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Quality Evaluation of Peach Slices Preserved in Different Sweeteners Solution at Ambient Temperature

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Abstract: In this study the peach slices were preserved in different sweeteners solutions at room temperature (20-30°C) during 3 months of storage and their effect was studied. Different concentrations of sweeteners solution i.e. sucrose solution 25, 30^0 brix and glucose solution 25-30^0 brix and sucrose glucose solution 25, 30^0 brix were made. Peach slices were preserved in these sweeteners solutions. The treatment were T_0 (distilled water + peach slices), T_1(sucrose 25^0 brix + 0.01% potassium metabisulphite (KMS) + 0.01% ascorbic acid (vitamin c) + peach slices) T_2 (sucrose 30^0brix + 0.01 % potassium metabisulphite (KMS) + 0.01% ascorbic acid (vitamin c) + peach slices), T_3(glucose 25^0 brix +0.01% potassium metabisulphite(KMS) + 0.01 % ascorbic acid +peach slices), T_4 (glucose 30^0 brix + 0.01 % KMS+ 0.01 % ascorbic acid + peach slices), T_5 (sucrose glucose 25 ^{0}brix + 0.01 % KMS + 0.01 ascorbic acid + peach slices) and T_6 (sucrose glucose 30° brix + 0.01 % KMS + 0.01 % ascorbic acid + peach slices). All the samples were studied for pH, total soluble solids (TSS), acidity, ascorbic acid, reducing sugar, non reducing sugar and for organoleptic evaluation (color, flavor, texture and over all acceptability). During this study, decrease was recorded in pH (3.57 to 3.40), ascorbic acid (9.05 to 2.83mg/100g), non reducing sugar (15.42 to 14.20) and color (9.00 to 4.85), texture (9.00 to 5.26), flavor (9.00 to 4.76) and over all acceptability (9.00 to 4.85), significantly ($p< 0.05\%$) while increase was noted in TSS (9.43 to 17.69 brix), titratible acidity (0.52 to 0.65%) and reducing sugars (10.90 to 16.99). During organoleptic evaluation samples T_2 and T_4 were found best throughout storage life. Statistic analysis illustrated that the chemical treatment and storage intervals had significantly ($p<0.05$) effect on physicochemical and sensory analysis of peach slices.

Key words: Peach slices · Sweeteners · ^{0}brix · Potassium Metabisulphate · pH · Total soluble solid (TSS) · Acidity · Ascorbic acid · Reducing sugar · Non reducing sugar

INTRODUCTION

Peach (*Prunus persica* L.) is known as the queen of fruits. Peaches cultivation started since four thousand years ago and the only varieties *Prunus persica* turn into spread. Most peaches are produced in tropical and sub-tropical areas. The production of peaches is about 7000 ha in Hungary. Due to its flavor, affectionate flesh, wealthy juice and good taste it is famous among the consumers. But due to some oxidation it changes its color and reduces its shelf life [1]. Among stone fruits in Pakistan, Peaches (*Prunus persica* L.) are second after apricots in production. Since, peaches have a unique flavor, beautiful color, nutritional value and medicinal importance, it is one of the most well-known fruits in the world. In Khyber Pakhtunkhwa, it is grown in Peshawar valley and karbogha village of Kohat in addition to scattered plantation in Malakand and Kurram Agencies [2]. Peaches are typically soft and extremely perishables fruit, by means of a limited market time. The fruit of peach has about 87 percent water with 180 KJ of energy and contains organic acids, carbohydrates, coloring substance, phenolics, vitamins, volatiles components, antioxidants and less quantity of proteins and lipids, which makes it extremely nutritious for consumer [3]. Unripe peach fruit contains very short

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amount of starch grains and these starch grains are quickly changed into sugars when the fruit full-grown. Therefore, sugars components have no increase during storage life and maturing stage. Soluble sugars supply about 7 to 18% of total weight and fiber contribute about 0.3% of fresh weight of the total fruit. Sucrose-glucose and fructose signify about 75percent of the sugar components in peach fruit [4]. Peach fruit also contain vitamin C (ascorbic acid), carotenoids (provitamin A) and phenolics which are rich source of antioxidants [5]. In one study of ten cultivars of California peach, the total ascorbic acid (vitamin C) content varied from 6.0 to 9.0 mg/100 gram and from 4 to 13 mg/100 g in white and yellow flesh respectively. Total carotenoid concentration varied from 71 to 210 mg/100 gram for yellow fleshed and 7 to 20 mg/100 gram for white fleshed cultivars. Beta-carotene (provitamin A) is the main carotenoid present in peach but small quantity of alpha-carotene and beta-cryptoxanthin is also present in some cultivars. The total phenolic concentration was in the range of 28.0 to 111 mg/100 gram for white-fleshed and 21.0 to 61 mg/100 gram for a yellow-fleshed cultivars of California [6].

Recent developments of fruit concerning high soluble solids concentration high aromatic white flesh and low-acidity white and yellow cultivars have come about in all the manufacture areas [7]. Freshly, several fresh cut fruit products such as apples, peaches, nectarines and strawberries, have been marketplace for together trade and food service allocation. While fresh cut pear slices have not been produced commercially, fruit marketers have revealed a concentration in rising such an item. The reasons that influence the shelf life of fresh cut fruit foodstuffs contains cultivar phase of ripeness at cutting, storage space atmosphere and temperature [8]. Most of the research has showed the enhancement in inflexibility of fruits and vegetables but some studies have paying attention on peach fruits. Cut surface browning and flesh softening are the major problems with the fruit processing [9]. The current study was initiated with aim to store peach slices and avoid its spoilage.

MATERIALS AND METHODS

The study was conducted on peach slices preserved in different sweeteners solution by the different application of glucose, sucrose of different percentages to examine the physicochemical analysis in the department of Food Science and Technology "The University of Agriculture, Peshawar." Clean and fresh peach fruits were brought from the Peshawar marketplace. Fruits were selected for that reason to the looked of skin and texture and carefully washed with clean water. The undesirable portions were removed and physically peeled and made into slices with clean Sharpe knife after removal the central part. The slices were then subjected to different treatments. Two dissimilar type of solutions of sucrose, glucose and sucrose + glucose were used to conserve the slices in purified water, denoted as control (T_0), sucrose solution as 25°brix was denoted as (T_1), sucrose syrup 30°brix was denoted as (T_2), glucose syrup 25°brix was denoted as (T_3), glucose syrup 30°brix was denoted as (T_4), sucrose +glucose syrup 25°brix was denoted as (T_5), sucrose +glucose syrup 30°brix was denoted as (T_6).

Treatments:

To = control = water
T1 = Sucrose (25%) + KMS (0.01%) + Vit- C (0.01%)
T2 = Sucrose (30%) + KMS (0.01%) + Vit- C (0.01%)
T3 = Glucose (25%) + KMS (0.01%) + Vit-C (0.01%)
T4 = Glucose (30%) + KMS (0.01%) + Vit-C (0.01%)
T5 = Suc-Glu (25%) + KMS (0.01%) + Vit-C (0.01%)
T6 = Suc-Glu (30%) + KMS (0.01%) + Vit-C (0.01%)

Physicochemical Analysis: Ascorbic acid was found by the typical way as described in AOAC [10]. 50 mg of 2, 6 dichlorophenol indophenol pigment and 42 milligram of sodium bicarbonate was dissolved in purify water. The volume was set at 250 milliliter. The typical amount of ascorbic acid 50 milligram was full in a 50 milliliter flask and the volume was set with 0.4% oxalic acid. 3 milliliter from the consequential solution was titrated against pigmented solution and when the light pink color appeared stops the titration. Titratible acidity was determined as outlined in AOAC [10]. For regularity of the 0.1normal NaOH solutions, a quantity of 6.3 g of oxalic acid was diverse in purified water and its level was adjusted to one liter by adding of extra water. NaOH at rate of 4.5 g was mixed in purify water and its level was prepared as one liter. After that test tube was full with rudely convenient 0.1 NaOH solution. 10 milliliter of 0.1 normal of oxalic acid was fold in conical flask in three fold. 2 - 3 drops of indicator were fallen to every conical flask. After that the oxalic acid of 0.1normal was calculated against NaOH solution of 0.1normal till the appearance of pink color. NaOH normality was figured by means of the formula: $N_1 V_1 = N_2 V_2$

The pH was found out by following techniques as outlined in AOAC [10]. After standardization of the of pH meter in buffer solutions, 10 milliliter of the sample was full in a fresher glass beaker and pH was recorded by sinking

the pH meter directly into the sample. Same procedure was used for other treatments after washing and drying of the pH meter with distilled water. Total soluble solids (TSS) were found by following procedures as outlined in AOAC [10]. By means of hand rafractometer, the crushed sample was well mixed in the solution. A drop was then drenched on the dry prism of refractometer and analysis were recorded in °brix. Reducing sugar was found by Lane and Eynon process as described in AOAC [10]. 10 gram of the peach slices was in use in a 100 milliliter volumetric flask and full the flask to the mark by addition of water. The burette was then full with this solution. After that 5milliliter of Fehling A and 5ml of Fehling B was put in conical flask with 10 milliliter of purify water. The flask boiling was then in progress. The sample solution was put by drop by drop from the measuring tube as boiling on fire until the color changed into brick red. One or two drop of methylene blue was fallen in the flask as indicator on boiling solution with no disturbing the flask. If the color turned from brick red to blue for an even as, decline was not completed and after that adds extra sample solution until brick color persisted.

Organoleptic Evaluation: The evaluation was approved out by means of 9 points hedonic scale as described by Larmond [24] the peach slices were organoleptically evaluated for flavor, color, overall acceptability and texture by section of 15 judges.

Statistical Analysis: All of the data relating to treatments and storage period was statistically analyzed by using complete randomized design (CRD) two factorial without interaction through MSTAT-C computer program. Means will be separated by LSD test at 5% as reported by Steel and Torrie [11].

RESULTS AND DISCUSSION

The pH: The shelf life of peach slices for all the treatments increased significantly by decreasing their pH values ($P > 0.05$). However, T_2 performed well with an initial value of 3.57 which was steadily decreased up to 3.43 when recorded after 90 days. Conversely, T_1 was found to be the most un-effective preservative when used for prolong survival of the peach slices as compared to

Table 1: Effect of different sweeteners solution and storage intervals on pH content of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Decrease	Means
T_o	3.55	3.53	3.50	3.47	3.43	3.39	3.35	5.64	3.47d
T_1	3.58	3.56	3.53	3.50	3.47	3.44	3.40	5.03	3.50b
T_2	3.57	3.55	3.53	3.51	3.49	3.46	3.43	3.93	3.51ab
T_3	3.60	3.57	3.54	3.52	3.48	3.44	3.41	5.28	3.51a
T_4	3.58	3.54	3.53	3.50	3.48	3.45	3.42	4.47	3.51ab
T_5	3.56	3.53	3.50	3.47	3.44	3.41	3.39	4.78	3.48c
T_6	3.54	3.51	3.48	3.45	3.42	3.39	3.37	4.81	3.46d
Means	3.57a	3.55b	3.52c	3.49d	3.46e	3.43f	3.40g		

Mean values followed by different letters are significantly ($P<0.05$) different from each other

LSD value for storage intervals and treatment = 0.01

Table 2: Effect of different sweeteners solutions and storage time on TSS content of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Increase	Means
T_o	5.60	4.90	4.30	3.60	2.90	2.20	1.50	73.22	3.58b
T_1	9.80	11.54	12.78	13.56	14.96	15.89	16.90	72.45	13.64a
T_2	11.20	12.60	13.26	14.99	15.98	16.79	17.68	57.86	14.64a
T_3	9.10	11.67	13.45	14.78	15.73	16.36	17.78	95.39	14.13a
T_4	11.30	12.30	13.85	14.96	15.90	16.75	17.98	59.12	14.73a
T_5	9.30	11.20	12.56	13.89	14.90	15.76	16.56	78.07	14.72a
T_6	9.70	11.97	13.56	14.78	15.34	16.69	17.75	82.99	13.46a
Means	9.43e	10.89de	11.97cd	12.94bc	13.68ab	14.35ab	7.16a		

Mean values followed by different letters are significantly ($P<0.05$) different from each others.

LSD value for storage periods and treatments = 1.6

control (T_0). Similarly, the highest mean value was recorded for the treatment T_2, T_3 and T_4 was 3.51. A highest decrease in pH value for treatment T_2 was noticed when stored for 15 to 90 days. Moreover, mean value of pH before storage was 3.57 which were found as the least pH throughout the experiment. The statistical analysis illustrated that the treatments and storage interval had a significant ($P<0.05$) effect on pH of peach slices. Riaz *et al*. [12] also illustrated the results with a small change in the pH values throughout the storage because of acidic compounds in storage stability of kinnow fruit juice. These results were also comparable with those reported by Imtiaz *et al*. [13], who also found that the pH decreased in banana slices on the mix solution effect of sucrose-glucose.

Total Soluble Solids (TSS): The TSS values of samples (T_0 to T_6) on first day was 5.60, 9.80, 11.20, 9.10, 11.30, 9.30 and 9.70 which were increased to 1.50, 16.90, 17.68, 17.78, 17.98, 16.56 and 17.75° brix during 3 months of storage. The highest mean value were noted in T_4 (14.73°) and then by T_5 (14.72°) brix, whereas smallest amount was observed in T_0 (3.58°) and then by T_6 (13.46°) as shown in Table 2. The statistical analysis illustrated that the treatments and storage interval had a significant ($P<0.05$) effect on TSS of peach slices. These outcomes are accordance of the Kalia *et al.* [14], who also determined the same results in canning of peach slices.

Titratable Acidity(%): The titratable acidity values for samples (T_0 to T_6) on first day was 0.49, 0.54, 0.52, 0.51, 0.53, 0.50 and 0.54 which were increased to 0.63, 0.66, 0.62 0.65, 0.64, 0.63 and 0.67 through 3 months of storage period. The mean titratable acidity value significantly ($P<0.05$) increased from 0.52 to 0.65% throughout storage time. The highest mean value were noted in T_1 and T_6 (0.61%) and then after T_4 (0.59%), while the lowest amount was observed in T_0 (0.56%) and then by T_5 (0.57%) as shown in Table 3. The inclined may be due to the inclined of acidic components by dilapidation of pectic substance or collapse or oxidation of reducing sugars into acidic compound due to high temperature [15]. Kumar *et al.* [16]

Table 3: Effect of different sweeteners solution and storage time on titratible Acidity (%) of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Increase	Means
T_o	0.49	0.51	0.53	0.55	0.57	0.60	0.63	28.58	0.56f
T_1	0.54	0.56	0.58	0.60	0.62	0.64	0.66	22.23	0.61b
T_2	0.52	0.53	0.55	0.57	0.59	0.61	0.62	19.24	0.58de
T_3	0.51	0.53	0.55	0.57	0.59	0.63	0.65	27.46	0.58cd
T_4	0.53	0.54	0.56	0.58	0.60	0.62	0.64	20.76	0.59c
T_5	0.50	0.53	0.55	0.57	0.59	0.61	0.63	26.0	0.57e
T_6	0.54	0.57	0.59	0.61	0.63	0.65	0.67	24.08	0.61a
Means	0.52g	0.54f	0.56e	0.58d	0.60c	0.63b	0.65a		

Mean values followed by different letters are significantly ($P<0.05$) different from each others.

LSD value for storage periods and treatments = 6.3

Table 4: Effect of different sweeteners solution and storage time on ascorbic acid content(mg/ 100g) of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Decrease	Means
T_o	8.99	6.12	4.96	3.85	2.54	1.31	0.89	90.11	4.10c
T_1	8.46	7.57	6.19	5.92	4.86	2.92	2.01	76.25	5.42b
T_2	9.39	8.94	7.27	6.18	5.01	4.81	3.88	58.68	6.50a
T_3	9.54	8.39	7.33	6.02	5.82	4.55	3.77	60.49	6.49a
T_4	9.74	8.81	7.39	6.84	5.79	4.47	3.90	59.96	6.71a
T_5	8.39	7.63	6.81	5.09	4.85	3.71	2.43	71.04	5.56b
T_6	8.78	7.78	6.29	5.32	4.86	3.65	2.91	66.86	5.66b
Means	9.05a	7.90b	6.61c	5.61d	4.82e	3.64f	2.83g		

Mean values followed by different letters are significantly ($P<0.05$) different from each others

LSD value for storage periods and treatments = 0.4

reported that osmotic ally vacuumed in dried mango slices motorized by the covering material and of high temperature during the storage period.

Ascorbic Acid (mg/100 g): The ascorbic acid values of samples (T_0 to T_6) on first day was 8.99, 8.46, 9.39, 9.54, 9.74 8.39 and 8.78 which were decreased to 0.89, 2.01, 3.88, 3.77, 3.90, 2.46 and 2.91 throughout 3 months of storage periods. The mean ascorbic acid value significantly ($P<0.05$) increased from 9.05 to 2.83% throughout storage life. The highest mean value were recorded in T_4 (6.71%) and then by T_2 (6.50%), while lowest amount was observed in T_0 (4.10%) and then by T_1 (5.42%) as shown in Table 4. The statistical analysis illustrated that the treatments and storage periods had a significant ($P<0.05$) effect on ascorbic acid of peach slices. These outcomes are conformity with the judgment of Kumar *et al*. [16], who reported that the quality of osmo vac dehydrated mature mango slices affected by covering material and temperature storage. These outcomes are similar with the outcome of Warczok *et al*. [17] who found increased amount of vitamin C in cantalope and apple cubes.

Reducing Sugar: The reducing sugar values of samples (T_0 to T_6) on first day was 5.29, 8.98, 9.21, 10.21, 11.96 10.07 and 10.90 which were increased to 2.44,12.86,12.67,15.87,16.88,15.88 and 16.99 during 3 months of storage time. The mean reducing sugar values significantly ($P<0.05$) increased from 9.51 to 13.38% throughout storage periods. For treatments highest mean value were noted in T_4 (14.35%) and then after by T_3 (13.40%), while the smallest amount was observed in T_0 (4.10%) and then by T_1 (10.49%) as exposed in Table 5. The statistical analysis illustrated that the treatments and storage periods had a significant ($P<0.05$) effect on reducing sugar of peach slices. Enhance in reducing sugar contents could be due to the alteration of sucrose change to reducing sugar because of the acidic components in peach slices. Alike outcome were account by Kumar and Devi [18] inside the pineapple slices.

Non Reducing Sugar: The non reducing sugar values of samples (T_0 – T_6) on first day was 4.99,17.94,18.08,15.92,16.21,16.70 and 18.04 which were decreased to 1.76,16.89,17.35,15.02,15.54,15.89 and 16.88

Table 5: Effect of different sweeteners solution and storage intervals on Reducing sugar content of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Increase	Means
T_o	5.29	5.02	4.69	4.01	3.98	3.23	2.45	53.69	4.10d
T_1	8.98	9.23	9.89	10.45	10.82	11.19	12.86	30.18	10.49c
T_2	9.21	9.98	10.56	10.95	11.63	11.99	12.67	37.57	11.0c
T_3	10.21	11.78	12.56	13.45	14.76	15.12	15.87	55.44	13.40ab
T_4	11.96	12.98	13.45	14.12	15.00	16.01	16.88	41.14	14.35a
T_5	10.07	11.13	11.90	12.79	13.67	14.87	15.88	57.70	12.91b
T_6	10.90	11.44	12.21	13.89	14.78	15.67	16.99	55.88	13.70ab
Means	9.52d	10.24cd	10.76c	11.39bc	12.10b	12.59ab	13.38a		

Mean values followed by different letters are significantly ($P<0.05$) different from each others.

LSD value for storage periods and treatments = 1.2

Table 6: Effect of different sweeteners solution and storage intervals on Non Reducing sugar content of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Decrease	Means
T_o	4.99	4.67	4.01	3.78	3.11	2.48	1.76	64.73	3.55d
T_1	17.94	17.90	17.80	17.65	17.34	17.12	16.89	5.86	17.53a
T_2	18.08	17.98	17.87	17.75	17.56	17.42	17.35	4.04	17.72a
T_3	15.92	15.87	15.78	15.61	15.42	15.28	15.02	5.66	15.58c
T_4	16.21	16.14	16.06	15.96	15.84	15.72	15.54	4.14	15.93c
T_5	16.70	16.61	16.51	16.37	16.19	16.03	15.89	4.86	16.33b
T_6	18.04	18.82	18.63	17.46	17.23	17.04	16.88	6.44	17.73a
Means	15.42a	15.43a	15.24ab	14.95bc	14.68cd	14.45de	14.20e		

Mean values followed by different letters are significantly ($P<0.05$) different from each others.

LSD value for storage periods and treatments = 0.39

during 3 months of storage periods. The mean values for non reducing sugar value significantly (P<0.05) declined from 15.43 to 14.20% throughout storage time. The highest mean value were recorded in T_6 (17.73%) and then by T_2 (17.72%), while smallest amount was observed in T_0 (3.55%) and then by T_3 (15.58%) as exposed in Table 6. The statistical analysis illustrate that the treatments and storage periods had a significant (P<0.05) effect on non reducing sugar of peach slices. The decline in non reducing sugar contents is due to the acidity in peach slices. These outcomes are alike with the outcome of Ayub *et al*. [19], who also noted identical results in the fruit of guava slices.

Organoleptic Evaluation

Color: At the initial time on the first day the mean score for the color of peach slice ($T_0 - T_6$) was 9.0 which were reduced to1.0,4.6,6.6,5.4,6.1,5.5,4.7, during storage time. The mean score value significantly (P<0.05) reduced from 9.00 to 4.7% throughout storage periods. For treatments, the highest mean value were noted for T_2 was (7.6 %) and then by T_4 (7.48%), while the smallest amount was observed in T_0 (4.33%) and then by T_1 (6.58%) as exposed in Table 7. The statistical analysis illustrated that the treatments and storage time had a significant (P<0.05) effect on color of peach slices. The color loses may be due to the Millard reaction in peach slices. These results are comparable as accessible by Suresh and Sagar [20] and Kumar and Devi [18], they also showed that color in pineapale is also decrease.

Flavor: At the initial time on the first day the mean score for the flavor of peach slice ($T_0 - T_6$) was 9.0 which were reduced to 1.0, 4.1, 6.4, 5.5, 6.0, 5.4 and 4.9 throughout storage life. The mean score value of judges for the flavor significantly (P<0.05) declined from 9.00 to 4.7% throughout storage time. The highest mean value were noted in T_2 (7.45%) and then by T_4 (7.39%), while the smallest amount was observed in T_0 (4.78%) and then by T_1 (6.31%) as shown in Table 8.The statistical analysis illustrated that the treatments and storage periods had a significant (P<0.05) effect on flavor of peach slices. The outcome are in conformity with those obtained by Ayub *et al*. [19] and Habib *et al.* [21], who noticed the similar figures for flavor mango and apricot.

Texture: At the initial time on the day first the mean score for the texture of peach slice ($T_0 - T_6$) was 9.0 which were reduced to 1.0, 5.9.6.6, 5.8, 6.4, 5.8 and 5.3 throughout storage life. The mean score value of judges for the

Table 7: Effect of different sweeteners solution and storage intervals on Color content of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Decrease	Means
T_o	9.0	6.4	5.3	3.9	2.8	1.9	1.0	88.89	4.33c
T_1	9.0	7.9	7.1	6.4	5.8	5.2	4.6	48.89	6.58b
T_2	9.0	8.3	7.8	7.6	7.1	6.9	6.6	26.67	7.62a
T_3	9.0	8.4	7.5	6.9	6.4	5.8	5.4	40.0	7.06ab
T_4	9.0	8.5	7.9	7.5	6.9	6.4	6.1	32.23	7.48a
T_5	9.0	8.0	7.5	7.0	6.4	5.9	5.5	38.89	7.05ab
T_6	9.0	7.7	6.5	6.0	5.6	5.1	4.7	47.78	6.38b
Means	9.00a	7.89b	7.09c	6.48cd	5.86de	5.32ef	4.85f		

Mean values followed by different letters are significantly (P<0.05) different from each others

LSD value for storage periods and treatments = 0.69

Table 8: Effect of different sweeteners solution and storage intervals on Flavor contents of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Decrease	Means
T_o	9.0	7.6	5.4	4.7	3.4	2.3	1.0	88.89	4.78d
T_1	9.0	7.9	7.1	6.2	5.3	4.5	4.1	54.4	6.31c
T_2	9.0	8.2	7.7	7.3	6.9	6.6	6.4	28.89	7.45a
T_3	9.0	8.4	8.0	7.5	6.7	5.9	5.5	38.89	7.29a
T_4	9.0	8.4	7.8	7.4	6.8	6.3	6.0	33.3	7.39a
T_5	9.0	8.1	7.5	7.1	6.3	5.9	5.4	40	7.05ab
T_6	9.0	7.7	6.5	6.1	5.5	5.2	4.9	44.56	6.42bc
Means	9.00a	8.05b	7.15c	6.62c	5.85d	5.24de	4.76e		

Mean values followed by different letters are significantly (P<0.05) different from each others.

LSD value for storage periods and treatments = 0.72

Table 9: Effect of different sweeteners solution and storage periods on Texture content of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Decrease	Means
T_o	9.0	6.5	4.1	3.8	2.7	1.8	1.0	88.89	4.13c
T_1	9.0	8.5	8.1	7.7	7.3	6.6	5.9	34.4	7.59a
T_2	9.0	7.9	7.8	7.6	7.3	6.9	6.6	26.67	7.59a
T_3	9.0	8.4	8.0	7.4	6.9	6.4	5.8	35.56	7.42a
T_4	9.0	8.2	8.1	7.5	7.1	6.7	6.4	28.89	7.58a
T_5	9.0	8.1	7.8	7.3	6.7	6.2	5.8	35.56	7.28ab
T_6	9.0	7.5	6.3	6.1	5.8	5.7	5.3	4.1	6.53b
Means	9.00a	7.88b	7.18bc	6.78cd	6.26de	5.76ef	5.26f		

Mean values followed by different letters are significantly (P<0.05) different from each others.

LSD value for storage periods and treatments = 0.7

Table 10: Effect of different sweeteners solution and storage time on Overall acceptability content of peach slices stored at room temperature

	Storage time (Days)								
Treatments	Initial data	15	30	45	60	75	90	% Decrease	Means
T_o	9.0	7.7	5.4	4.6	3.2	2.1	1.0	88.98	4.72c
T_1	9.0	8.0	7.2	6.3	5.4	4.6	4.2	53.3	6.39b
T_2	9.0	8.3	7.8	7.4	6.9	6.7	6.5	27.78	7.52a
T_3	9.0	8.4	8.1	7.6	6.8	6.0	5.6	37.78	7.36a
T_4	9.0	8.5	7.9	7.5	6.7	6.4	6.1	32.2	7.45a
T_5	9.0	8.2	7.6	7.2	6.4	5.9	5.5	38.89	7.12ab
T_6	9.0	7.8	6.6	6.2	5.6	5.3	5.0	44.4	6.51b
Means	9.00a	8.13b	7.23c	6.69c	5.86d	5.29de	4.85e		

Mean values followed by different letters are significantly (P<0.05) different from each other's.

LSD value for storage intervals and treatments = 0.7

texture significantly (P<0.05) declined from 9.00 to 5.26% throughout storage time. The highest mean values were noted in T_2 (7.59%) and sample T_1 (7.59%) and then by T_4 (7.58%), while the smallest amount was observed in T_0 (4.13%) and after that T6 (6.53%) as shown in Table 9. The statistical analysis illustrated that the treatments and storage periods had a significant (P<0.05) effect on texture of peach slices. These outcomes are similar with the investigation of Imran *et al*. [22], who suggested that the preservation in sucrose and glucose and with the addition of potassium metabisulphite and vitamin C gives good texture.

Over All Acceptability: At the initial time on the first day the mean score for the overall acceptability of peach slice ($T_0 – T_6$) was 9.0 which were reduced to 1.0, 4.2, 6.5, 5.6, 6.1, 5.5 and 5.0 throughout storage life. The overall mean score value of judges for the overall acceptability significantly (P<0.05) declined from 9.00 to 4.85% throughout storage life. The highest mean value were noted in T_2 (7.52%) and then by T_4 (7.45%), while the smallest amount was observed in T_0 (4.72%) and after that by T_1 (6.39%) as shown in Table 10. The statistical analysis demonstrated that the treatments and storage life had a significant (P<0.05) effect on over all acceptability of peach slices. These consequences are parallel with those obtained by Sabrina *et al*. [23] who took information on the overall acceptability score of osmotic ally dried mango slices in sucrose and inverted sugar solutions.

CONCLUSION

In the present study, peach slices were conserved in different sweeteners solutions in plastic jars accumulate at room temperature (20 to 30 °C) for 90 days storage. The physicochemical evaluations were point out at 15 days interval. This study proved that the treatment T_2 (sucrose 30° brix) preserved with potassium metabisulphite(0.01%)+ Vitamin C (0.01%) and then by T_4 (glucose 30°brix) + potassium metabisulphite (0.01%) + Vitamin C (0.01%) were found best during physicochemical and sensory evaluation.

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