

**PROCESSING YAMS (*DIOSCOREA DUMETORUM*) FOR INFANT
FOODS**

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Abstract

Dioscorea dumetorum is a nutritious yam with cereal-like properties. Its use as gruel for weaning is limited by its high hot-paste viscosity (high bulk), making it impossible for infants, with their small stomachs, to eat enough to meet growth requirements. Yam flours from fresh and hardened roots were processed into low-viscosity gruels by adding amylase-rich flour (ARF) from germinated cowpeas, soybeans, or yams. Compared with the 100% yam flour gruel, reduced viscosity led to increases in protein (about one and a half times), energy (x 2), and nutrients (x 3) when the following gruels were used: yam flour-cowpea ARF (9:1), yam flour-yam ARF (9:1), and yam flour-soybean ARF (9:1). Yam flour-cowpea ARF gruel amply meets the infant's daily protein and energy needs, containing 2.0-3.7 g and 85-145 kcal, respectively, for every 100 mL of gruel, whereas yam flour-yam ARF gruel barely does so. Yam flour-soybean ARF gruel barely covers the protein needs and is deficient in energy. Rat assays with diets containing gruels from yam flour-cowpea ARF (9:1), yam flour-cowpea-yam ARF (8:1:1), or maize flour-cowpea-maize ARF (8:1:1; control) have shown that yam gruels are highly nutritious and promote excellent growth.

Note: This manuscript was incomplete (copies of the figures were mislaid)