

Food & Beverage Packaging

June 13-14, 2016 Rome, Italy

Design and development of suitable packaging materials for fresh and processed food products in a tropical environment

Sakirdeen Abidemi Ajani, Chima Cartney Igwe and Gloria Nwakhago Elemo
Federal Institute of Industrial Research Oshodi, Nigeria

Packaging is the answer to the world hunger. More packaging and the right sort of packaging can help to curb world hunger. The main objective of this work is to develop flexible packaging, paper and other natural means that will adequately address the urgent packaging needs of the Micro, Small and Medium Scale Enterprises (MSMEs) in Nigeria. Investigations were conducted into methods of developing packaging film like hot-melt technology from intermediate thermoplastic materials. The results obtained from the characterization of the properties of the packaging films [polyethylene, bi-axially oriented polypropylene (gloss and non-gloss)] showed that the mean values for the properties of the packaging materials used for this study are, thickness 0.08-1.43 mm, stress at break (8.16-56.38 N/mm²) elongation at break (9.22-18.44 mm), force at break (1.00-101.60 N), stress at peak 0.29-51.31 N/mm², elongation at peak (9.18-9.52 mm) and force at peak (29.18-111.36 N). Moisture content of the food samples in the different packaging materials gave a value between the ranges of 12.6-16.9%. The microbial load also gave a value between 0.2 x 10³ and 3.3 x 10³ cfu/g and absence of *Salmonella shigella* is an indication of absence of organisms of faecal origin in the samples. The results obtained indicate that biaxial-oriented polypropylene (gloss) is the best of the three materials studied for the packaging of food products used for this work.

Biography

Sakirdeen Abidemi Ajani holds a PhD in Applied and Environmental Microbiology from the University of Lagos, Nigeria and University of KwaZulu-Natal, Pietermaritzburg, South Africa. He equally holds a Certificate in Packaging from the Prestigious Indian Institute of Packaging, Mumbai, India. He is currently the Head of Packaging Technology Division of the Federal Institute of Industrial Research Oshodi. He has published over 15 papers in reputable journals and has made several international oral presentations in various academic fora.

sakirudeen.ajani@fiiro.gov.ng

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