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Optimization of the cooking conditions on the culinary qualities of pressure cooked boiled yam

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Yam (*Dioscorea rotundata*) is consumed in various ways; boiled yam in particular has various culinary applications in Africa but its preparation by conventional cooking consumes time and energy. Pressure cooking offered suitable alternatives but requires careful management of cooking conditions to assure quality. This study optimized cooking condition {thickness of yam slices (1-12 cm), cooking time (5-60 min) and post cooking resident time (2-15 min)} for the pressure boiling of yam slices on their culinary (texture and absorbed water) and sensory (appearance, texture and taste) qualities. Response surface methodology was used for the study with the aid of Design Expert software. Data comparing the proximate and color qualities of the boiled yam from conventional and pressure cooked samples were also analyzed using independent sample T-test. Boiled yam produced at verified optimization solution (3.09 cm, 15.58 min and 3.10 min) compared favorably with that produced by conventional method as there were no significant ($p < 0.05$) difference in proximate composition ($t=0.003$, $df=12$ $p=0.4985$, one tailed) and color quality ($t=0.003$, $df=12$ $p=0.4895$, one tailed) of pressure cooked and conventionally cooked boiled yam samples.

Biography

Bakare H Adegoke had his PhD in Food Processing and Preservation from University of Ibadan, Nigeria in 2008. He is a Lecturer in the Department of Hospitality and Tourism, Federal University of Agriculture, Abeokuta. He has published several articles in reputed journals and is serving at various academic committees.

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