T_{11} –Blanching + 2% salt for 1 hour + 70^{0}B sugar syrup for 24 hours
T_{12} – Blanching + 2% salt for 2 hour + 70^{0}B sugar syrup for 24 hours
T_{13} –Blanching + 2% salt for 3 hour + 70^{0}B sugar syrup for 24 hours
T_{14} –Lye blanching + 60^{0}B sugar syrup for 24 hours
T_{15} –Lye blanching + 70^{0}B sugar syrup for 24 hours

Both fresh and pre-treated slices were analysed for chemical parameters. Ascorbic acid was estimated as per AOAC method (Anonymous,1984). Total phenols were estimated as per the folin ciocalteau reagent (FCR) method. Acidity in fruit extract was estimated by titrating it against 0.1 N sodium hydroxide solution using phenolphthalein as indicator and reported in terms of citric acid. Reducing sugar was estimated as per the dinitrosalicylic acid method.

The data has been analysed statistically and reported at 1 per cent significance level (Panse and Sukhatme,1985).

EXPERIMENTAL FINDINGS AND ANALYSIS

The fresh aonla fruits contain ascorbic acid – 554 mg/100g, total phenol-166mg/100g, reducing sugar – 2.66 per cent, non-reducing sugar-1.50 per cent total sugar-4.17 per cent total titrable acidity- 2.45 per cent and sugar:acid ratio 1.64.

Among the treatments, the highest ascorbic acid content was recorded in T_1 (294.17 mg /100g) followed by T_2 (283.33mg/100g), while the lowest ascorbic acid content was recorded in T_{13} (203.5 mg/100g) (Table 1). It was also observed that, with the increase in dipping time in two per cent salt, there was significant decrease in the ascorbic acid content. This may be due to the leaching losses occurred during the soaking period. These results corroborate with the results obtained by Agarwal and Chopra (2004) in aonla.

Among the treatments, the highest total phenols T_1 (99.17 mg /100g) followed by T_2 (92.83mg/100g), while the lowest total phenol content was recorded in T_{13} (58.67 mg/100g). It was also observed that, with the increase in steeping time in two per cent salt solution and increase in the syrup strength from 50^{0}B to 70^{0}B, there was significant decrease in total phenol. Thus, the phenol content which is responsible for acrid taste could be reduced due to leaching during the pre-treatments. Similar results of reduction in phenol content were observed by Kalra (1988) and Agarwal and Chopra (2004) in aonla.

The highest titrable acidity was recorded in T_1 (1.43%), while the lowest titrable acidity was recorded in T_{13} (0.59%). It was also observed that with the increase in steeping time in two per cent salt solution, there was significant decrease in the titrable acidity. This is resulting from osmosis between syrup and slices.

The reducing, non-reducing and total sugar contents were significantly affected by the treatments. The highest reducing sugar content was recorded in T_{15} (6.83%), which was at par with T_{11} (6.79%) followed by T_{12} (6.51%), while the lowest

Table 1: Effect of pre-treatments on chemical composition of aonla slices during preparation of dehydrated slices

Treatments	Ascorbic acid (mg/100g)	Total phenols (mg/100g)	Reducing sugars (%)	Non-reducing sugars (%)	Total sugars (%)	Titrable acidity (%)	Sugar: acid ratio
T_1 – Blanching for 5 minutes	294.17	99.17	1.47	1.52	3.07	1.43	2.14
T_2 – Blanching + 2% salt for 1 hour	283.33	92.83	1.17	1.72	2.98	1.15	2.58
T_3 – Blanching + 2% salt for 2 hour	274.17	86.45	1.03	1.81	2.94	1.04	2.84
T_4 – Blanching + 2% salt for 3 hour	255.00	80.47	0.99	1.82	2.91	0.98	2.94
T_5 – Blanching + 2% salt for 1 hour + 50^{0}B syrup	240.67	79.67	3.49	8.55	12.82	0.77	17.56
T_6 – Blanching + 2% salt for 2 hour + 50^{0}B syrup	232.83	73.13	3.29	9.18	12.76	0.68	19.85
T_7 – Blanching + 2% salt for 3 hour + 50^{0}B syrup	210.83	66.82	3.08	8.53	12.06	0.65	20.57
T_8 – Blanching + 2% salt for 1 hour + 60^{0}B syrup	235.67	73.67	5.84	12.65	19.17	0.76	25.29
T_9 – Blanching + 2% salt for 2 hour + 60^{0}B syrup	224.17	67.00	5.54	12.84	19.07	0.63	30.41
T_{10} – Blanching + 2% salt for 3 hour + 60^{0}B syrup	216.73	60.50	5.20	12.16	18.00	0.61	29.51
T_{11} – Blanching + 2% salt for 1 hour + 70^{0}B syrup	222.33	72.00	6.79	20.02	27.86	0.73	35.99
T_{12} – Blanching + 2% salt for 2 hour + 70^{0}B syrup	213.33	66.83	6.51	19.80	27.35	0.64	40.21
T_{13} – Blanching + 2% salt for 3 hour + 70^{0}B syrup	203.50	58.67	6.19	18.08	25.33	0.59	39.08
T_{14} – Lye blanching + 60^{0}B syrup	245.20	83.83	5.87	13.71	20.30	0.93	21.82
T_{15} – Lye blanching + 70^{0}B syrup	243.48	80.50	6.83	17.74	26.17	0.92	28.43
Mean	242.99	77.19	4.02	10.11	14.74	0.87	20.09
S.E.±	1.782	0.825	0.041	0.427	0.592	0.018	0.915
C.D. at 1%	6.899	3.190	0.159	1.653	2.289	0.071	3.047