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**Title:** African Yam Bean (*Sphenostylis stenocarpa* Hochst) a neglected crop with food security potentials for Africa

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## Abstract

The legumes are a good source of dietary protein. They are cheaper than animal products such as meat, fish, poultry, egg. They are consumed mostly in the poor and developing countries as a major source of cheap protein especially where consumption of animal protein may be limited as a result of economic, social, cultural or religious factors.

Moreover, Africa has been identified as one of the continent most vulnerable to climate change but which has in the meantime a great diversity in plant genetic resource. An adequate strategy needs to be in place for food security in Africa. Global food security is becoming shaky with increasing dependence on a few major staple crops.

With the ever increasing population pressure and fast depletion of natural resources, it has become necessary to explore the possibilities of exploiting new plant resources to meet the growing needs of the human society.

Food security, quality of life, and livelihood for billions of people in the present and future generations are guaranteed only by the availability of diversity in crop genetic resources. Unfortunately, one major causes of food insecurity experienced in many African countries and DRC particular is the underutilization of some potential food security crops in the continent. African yam bean (*Sphenostylis stenocarpa* Hochst Ex. A. Rich (Harms)), is one of the underutilized tropical legume plant nevertheless it has a high food potential. Indeed, African yam bean is one of the rare species with duo-food products (grain and tuber). It is well linked to the tradition and culture of the Africans. The protein content in AYB seeds ranges between 21 and 29% and in the tubers of AYB the protein, ranging between 11 and 19% is about 2 to 3 times the amount in potatoes and higher than those in yam and cassava. Moreover, the amino acid values in AYB seeds are higher than those in pigeon pea (*Cajanus cajan*), cowpea (*Vigna unguiculata*), Bambara nut (*Vigna subterranean*), groundnut (*Arachis hypogaea*) and soja. African yam bean is rich in minerals such as potassium, phosphorous, magnesium, calcium, iron and zinc.

Despite its nutritional values, AYB is cultivated as a secondary crop with yam and other crops in many parts of Africa mainly by subsistence farmers. Studies are leading in DRC to promote the plant. It is now mainly a question to know the yield of tubers per hectare, the genetic diversity so that to begin an improvement program and to make develop products for increasing the people consumption and to feed livestock. The preliminary results show that the plant material of that specie in DRC is significantly different in seed protein composition and tuber productivity than the plant material of West Africa.