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SUNFLOWER AND PALM OILS RETAIN BETA CAROTENE EXTRACTED FROM INDIGENOUS VEGETABLES

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Hidden hunger, caused by lack of micronutrients in the diet afflicts billions of people especially in developing nations with the WHO, estimating 1.4% of all deaths occurring worldwide, attributed to vitamin A deficiency (VAD). In Kenya, indigenous vegetables such as *Solanum nigrum* and *Asystasia mysorensis* are rich in beta carotene, but face challenges of being seasonal, ignored or under utilized. While oils increase bioavailability and bio accessibility of beta carotene, the retention of the carotenoid extracted from *S. nigrum* and *A. mysorensis* preserved separately in sunflower and palm oils for a period of 180 days were investigated. The peroxide and acid values of the oils were determined and the mean levels of beta carotene extracted from *A.mysorensis* are preserved in sunflower and palm oils reduced by 73.14% and 69.95%, respectively and in *S. nigrum* preserved in sunflower and palm oils reduced by 81.56% and 65.56%, respectively. In terms of retinol activity equivalent, the oils retained enough beta carotene to provide recommended daily allowance for infants and adults projecting a solution in curbing VAD. Peroxide values in sunflower and palm oils increased while

acid values increased. These values indicate that oxidation of the oil matrices occurs with time but not to critical levels of 10 mEq/kg oil and 0.6 mg KOH/g, respectively. The findings indicate a significant reduction in levels of beta carotene ($p \leq 0.001$) though amounts remaining are able to meet daily requirements and thus can be promoted with a particular focus on addressing vitamin A deficiency.

Biography

Nawiri Mildred is a Analytical Chemist, Senior Lecturer, Mentor and Director of the University Industry Partnerships, Kenyatta University, Kenya. She is an Expert in Food Analysis with a passion to improve health of children and general public in developing countries facing challenges from non communicable diseases and malnutrition. She has 10 years' research experience, more than 20 publications and has attended numerous local and international conferences. She embraces networking, collaborations and is focused to seek long term solutions through shelf products of vital carotenoids from available indigenous species of fruits and vegetables. She aspires to be a Visionary Leader that embraces Entrepreneurship.

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