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## Underutilised Crop African Yambean (*Sphenostylis stenocarpa*): Reduction of Antinutrients by Unconventional Processing to Promote Extension

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### Abstract

African yambean (*Sphenostylis stenocarpa*) is a highly drought and pathogen resistant legume producing acceptable yields even under unfavourable conditions. Serious drawbacks are the adverse health effects (i) frequently occurring after the consumption of traditionally processed beans in spite of the (ii) energy-consuming five hour cooking time. Can alternative processing methods possibly downsize these shortcomings?

The paper reports of two alternative processing methods both based on fermentation. Lactic acid bacteria and the tempeh fungus *Rhizopus oligosporus* were probed. Protein digestibility was as if cooked for 4 h. Undesired compounds, notably oligosaccharides and cyanogenic glycosides, were markedly reduced or absent. Energy use for processing and preparation of meals was down to 20% of that for traditional cooking. Neither fermentation process requires specific hygienic conditions or any special equipment. The proposed processing methods appear therefore suitable for household and industrial uses.

**Keywords:** Environment, food processing, legumes, malnutrition, protein