Mobreed Student Profile:

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Charles is a PhD student interested in pursuing a lifelong career in research and academics. He aims to focus on Agriculture and Bioinformatics. He holds M.Sc. in Plant Breeding and Genetics (University of Nigeria, Nsukka) and B. Agric. (Ebonyi State University). Presently, he is pursuing a PhD in Plant Breeding at Jimma University, Ethiopia. Home supervisor: Prof. Happiness Oselebe. Host supervisor: Dr. Gebreselassie Wosene.

Publications

Charles U. UBA, Christian U. AGBO, Uchechukwu P. CHUKWUDI, Andrew A. EFUSIE, Stella O. MOUJIAMA (2018). Field Evaluation of Yield and Yield Component Traits of Breeding Lines of Maize over Two Seasons in Derived Savannah Agro-Ecology. Not Sci Biol, 10(4):567-574

Stella O. MUOJIAMA, Christian U. AGBO, Simon C. EZE, Charles U. UBA (2018). Agronomic Evaluation of New Varieties of Cassava (*Manihot esculenta* Crantz) under Different Rates and Modes of NPK (12-12-17-2) Fertilizer Application in Two Seasons. *Not Sci Biol*, 10(1)

Uchechukwu Paschal CHUKWUDI, Christian U. AGBO, Chikezie O. ENE, Charles U. UBA, Jacob I. ENYI (2017) Analysis of Leaf Yield Components in Fluted Pumpkin (*Telfairia occidentalis* Hook F.) Grown in Derived Savannah Agro-Ecology. *Not Sci Biol*, 9(3)

Crop of interest

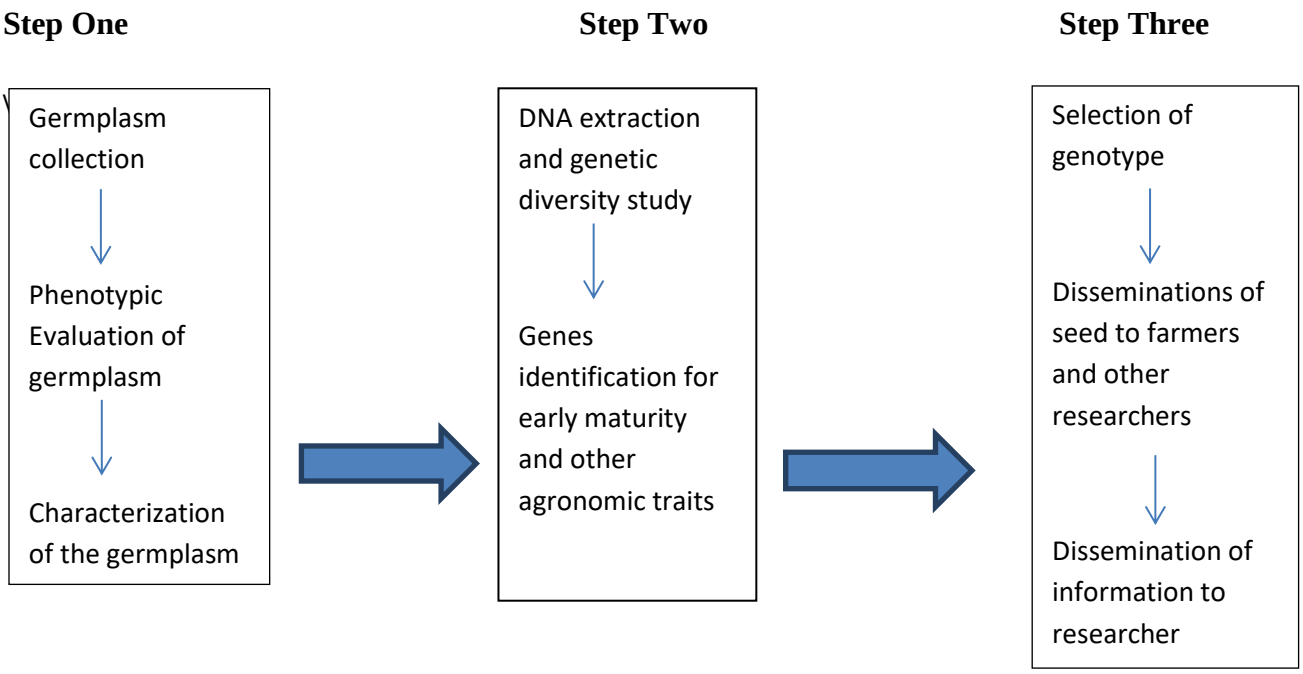
Bambara groundnut (*Vigna subterranean* L. Verdec) is an indigenous, underutilised African legume which belongs to the family *Leguminosa* and genus *Vigna.* It is grown primarily for its seeds. The seed is rich in sufficient quantities of proteins, carbohydrates and lipid. In Africa, bambara groundnut is the third most important legume after groundnut and cowpea. The flour can be used for production of cakes and biscuits. Bambara groundnut can also serve as weaning

food for infants and a raw material for the production of vegetable milk. Its production in Africa stands at about 330,000 tonnes annually.

Summary of proposal

Presently, improved and released varieties of bambara groundnut with better agronomic traits and seed quality for both small-scale and commercial production when compared with other legumes such as cowpea and groundnut are unavailable. All the cultivated genotypes by farmers are landraces that have evolved directly from their wild relatives and the yield is usually low. The aim of the study is to study variability, estimate heritability of the traits and determine traits that contributes to yield and early maturity; describe the diversity pattern, genetic diversity and relatedness of the bambara groundnut from different origins; and conduct Genome Wide Association Studies for early maturity and other agronomic traits. Therefore, to wean bambara groundnut from the subsistence production and integrate it fully into a commercial production would require some level of improvements aimed at generating genotypes with good agronomic potentials and this can be achieved through a breeding programme. The use of molecular breeding has been noted as an efficient technique for crop improvement. This research will open new opportunities for bambara groundnut development, utilization and production in Africa and other parts of the world. It will also assist researchers involved in mainstream genomics of bambara groundnut breeding programs.

Graphical abstract representation of the research proposal



Pictures of bambara groundnut

Comment about Mobreed opportunity

I nursed desire to undertake research in underutilized Africans crop but constrained by my financial status. Mobreed sponsorship gave me the chance to further my education, build my expertise as a plant breeder, contribute to the world of learning, and assist to reduce the problem of food security in Africa.