

## **Suitability of three newly released Kenyan potato varieties for processing into crisps and French fries**

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### **Abstract**

French fries and potato crisps are the most consumed industrially processed potato products in Kenya, especially in the major urban centers. Processors have, however, complained of the inadequate supply and low quality of potatoes currently available in the market. This study was instituted to evaluate the suitability of three newly released Kenyan potato varieties for processing. The three new potato varieties (Purple Gold, Kenya Mpya and Sherekea) and two established varieties (Tigoni and Dutch Robjin) used in this study were grown under standard conditions at the National Potato Research Centre, Kenya. They were harvested at maturity, cured and analyzed for physico-chemical characteristics and processed into crisps and French fries for suitability evaluation. All the cultivars had tuber sizes within recommended range for crisps (40-60 mm) and French fries ( $\leq 45$  mm). Dry matter contents differed significantly ( $P \leq 0.05$ ) among the varieties ranging from 20.81 % in Golden Purple to 25.77 % in Kenya Mpya. Crisps oil content varied significantly ( $P \leq 0.05$ ) from 31.28 % in Kenya Mpya to 36.8 % in Golden Purple while it ranged from 7.51 % to 8.81 % in French fries of the same varieties. Dry matter content was negatively correlated to oil contents of crisps and French fries. Significant ( $P \leq 0.05$ ) varietal differences in color and textural properties of crisps and French fries were noted. Kenya Mpya, Tigoni, Sherekea and Golden Purple in that order of preference could be used to produce crisps that are comparable to Dutch Robjin, an established crisping variety in the local market. With the exception of Kenya Mpya, varieties Sherekea, Dutch Robjin and Golden Purple produced good quality French fries comparable to the established chipping variety, Tigoni. Potatoes from the new varieties are expected to form an additional pool of raw material for processing in Kenya and should be promoted alongside the established ones to support the growing industry.