

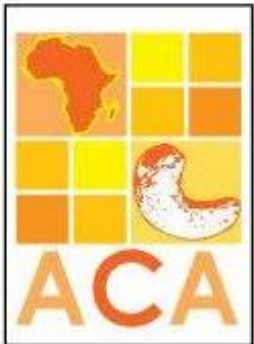
18th ACA Annual Cashew Conference & Expo



BUILDING CAPACITIES FOR A SUSTAINABLE AFRICAN CASHEW INDUSTRY



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Post-harvest handling effects on the quality of fats in cashew nuts

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Introduction

Importance of cashew nuts

- A good source of macro and micro nutrients
- Contain high antioxidants
- Contain about 40-50% fat and 80 % is unsaturated fatty acid.



Factors of deterioration of cashew nuts

- High unsaturated fatty acid
- High storage temperature
- High moisture, light and some metals



These Factors:

- Predisposes nuts to lipid oxidation
- Sensory and nutritional deterioration
- Reduction of nuts shelf life



Production of high-quality nuts

- The use of good processing technologies
- Timely picking and harvesting of nuts
- Good storage conditions like well-ventilated warehouses
- Reduction of lipid oxidation in processing procedures



Objective

To investigate the factors that predispose cashew kernel to lipid oxidation during raw nut processing and develop strategies to mitigate lipid oxidation during processing

Materials and methods

- Processing steps followed





Quality Parameters

- **Total fat** was determined using the Soxhlet extraction method (AOAC, 1990).
- **Peroxide Value (PV)** and **Free fatty acid (FFA)** were determined using titration methods described by AOAC Official Method 965.33 (2003) and AOAC method 940.28 (2003) respectively.

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Results

Effects of processing on cashew fat quality

Processing stage	Sample	Total fat (%)	PV (mEq/Kg Fats)	FFA (%Oleic acid)
Steaming	Wet unpeeled kernels	24.4	7.1	1.8
Drying	Dried unpeeled kernels	30.8	7	1.5
	Dried peeled kernels (mixture)	28.1	10.8	0.9
Grading	Whole kernels	52.2	4.65	0.37
	Broken kernels	25.5	13	0.9
Roasting	Roasted whole kernels	47.4	7.12	0.57

Acceptable maximum value of PV and FFA for cashew nuts (PV ≤1.0 mEq/Kg Fats and FFA ≤0.7% Oleic acid (Ghana Standard Authority 212:2013))



Conclusion

- Raw cashew nuts processing procedures plays significant role in the quality of nut fats
- The results suggest that the application of heat during nut processing led to changes in PV and FFA values
- High levels of PV and FFA in kernel resulted in fat deterioration and rancidity



Way forward

This was a preliminary study into the causes of lipid oxidation of kernels and will be extended to the total postharvest value chain as well as on farmers farms



Thank you