



# Nutrient density and acceptability of bean-based composite flour porridge in rural Uganda

Ndagire C.T., Nakimbugwe D., Muyonga J.H, Manju R., Hendrichs S. & Murphy P.



Dry Grain Pulses CRSP

**Aim:** To improve the nutritional quality of meals served to children in rural Uganda using bean-based composite flour.

**Introduction:** Under nutrition is still a major problem among children in Uganda. Contributing factors include inadequate energy & nutrient intake that mainly results from low energy & nutrient density, high viscosity or undesirable sensory properties of commonly served porridges. There's therefore need to develop an energy & nutrient dense and acceptable porridge for children, utilizing locally available nutritious foods such as beans

**Methodology:** The flour rates required to make porridge with viscosities of 2500-3000cP's from commonly consumed cereals and the bean-based composite were determined and compared, using ANOVA  
 ❖ Preparation of the bean-based porridge was demonstrated to parents and caregivers of children 2-5 years of age in Eastern Uganda who also evaluated the sensory acceptability of the porridge.



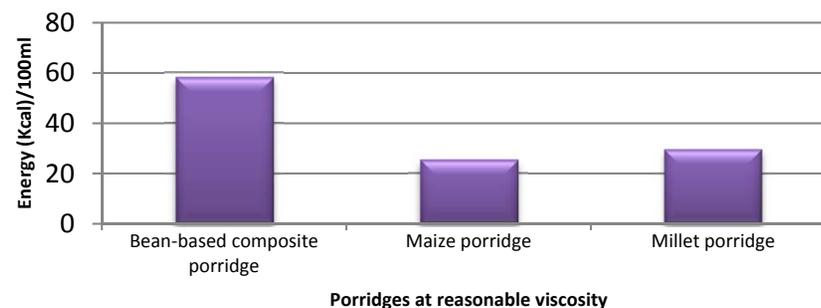
Mother & care-givers of children during the demonstration



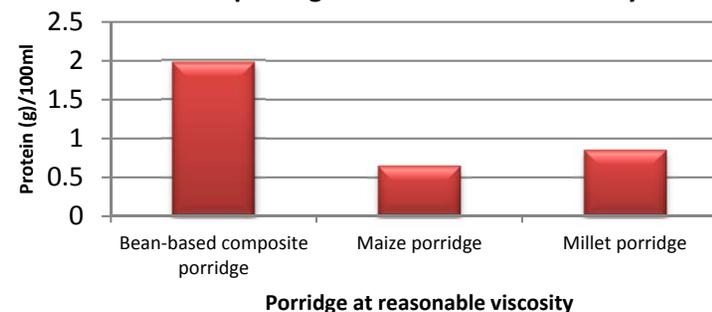
Cooked porridge

## Results

**Figure 1: Comparison of energy density in 100 ml of porridge at a reasonable viscosity**



**Figure 2: Comparison of protein density in 100 ml of porridge at a reasonable viscosity**



On a scale of 1 to 5, the score for the porridge's overall acceptability was very high (4.4)

**Conclusion:** Porridge from the pre-processed bean-based composite flour was highly acceptable to parents and caregivers of children aged 2-5 years. It was also more energy and nutrient dense than porridges commonly fed to the children and can therefore break the cycle of childhood malnutrition and may be adequate for catch up growth for children recovering from malnutrition. Community-based processing of the composite flour would encourage inclusion into children's diets.

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