

Edible insects in Eastern and Southern Africa: challenges and opportunities

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Introduction

African diets consist of a vast variety of wild foods, among which are edible insects. Edible insects are traditionally important foods in Africa, Asia Australia and Latin America. Food insects may be used for medicinal or food purposes. In Uganda, the most commonly consumed insects are termites (*Macrotermes* Spp) and grasshoppers (*Ruspolia nitidula*), consumed among many cultures. These insects though seasonal form an important part of cultural diets. They are supplementary food items and also provide significant nutritional and economic benefits to rural communities. They are important sources of protein and fat to rural and urban dwellers. However, Africa is confronted with high levels of malnutrition as a result of shortages in proteins especially animal protein.

Objectives

This study assessed the consumption of food insects in Kampala, Uganda as well as the proximate and fatty acid composition of grasshoppers (*Ruspolia nitidula*) and white ants (*Macrotermes bellicosus*).

Methods

Data on consumption was collected using seven day recall questionnaires. Proximate composition and fatty acid composition were determined following standard biochemical procedures. Fatty acids were presented as relative percentages.

Results

This study found that food insects supplied 16100Kcal/person/year and 513grams of protein/person/year. Results also showed that food insects were an expensive source of protein but not fat. The proximate composition showed that grasshoppers contained 32g/100g of protein and 54g/100g of fat whereas white ants contained 31g/100g of fat and 65g/100g of protein. Fatty acid analysis showed that grasshoppers and white ants fat was predominantly unsaturated with 60% and 57% unsaturated fats respectively. Grasshoppers and white ants had 13.4% and 6.7% linoleic acid respectively, and 44% and 48% of oleic acid respectively.

Conclusion

Though expensive, grasshoppers and white ants are an important source of protein and fat. The high costs were due to the unmet supply against demand. It is therefore important to consider them for large scale cultivation as food items for the future in the light of high costs and shortages of animal protein and the high levels of poverty and malnutrition in Africa.

Key words

Food insects, fatty acids, protein