IDENTIFICATION OF END-USERS' PREFERENCES OF A CASSAVA PRODUCT ("GARI") IN BENUE AND OSUN STATES, NIGERIA

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B.Tech. Food Science (LAUTECH), M.Sc Food Technology (UI)

MARCH, 2020

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A DISSERTATION SUBMITTED TO

DEPARTMENT OF FOOD SCIENCE,

FACULTY OF ENGINEERING AND TECHNOLOGY,

LADOKE AKINTOLA UNIVERSITY OF TECHNOLOGY OGBOMOSO, NIGERIA, IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS OF PHILOSOPHY (M.PHIL) IN FOOD SCIENCE.

MARCH, 2020.

CERTIFICATION

This Project with the title **Identification of End-Users Preferences of a Cassava Product ("Gari") in Benue and Osun State** submitted by Osunbade Oluwaseun Adebowale **(AAA1500099)** was carried out under our supervision at Food Science Department, Ladoke Akintola University of Technology, Ogbomoso.

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I hereby attest that this research work was carried out in the Department of Food Science, Faculty of Engineering and Technology, Ladoke Akintola University of Technology, Ogbomoso, Nigeria.

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DEDICATION

This project is dedicated to Almighty God and to my Mother Mrs A.A Osunbade for her encouragement and moral and financial support.

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ABSTRACT

Breeding of improved cassava varieties has been concentrated on preferred characteristics by the farmers to the detriment of attributes preferred by other end-users which made the final product not generally acceptable by all the end users. This study aimed at identifying the preferred quality characteristics of *gari/eba* among farmers, processors, traders and consumers to help breeders to develop new improved cassava varieties that will meet the quality characteristics of good *gari* as preferred by the end-users.

Four (4) communities that are major producers and consumers of *gari* were selected in Benue (*Ty-omu*, *Shangevya-koti*, *NyamII* and *Al'Okete*) and Osun (*Oyan*, *Elefon*, *Wasimi*, *Ago-owu*) States. Purposive sampling technique was used to collect information from 110 respondents in Benue and 109 in Osun through Focus group discussions, individual interviews and market interview among the farmers, processors, and traders using a well-structured questionnaire. Four selected cassava varieties (TMS-IBA011412, TMS14F1278PP0003, TMS14F1022P0003, *atu/ banada*) were processed to *gari* and turned to *eba* (using ratio 1:3 *gari*/water) for consumer's acceptability. A well structured questionnaire comprising of 9-points hedonic test, Just About Right test (JAR) and Check-All-That-Apply test (CATA) was administered to 300 consumers for consumer acceptability. Data collected were subjected to statistical analysis using statistical package for social scientist (SPSS) and xlstat package.

The results showed that the most preferred traits in cassava by Benue State farmers are dense root, low moisture roots, white-flesh root, non-decaying root, big long roots, non-woody roots and 8-15 roots per stand. Processors prefer non-decaying roots, white mash with low moisture, and *gari* that is white and dry, non-coarse, and gelatinize faster. Marketers/ consumers prefer dry, bright/shiny, white, sweet, dense, fine, cooked aroma and sour *gari*. Osun State respondents revealed that farmers prefer dense root, non-decaying root, white-flesh root, high dry matter roots, big-long roots, 8-16 roots per stand and non-woody roots while processors prefer non-decaying roots, white mash with low moisture, and *gari* that is non-coarse, dry, white and

gelatinize easily. Marketers/ consumers prefer dry, white, dense, sour, and fine *gari*. Key user-preferred quality traits for *gari* in both regions were dry *gari* followed by white, dense, fine, sour, bright/shiny and aroma and sweet *gari* in that order. In comparison, in-term of taste and appearance of *gari*, consumers in Osun State prefer sour and white *gari* while Benue State consumers did not like sour *gari* but preferred sweet and shiny *gari*. The results of the consumer's acceptability showed the frequencies of the good characteristics of final product (*eba*) in Benue and Osun State. The frequencies of good characteristics mentioned by Benue consumers on most preferred *eba* sample produced from *banada* showed that neatness had the highest with frequency of 146 out of 150 consumers, followed by smoothness (143), good taste (143), mouldable (140), good aroma (138), stretchy (137), white (126), moderately soft (116), fermented odour (79), not sour (78), and less lump (60). The frequencies of good characteristics mentioned by Osun consumers on most preferred *eba* sample made from *atu* showed that mouldable had the highest with frequency of 150 out of 150 consumers, followed by neatness (148), good taste (141), good aroma (140), smoothness (140), stretchy (133), moderately soft (127), sour (116), cream (90), fermented odour (64), white (39).

The information presented in this work with an in-depth laboratory characterization of the raw roots and the product is essential to identify product profiles within breeding. The findings will help breeders to develop improved cassava varieties that will be acceptable by multi end-users.