Holistic approach to the development of sweetpotato-based products and micro-scale enterprises

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ABSTRACT

Adding value to the sweetpotato crop in Africa offers good potential for income generation and employment. This provides a means to reduce poverty, improve food security and nutrition by developing small and micro-scale enterprises commercializing sweetpotato-based foods and feeds. Diversification of the crop utilization patterns may also contribute to the conservation of biodiversity. Activities aimed at the diversification of postharvest utilisation in Uganda, showed that sweetpotato flour is easy to process and store, and, is highly profitable when used in processing snack food products. For the last four years, the study conducted in Lira District, Uganda, showed that at least four holistic "rugby-style" steps were required for the development of successful food products and their rural based enterprises: 1) market and consumer evaluation of the product, 2) technical evaluation at the piloting scale, 3) adjustment of the technology to the users' needs, and 4) invitation of enterprises to use the developed technologies through technical (sweetpotato related) and financial (loans and book keeping) training.

EXECUTIVE SUMMARY

To improve the success of new product development and introduction, it is important to understand the perception and experiences of those involved in the processes. To this end ex-ante analyses by Omosa (1997)1 on the current and potential demand for fresh and processed sweetpotato products in Nairobi and Kisumu, Kenya, and studies in Kampala and Lira, Uganda (Hall et al., 19952; Hagenimana and Owori, 19973), to assess the potential markets of baked products (buns, chapatis, and mandazis) with sweetpotato as an ingredient, showed that the sweetpotato production in the area justified the processing and that proposed sweetpotato products were acceptable to consumers (the methodology used in these studies was a multidisciplinary approach combining demonstration-feasibility tests at the processors' levels, observation and timing for the costs of production, and informal and structured questionnaires to consumers and traders for respectively the acceptability of sweetpotato products and supply of raw material).

Implementation studies on how to transfer the identified postharvest technologies to users were conducted in Lira, Uganda, through the monitoring for 6 months of women's groups or individuals exposed to these technologies and who have been continuously processing and marketing sweetpotato-based food products for the last two years. Constraints to the adoption and micro-processing development ranged from the product quality, the limited understanding of market and consumer needs, lack of

1 Omosa, M. 1997. *Current and potential demand for fresh and processed sweetpotato products in Nairobi and Kisumu, Kenya*. Social Science Department Working Paper No. 1997-1. Postharvest Management, Marketing Program, International Potato Center (CIP). Lima, Peru.

2 Hall, A., Low, J., and Hagenimana, V. 1995. Sweetpotato processed products: A market study in Kampala, Uganda. CIP/NRI.

3 Hagenimana, V. and Owori, C. 1997. Sweetpotatoes in chapatis processing: Feasibility and Acceptability in rural areas. J. Food Technol. Africa 2: 4-8.

standard process and adapted equipment, and lack of support for risk-taking.

It was observed that at least four sequences were required in development and successful implementation of sweetpotato food products and micro-scale rural based enterprises. These steps could be summarized as: 1) market and consumer evaluation of the technology/product, 2) technical evaluation at the piloting scale, 3) adjustment or adaptation of the technology/product to users' need; and 4) invitation and implication of enterprises in the marketing of developed product/technology through technical (sweetpotato related) and financial (loans and book keeping) training.

We also observed that these four sequences were not relay-like; most of the time they concomitantly took place, and each of the sequence could be revisited several times during the development/implementation of postharvest products/technologies; hence, the multidisciplinarity of the team required in the development of products/technologies and related enterprises.

The four sequences are the basis of the evaluation and development of good quality sweetpotato flour in Soroti, Uganda. Figure 1 shows different operations of the process of producing dried sweetpotato slices and flour. The diagram is particularly useful in the identification and possible anticipation of needs (quality and quantity of raw material and other utilities, equipment, time), and the implementation of each operation of Figure 1 is holistically using the four steps above mentioned.

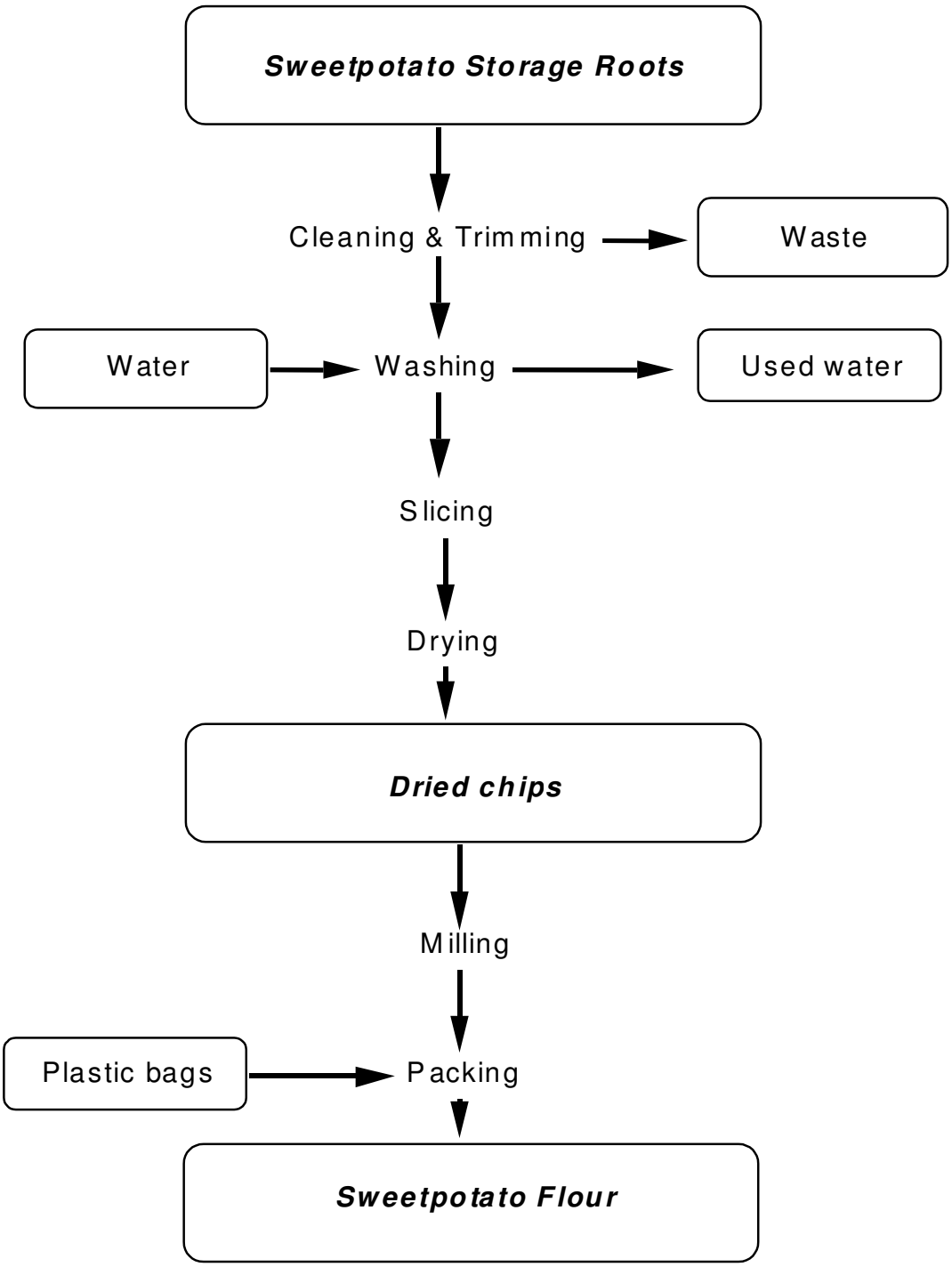

Fig. 1. Process of producing dried sweetpotato slices and flour