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Evaluation of underutilized tree-crop, *Ricinodendron heudelotii*, as a functional feed for nutrition and health

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Njangsa (*Ricinodendron heudelotii*), a tropical tree that grows in the forest of West and Central Africa, produces fruits that are manually shelled to collect oil seeds and dried. A compositional analysis of njangsa revealed a unique nutrient presence of long chain omega-3 fatty acids not usually associated with plant materials. The seed had 31.4% crude protein and 44.7% lipid. Of this lipid, about 73% was composed of Poly Unsaturated Fatty Acids (PUFA), almost entirely of eicosapentaenoic acid, with about 18% oleic acid. Preliminary studies were conducted to determine if njangsa seed meal would alter the lipid and other metabolite levels in the pig and/or improve pork quality traits. Twelve crossbred gilts and barrows were fed corn-soybean diets containing 14% crude protein. Treatment group was supplemented with 2% njangsa oil seed meal. Growth and carcass traits showed similar carcass characteristics ($P > 0.05$). Backfat measurement was reduced ($P < 0.05$), while kidney weight was elevated ($P < 0.01$) in treated animals. Pork sensory evaluation were not different between the experimental groups. Oil rich supply of long chain PUFA from sources other than seafood may provide a more sustainable source, capable of reducing children and adult obesity.

Biography

Michael Ezekwe (Ph.D.) is a professor of Animal Science and director of Swine Patent awards. He is involved in OICI-International livestock improvement project activities in Africa. He has conducted technology transfer training workshops in Ghana, Gambia and Nigeria under the auspices of the US AID-OICI International. He has collaborated with North-South Institute Inc.; Davie, Florida, on livestock improvement projects in the US Virgin Islands territory and island of St. Thomas. Development Centre at Alcorn State University. He is a trained animal nutritionist and has worked with swine, goat, and poultry in the area of feed utilization, growth and development. He is involved in human as well as swine nutrition research projects, which are supported by USDA-NIFA and ARS. He has published referred journals. He also conducted research involving vegetable purslane and waterleaf and their unique omega-3 fatty acid content. His research has earned him three U.S.

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