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Physical and Chemical Quality of Street Vended Roasted Cashew nuts in India

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Abstract: ***Moisture content and pH values are very important factors for fungal growth of roasted cashew nuts. Cashew nut was conducted along the coastal regions. Physico chemical properties of roasted cashew nuts from processors and vendors were also evaluated. From the survey, it was found that immediately after roasting, cashew nuts were stored in plastic buckets (87.5% and other materials such as paper boxes (12.5%).The moisture content were in a range of 3.72 + 0.31 to 4.36 + 0.15 and 3.80 + 0.19 TO 4.59 + 1.85% for roasted cashew nuts from processors and vendor respectively. The PH values of roasted cashew nuts from processors and vendors were 6.31+0.10 to 6.52+0.21 and 6.37 + 0.15 to 6.58 + 0.07 respectively. The PH values observed were in a range which is conductive for fungal growth and toxin production.Thereforeaneedtoascertainphysicochemicalqualityaspredetermined factors for fungal growth in roasted cashew in roasted cashew nuts is relevant to ensure quality and public health safety.***

Keywords: Roasted cashew nuts, pH, moisture and storage practices

I. INTRODUCTION

Most of cashew nut processing in India is done manually mainly by small scale processors cashew kernel is ranked as either the second or third most expensive nut traded in India. Domestic consumption of cashew nuts soared due to important distribution systems through street vendors, shops, minimarkets and supermarkets. kernal which is the edible part of the nut, contain 47.8 gram of crude fat, 29.9 gram of carbohydrate,16.8 gram of protein and 574 kcal of energy per 100g of intake. Epidemic logical studies showed that, frequent consumption of cashew kernals reduced incidence of coronary heart disease (CHD), cholesterol-level, hypertension and gallstones in both genders and diabetes in women. Since physico-chemical parameters are important determination of storage quality of roasted cashew nuts, studies on the moisture and PH values are necessary for quality control and safety assurance. Therefore studies on the physico chemical quality of street vended cashew nuts is necessary since no studies have been found in India. Thus the aim of this study was to evaluate the physic chemical properties of roasted cashew nuts s pre determined factors for fungal growth as it is affected by storage practices.

II. RESULTS ANDDISCUSSION:

Cashew nut processing and vending:

From the study, it was found that processing of cashew nuts were done by both men(40%)and women (60%).Youth (32.5%) at age between 30-39 years were more involved in cashew nut processing. This shows that, the sector is highly dominated by self employed youths who depend on cashew nut processing and vending for their livelihoods. The sector has a brighter future, therefore cashew nut processing and vending can contribute to improved socio economical status of t he self employed youths along the coastal region.

Storage Practice so froasted cashew nuts:

Table1show results of storage and packaging practices, from the survey,87.5% the processors were using plastic buckets as storage containers and other materials such as paper boxes 12.5% packaging of roasted cashew nuts for vending was mainly done in plastic films(polyethylene bags)of different sizes (97.5%) as well as paper wrappings(2.5%).Therefore knowledge on proper handling, storage and packaging practices is needed to ensure safety and quality of roasted vended cashew nuts.

Table1: storage containers and packaging materials for roasted cashew nuts.

Storage containers for Processors	No.Respondents (%)	Packaging materialsfor vendors	No.Respondents (%)
Plastic buckets	3.5(87.5)	plastic films/bags	39(97.5)
Paperboxes	5(12.5)	Paper wrappings	1(2.5)
Total	40(100)	Total	40(100)

PhysicalandChemical propertiesofcashewnuts:

The moisture content and PH values of roasted cashew nuts obtained from processors and vendors are shown in table 2 and 3. respectively.The moisture content of roasted cashew nuts were in arrange of 3.72 +0.31 to 4.36+ 0.15% for processors and 3.80+0.19 to 4.59+ 1.85% for vendors respectively. Roasted cashew nuts are colloids materials (hygroscopic), which tends to absorb moisture from the surroundingatmosphereuntilitreachesatequilibrium.onecharacteristicsof the waste regions climate is the high atmospheric humidity, which often goes up to 100% maximum and 65 to 70% minimum with Temperature of approximately 30- 32cduringthedayandabout26-29cduringthenight.Accordingtothebeststorage relative humidity of roasted cashew nuts was determined to 47.2% under which conditions storage period should not exceed 14 days for best quality.

Table 2:Moisture content of Roasted cashewnuts:

DISTRICTS	**PROCESSOR**	**VENDORS**
Cuddalore	4.02+-0.56	3.80+-0.19
Arialur	3.72+-0.31	4.59+-1.31
Perambalur	4.36+-0.15	3.19+-0.21
Pudukottai	4.35+-1.54	4.59+-1.85

Table3: pH values of roasted cashew nuts:

DISTRICTS	**PROCESSORS**	**VENDORS**
Cuddalore	6.28 + 0.09	6.37 +0.15
Arialur	6.21 + 0.10	6.32 +0.11
Perambalur	6.40 + 0.17	6.58 +0.07
Pudukottai	6.52 + 0.21	6.52 + 0.17

The pH values of roasted cashew nuts were in arrange of 6.21 +0.10 to 6.52+ 0.12 for processors and 6.37 +0.15 to 6.58 + 0.07 for vendors respectively cashew kernels from both processors and vendors showed pH values close to neutrality. The factor that, cashew nut trees grow well in the soil that has pH values ranged from 4.5 to 6.5 may contribute to the observed PH values. Were in a range which may favor fungal growth hence mycotoxins contaminations.

III. CONCLUSION:

The observed moisture content of the roasted cashew nuts was within recommended values, however, The PH values were abovere commended storage values. High pH values may favor fungal growth hence my cotoxins contamination. plastic buckets and plastic bags of different sizes were used as storage processing, packaging and practices, therefore training on good food handling practices in necessary for improving storage quality and safety of the roasted cashew nuts.

IV. ACKNOWLEBGEMENTS:

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