Extending the shelf life of cassava through waxing

Adebayo Abass

Postharvest Specialist, International Institute of Tropical Agriculture, Dar es Salaam, Tanzania. E-mail: a.abass@cgiar.org

Rapid postharvest physiological deterioration (PPD) is a challenge facing cassava—the roots lose market value within 24 hours and spoil after 72 hours. Simple coating of fresh root with melted wax (140-12.5 kg wax/t or $0.016/root) is commercially used in Latin America to extend the life of fresh roots for export. It has been tested successfully in Uganda. The technology keeps the cassava root in its fresh form and quality for at least 14 days, making it possible to market it over longer distances and minimize postharvest losses, therefore contributing to higher incomes of growers and traders, and increasing utilization and food security.

End users and benefits

In Uganda, primary producers, traders, researchers, and extension workers have worked together in outscaling the technology. Through the RTB-ENDURE project, two enterprises have adopted the technology and are currently selling waxed cassava roots to traders, restaurants, supermarkets, and consumers in Uganda. The technology is helping farmers and traders to extend the shelf-life of fresh cassava roots to reduce postharvest losses, relieve marketing pressure, and target emerging market opportunities in the major cities with a potential to expand into the regional market.

Scaling strategy

The scaling approach involves engagement with local entrepreneurs to make investments in waxing technology and with traders and supermarkets to market waxed roots. The local entrepreneurs, together with primary cassava producers, will be trained in agronomic practices that support the effectiveness of the technology (varietal selection, ridging, pruning, etc.), and an appropriate marketing model for each location and consumer segment will be developed. Partnerships will be established with dynamic youth in the cities who can use ICT to engage in marketing and distribution.

Adoption and use

Two enterprises for cassava root waxing exist in Uganda. At least 144 Ugandan farmers, traders, researchers, and students have benefited from the establishment of the two waxing pack houses. More than 30 restaurants, food vendors, hotels, and other marketers were engaged in 2016.

Commercial waxing operation at a pack house in Uganda.

Nearly 400 consumers are estimated to have consumed or purchased waxed cassava roots in 4 months only. The urban consumers were willing to pay US$0.71/kg for the waxed roots against US$0.31-0.42/kg for non-waxed roots.

Critical gaps and next steps

The commercial success of this technology depends on farmers learning and willing to apply careful harvesting, handling, packing, and transporting of roots meant for waxing. More awareness is needed to reduce the current concerns about the effectiveness of the technology. Waxing addresses the negative impact of the rapid spoilage of cassava on farmers' income. The next step is to outscale the innovation and adapt the business model to Nigeria, Cameroon, Benin, Ghana, and East African countries. The interest and capacities of traders, supermarkets and grocery operators must be built to provide shelf-space for waxed cassava roots. Finally, financial linkages for interested entrepreneurs are needed.

A researcher buying a box of waxed cassava roots from a supermarket,

Waxed cassava roots from Costa Rica sold in France at 1.89€/kg,

Partners

www.rtb.cgiar.org