Extraction of pineapple juice

Fresh, healthy and fully ripe pineapple were chosen for juice extraction. The fruits were washed thoroughly under running tap water to remove any dust or dirt from the surface. They were then sliced using a sharp knife and the seeds, rind, and white pith were carefully removed. The remaining flesh was chopped into smaller pieces and transferred to a mixer grinder to extract juice. The juice was then straining by a clean muslin cloth yielding pure pineapple juice.

Extraction of aloe vera juice

Aloe vera pulp was extracted using the traditional hand filleting method to prevent contamination of the inner gel

with the yellow sap. Only fresh, healthy and mature (3–4 years old) undamaged and rot-free leaves were selected for juice preparation. The lower inch of the leaf base (attached to the rosette stem) the top 2–4 inches of the tapering end and the sharp spines along the edges were carefully trimmed off using a sharp knife. The upper green rind was removed by sliding the knife just beneath the mucilage layer followed by removal of the lower peel in the same manner. The pulp was heated at 60–65°C for 10 minutes and then grand in a mixer grinder and finally strained through a clean muslin cloth to obtain pure aloe vera juice.

Extraction of ginger juice

Fresh, clean, large and firm ginger rhizomes were selected. They were thoroughly washed with clean water to remove any adhering soil. After cleaning the rhizomes were peeled and sliced into smaller pieces. These pieces were grand in a mixer grinder which was subsequently strained through a muslin cloth to obtain pure ginger juice.

Standardization of RTS

The various combinations of pineapple, aloe vera and ginger juice were used to determinethe best combination for palatable RTS beverage through organolaptic evaluation:-

T₁ - 10% blend comprising pineapple juice 80%, aloe vera juice 15% and ginger juice 5%

T₂ - 10% blend comprising pineapple juice 70%, aloe vera juice 20% and ginger juice 10%

T₃ - 10% blend comprising pineapple juice 60%, aloe vera juice 25% and ginger juice 15%

T₄ - 10% blend comprising pineapple juice 50%, aloe vera juice 30% and ginger juice 20%

T₅ - 10% blend comprising pineapple juice 40%, aloe vera juice 35% and ginger juice 25%

T₆ - 10% blend comprising pineapple juice 30%, aloe vera juice 40% and ginger juice 30%

Preparation of RTS

After extracting pure juices from pineapple, aloe vera and ginger Ready-to-Serve (RTS) beverages were prepared by blending the juices in varying proportions according to the treatment formulations. Each blend was homogenized thoroughly. Sugar was added to achieve a Total soluble solids (TSS) level of 10%. Citric acid was incorporated @ 0.3% along with sodium benzoate @ 600ppm as a preservative. The final mixtures were bottled in 200 ml bottles sealed and stored at room temperature in the laboratory.

Sensory evaluation

This test measured the consumer acceptability of the product. A semi-trained panel of three to five judges from different age groups and with varied eating habits was formed to evaluate the sensory qualities. The panel included assistant professors of the different department, College of Horticulture and Research Station, Sankara-Patan, Durg (C.G.). The judges evaluated the product's sensory qualities using the 9-point hedonic rating test as described by Ranganna (1997) [14]. Different treatment samples were given to the judges, who rated the acceptability of the product based on their senses.

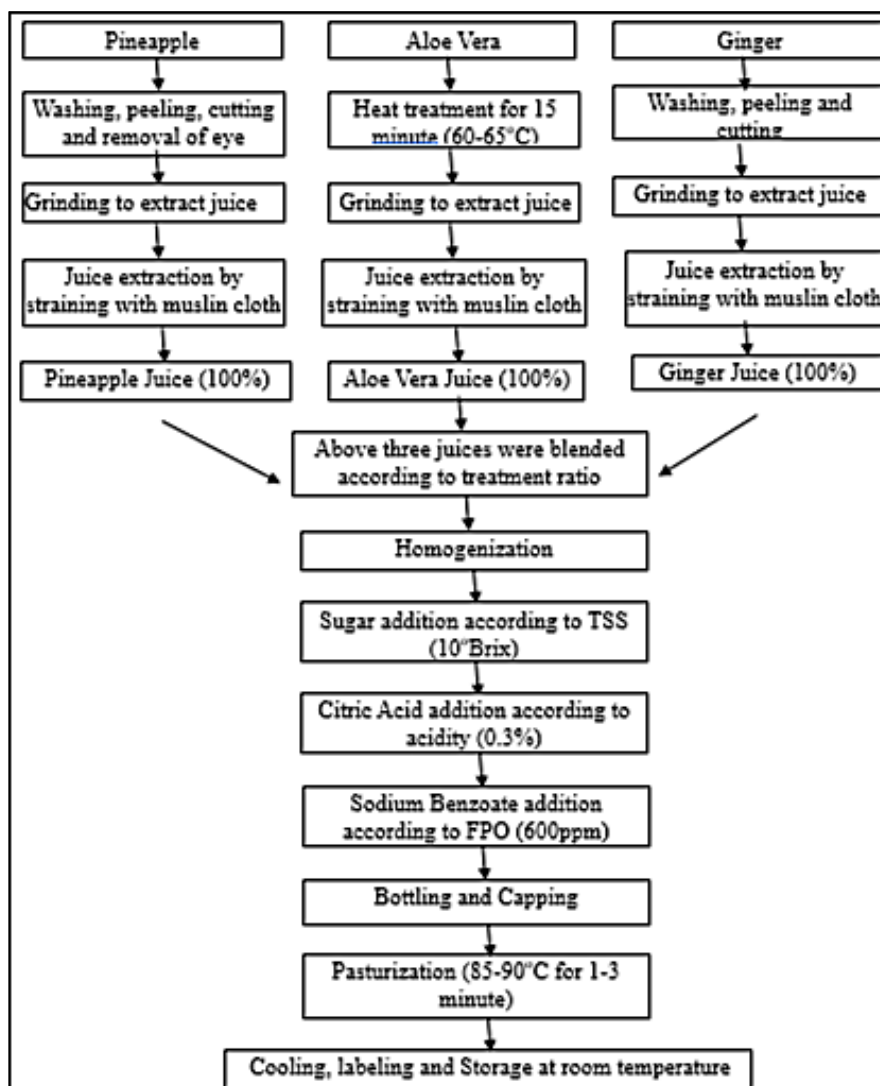


Fig 1: Flow chart for preparation of pineapple, aloe vera and ginger blended RTS.

Results and Discussion

Standardization of RTS

Treatment T6 with 10% blends comprising 30% pineapple juice, 40% aloe vera and 30% ginger juice was found to be the best treatment for the preparation of RTS beverage. Sarkar and Bulu (2017) ^[17] standardized the recipe of guava and pineapple blended RTS and reported that a blend of 60% guava pulp and 40% pineapple juice was found the highest sensory score for overall acceptability (7.74) with 15.29°Brix TSS and 0.32% acidity. Patel *et al.* (2024) ^[12] standardized the recipe of pineapple RTS flavoured with spices and reported that the maximum organoleptic score (9.03) was observed in treatment T₁₁ (pineapple juice 10% + ginger 2% + black pepper 2% + cardamom 2%). Chandra *et al.* (2018) ^[3] developed and evaluated Ready to Serve beverage (RTS) from blend of awala, aloe-vera, mint and ginger and reported that the blend with 35% amla, 40% aloe vera, 20% ginger and 5% mint (T₃) showed the highest sensory acceptance for taste (8.1±0.31), aroma (8.0±0.33) and overall quality (7.8±0.43). All formulations were rich in vitamin C and remained microbiologically safe for up to 60 days. Shagiwal and Deen (2022) ^[18] studied on development of Ready-to-Serve (RTS) beverage from strawberry (*Fragaria ananassa*), ginger and aloe vera blend and reported that the treatment T7 (10% of blend consisting 60% strawberry pulp, 20% aloe vera and 20% ginger juice)

adjusted to 13% TSS and 0.30% acidity with 70 ppm SO₂ was observed the best on organoleptic score (8.24).

Sensory evaluation

The different concentrations were analyzed to determine the most acceptable combination of blended RTS. Data were collected for key sensory parameters including taste, colour, appearance, flavour and overall acceptability. Each attribute was rated on a nine-point hedonic scale, where a score of 1 indicated the lowest preference and 9 indicated the highest preference. Mean scores were calculated for each treatment and the formulation receiving the highest score for overall acceptability was identified as the most preferred and thus considered standardized.

Taste

The data regarding sensory evaluation for taste of RTS beverage are presented in table 1. At the beginning of storage (0 days) the highest taste score was observed in treatment T₅ (8.07) followed by T₃ (7.20) and T₂ (7.00). The lowest score was recorded in T₀ (6.40). Treatment T₀ and T₁, T₃ and T₂, T₄ and T₃ were found statistically at par with each other. After 15 day taste scores showed a slight decline in most treatments. Treatment T₅ (8.07) continued to maintain the highest acceptability while T₀ (6.27) was the lowest. Treatments T₃ (6.87) and T₄ (6.80) remained fairly stable showing only minimal reduction. Treatment T₀ and T₁, T₁

and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. A more pronounced decline in taste was noted by the 30th day. Treatment T₅ (7.93) maintained a high score showing stability followed by T₃ (6.80) while T₀ (6.07) showed the least acceptability. Treatment T₀ and T₁, T₁ and T₂, T₃ and T₄ were found statistically at par with each other. At 45th day of storage the overall taste acceptability had declined further although T₅ (7.87) remained significantly superior compared to other treatments followed by T₃ (6.73). The lowest score persisted with T₀ (6.00). Treatment T₀ and T₁, T₁ and T₂, T₃ and T₄ were found statistically at par with each other. A general declining trend was observed with advancement of storage period up to 45 days. The decrease may be attributed to biochemical changes such as oxidation, degradation of sugars, organic acids and volatiles leading to a decline in flavour quality. Among the treatments T₅ (pineapple juice 40%, aloe vera juice 35%, ginger juice 25%) consistently recorded the highest taste score throughout storage suggesting that a higher proportion of aloe vera and ginger imparted better taste stability.

Colour

The data regarding sensory evaluation for colour of RTS beverage are presented in table 2. The observations revealed decline in colour scores as the storage period progressed with a consistent decreasing trend noted up to 45 days of storage. At 0 day of storage significant variation was observed among the different treatment combinations of RTS. The highest score for colour was recorded in treatment T₅ (8.47) followed by treatment T₃ (7.33) and T₂ (7.13) while the lowest was found in T₀ (6.40). Treatment T₃ and T₄ was found statistically at par with each other. After 15 days of storage treatment T₅ (8.27) continued to retain the maximum score followed by T₃ (7.27) whereas treatment T₀ (6.40) recorded the lowest values. Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. At 30 days further reduction in colour scores was recorded. Treatments T₅ (8.07) and T₃ (7.27) remained superior while treatment T₀ declined drastically to 6.33 indicating lesser stability in this combination. The reduction could be due to non-enzymatic browning and pigment degradation during storage. Treatment T₀ and T₁, T₁ and T₂, T₃ and T₄ were found statistically at par with each other. By the 45th day treatment T₅ remained high (7.87) followed by T₃ (7.23) on the contrary treatment T₀ (6.27) had lower scores. Treatment T₀ and T₁, T₁ and T₂ were found statistically at par with each other. The result suggests that higher aloe vera and ginger proportions (T₅) preserved the natural colour better than pineapple only blends might be due to the appealing golden-yellow colour imparted by pineapple juice combined with the stabilizing effect of aloe vera and ginger.

Appearance

The data regarding sensory evaluation for appearance of RTS beverage are presented in table 3. The observations revealed decline in appearance scores as the storage period progressed with a consistent decreasing trend noted up to 45 days of storage. At 0 day treatment T₅ (8.53) was recorded the highest score for appearance followed by T₃ (7.40) while the lowest was found in T₀ (6.47). Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. After 15 days of storage a slight decline in scores was noticed across all treatments which can be attributed to the beginning of oxidative changes, slight settling of suspended particles and minor pigment

degradation. However T₅ (8.27) continued to retain the maximum score followed by T₃ (7.33) whereas T₀ (6.47) recorded the lowest values. Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. At 30 days the decreasing trend persisted. Treatments T₅ (8.13) and T₃ (7.40) remained superior while treatment T₀ (6.47) recorded the lowest score. The reduction in scores at this stage can be attributed to non-enzymatic browning, oxidation of phenolics, and gradual pigment breakdown. Treatment T₀ and T₁, T₁ and T₂, T₃ and T₄ were found statistically at par with each other. By the 45th day treatment T₅ remained high (7.93) on the contrary T₀ (6.33) had lower scores. Treatment T₀ and T₁, T₁ and T₂ were found statistically at par with each other. The result suggests that higher aloe vera and ginger proportions (T₅) preserved the natural appearance better than pineapple only blends might be due to the attractive blend of aloe vera and ginger which imparted a fresher and more appealing appearance whereas T₀ recorded the lowest score because of the relatively dull colour of pineapple juice alone.

Flavour

The data regarding sensory evaluation for flavour of RTS beverage are presented in table 4. At 0 days of storage significant variation in flavour scores was observed among the different treatments. The maximum score was recorded under treatment T₅ (7.87) which indicated the best consumer acceptability for flavour. This could be attributed to the balanced blending of pineapple, aloe vera and ginger that imparted a refreshing and pleasant taste. On the other hand the minimum flavour score was observed in treatment T₀ (6.13) which might be due to the higher proportion of aloe vera and ginger imparting slight bitterness and pungency reducing overall acceptability. Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. At 15 days of storage a general decreasing trend in flavour was noted across all treatments except for treatments T₅ (7.80) again observed the highest score followed by T₄ (6.60) while the lowest score was found in treatment T₀ (5.93). Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. By the 30th day treatment T₅ (7.73) again recorded the highest acceptability while treatments T₀ (5.87) exhibited lowest scores. Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. At the end of 45 days flavour scores showed the lowest values across treatments. Treatment T₅ (7.67) continued to show significantly higher scores compared to all other treatments. Interestingly treatment T₃ (6.33) and T₄ (6.40) maintained moderate acceptability whereas treatment T₀ (5.80) again showed the minimum value. Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. The slight decline in samples may be due to increased enzymatic activity, acid development and reduction of volatile aroma compounds which are crucial contributors to flavour. The better performance of T₅ may be attributed to synergistic effects of pineapple (sweetness and aroma), aloe vera (mild bitterness masking deterioration) and ginger (spicy note and antimicrobial action) which helped preserve flavour.

Overall Acceptability

The observations revealed decline in overall acceptability scores as the storage period progressed with a consistent decreasing trend noted up to 45 days of storage. At 0 days of storage the overall acceptability scores varied significantly among all treatments. The highest score was observed in

treatment T₅ (8.23) which indicates that the combination of pineapple, aloe vera and ginger in this ratio was most preferred at the fresh stage. The lowest acceptability was observed in treatment T₀ (6.35). Treatment T₂ and T₃, T₃ and T₄ were found statistically at par with each other. At 15 days of storage a slight decline in overall acceptability was noticed across most treatments. However treatment T₅ (8.10) maintained the highest score reflecting good stability of sensory attributes. Treatment T₃ (7.00) and T₄ (6.87) also showed moderate acceptability whereas treatment T₀ (6.27) showed a notable reduction. Treatment T₀ and T₁, T₁ and T₂, T₂ and T₃, T₃ and T₄ were found statistically at par with each other. By the 30th day treatment T₅ (7.97) showed the maximum score proving its superior blend stability even during extended storage. Treatment T₃ (6.97) and T₄ (6.80) also retained acceptable scores while treatment T₀ (6.18) recorded the lowest value. Treatment T₀ and T₁, T₁ and T₂, T₃ and T₄ were found statistically at par with each other. After 45th days overall acceptability scores continued to decline in all treatments. Treatment T₅ (7.83) again stood superior followed by treatment T₃ (6.77) and T₄ (6.53). The minimum score was noted in treatment T₀ (6.10) which indicates that pure pineapple juice was less stable and lost freshness rapidly. Treatment T₀ and T₁, T₁ and T₂, T₃ and T₄ were found statistically at par with each other. The result

showed that the blends particularly with moderate aloe vera and ginger content maintained better acceptability likely due to the antimicrobial and antioxidant properties of aloe vera and ginger which helped delay deterioration in taste, aroma and mouthfeel. It is evident that the overall acceptability of all treatments declined progressively during storage which is a common trend reported in fruit based RTS beverages due to loss of volatile compounds, oxidative changes and acidity increase.

Table 1: Effect of different recipes on taste of pineapple, aloe vera and ginger blended RTS during storage period

			Taste		
Treatments		Storage Period (in days)			
	0	15	30	45	Mean
T ₀	6.40	6.27	6.07	6.00	6.18
T ₁	6.60	6.60	6.27	6.27	6.43
T ₂	7.00	6.47	6.27	6.13	6.47
T ₃	7.20	6.87	6.80	6.73	6.90
T ₄	6.93	6.80	6.67	6.53	6.73
T ₅	8.07	8.06	7.93	7.87	7.98
T ₆	6.53	6.52	6.20	6.17	6.36
SE(m)±	0.131	0.157	0.149	0.189	-
CV (%)	3.257	4.002	3.912	5.014	-
CD at 5%	0.397	0.476	0.452	0.573	-

Table 2: Effect of different recipes on colour of pineapple, aloe vera and ginger blended RTS during storage period

			Colour		
Treatments		Storage Period (in days)			
	0	15	30	45	Mean
T ₀	6.40	6.40	6.33	6.27	6.35
T ₁	6.73	6.53	6.53	6.47	6.57
T ₂	7.13	6.80	6.47	6.33	6.68
T ₃	7.33	7.27	7.27	7.23	7.28
T ₄	7.13	7.00	6.93	6.67	6.93
T ₅	8.47	8.27	8.07	7.87	8.17
T ₆	6.93	6.67	6.40	6.40	6.60
SE(m)±	0.107	0.165	0.157	0.153	-
CV (%)	2.585	4.094	3.975	3.921	-
CD at 5%	0.324	0.501	0.477	0.463	-

Table 3: Effect of different recipes on appearance of pineapple, aloe vera and ginger blended RTS during storage period

			Appearance		
Treatments		Storage Period (in days)			
	0	15	30	45	Mean
T ₀	6.47	6.47	6.46	6.33	6.43
T ₁	6.87	6.60	6.67	6.53	6.67
T ₂	7.19	6.93	6.53	6.40	6.77
T ₃	7.40	7.33	7.40	7.30	7.36
T ₄	7.20	7.07	7.00	6.80	7.02
T ₅	8.53	8.27	8.13	7.93	8.22
T ₆	7.00	6.73	6.47	6.47	6.67
SE(m)±	0.138	0.200	0.161	0.128	-
CV (%)	3.303	4.909	4.020	3.246	-
CD at 5%	0.419	0.607	0.489	0.388	-

Table 4: Effect of different recipes on flavour of pineapple, aloe vera and ginger blended RTS during storage period

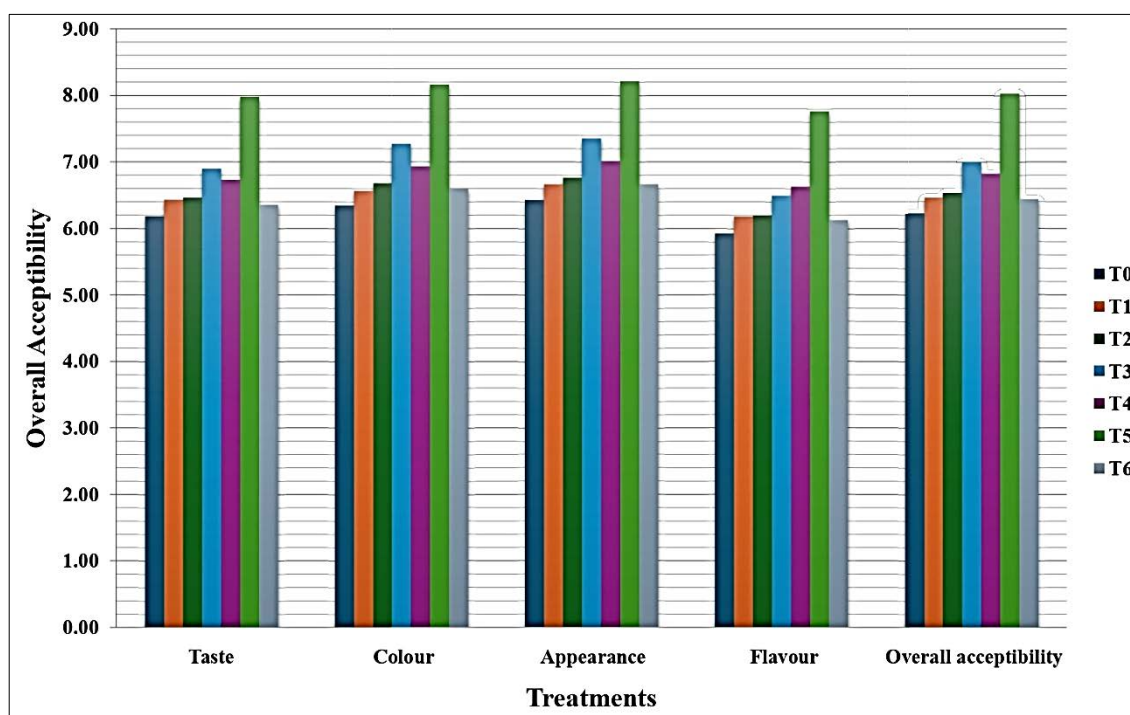
			Flavour		
Treatments		Storage Period (in days)			
	0	15	30	45	Mean
T ₀	6.13	5.93	5.87	5.80	5.93
T ₁	6.40	6.33	6.00	6.00	6.18
T ₂	6.73	6.20	6.07	5.80	6.20
T ₃	6.73	6.53	6.40	6.33	6.50
T ₄	6.93	6.60	6.60	6.40	6.63
T ₅	7.87	7.80	7.73	7.67	7.77
T ₆	6.33	6.27	6.00	5.93	6.13
SE(m)±	0.157	0.147	0.169	0.214	-
CV (%)	4.048	3.901	4.588	5.901	-
CD at 5%	0.477	0.446	0.513	0.649	-

Table 5: Effect of different recipes on overall acceptability of pineapple, aloe vera and ginger blended RTS during storage period

Treatments	Overall Acceptability				
	Storage Period (in days)				Mean
	0	15	30	45	
T ₀	6.35	6.27	6.18	6.10	6.23
T ₁	6.65	6.52	6.37	6.32	6.46
T ₂	7.02	6.60	6.33	6.17	6.53
T ₃	7.17	7.00	6.97	6.90	7.01
T ₄	7.05	6.87	6.80	6.60	6.83
T ₅	8.23	8.10	7.97	7.83	8.03
T ₆	6.70	6.55	6.27	6.24	6.44
SE(m)±	0.090	0.143	0.126	0.105	-
CV (%)	2.219	3.628	3.266	2.750	-
CD at 5%	0.273	0.435	0.383	0.318	-

Table 6: Organolaptic quality of RTS prepared from blended juices of pineapple, aloe vera and ginger

Treatments	Treatments	Organolaptic score					
		Taste	Colour	Appearance	Flavour	Overall acceptability	Rating
T ₀	T ₀	6.18	6.35	6.43	5.93	6.23	Like slightly
T ₁	T ₁	6.43	6.57	6.67	6.18	6.46	Like slightly
T ₂	T ₂	6.47	6.68	6.77	6.20	6.53	Like slightly
T ₃	T ₃	6.90	7.28	7.36	6.50	7.01	Like moderately
T ₄	T ₄	6.73	6.93	7.02	6.63	6.83	Like moderately
T ₅	T ₅	7.98	8.17	8.22	7.77	8.03	Like very much
T ₆	T ₆	6.36	6.60	6.67	6.13	6.44	Like slightly

**Fig 2:** Organolaptic quality of RTS prepared from blended juices of pineapple, aloe vera and ginger

Conclusion

The main objective of developing pineapple, aloe vera and ginger blended RTS beverage was to improve its nutritional value so that it can be consumed by people of all age groups. The combination of such medicinally beneficial juices serves as a good option for individuals suffering from stomach disorders and certain other health issues. Based on the sensory evaluation of different parameters such as taste, colour, appearance, flavour and overall acceptability it was that the treatment T₅ (pineapple juice 40%, aloe vera juice 35%, ginger juice 25%) was rated highest mean sensory score for taste (7.98), colour (8.17), appearance (8.22), flavour (7.77) and overall acceptability (8.03) by the panel

and proved to be the most acceptable formulation for blending. Hence it can be considered as the best treatment for commercial scale.

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