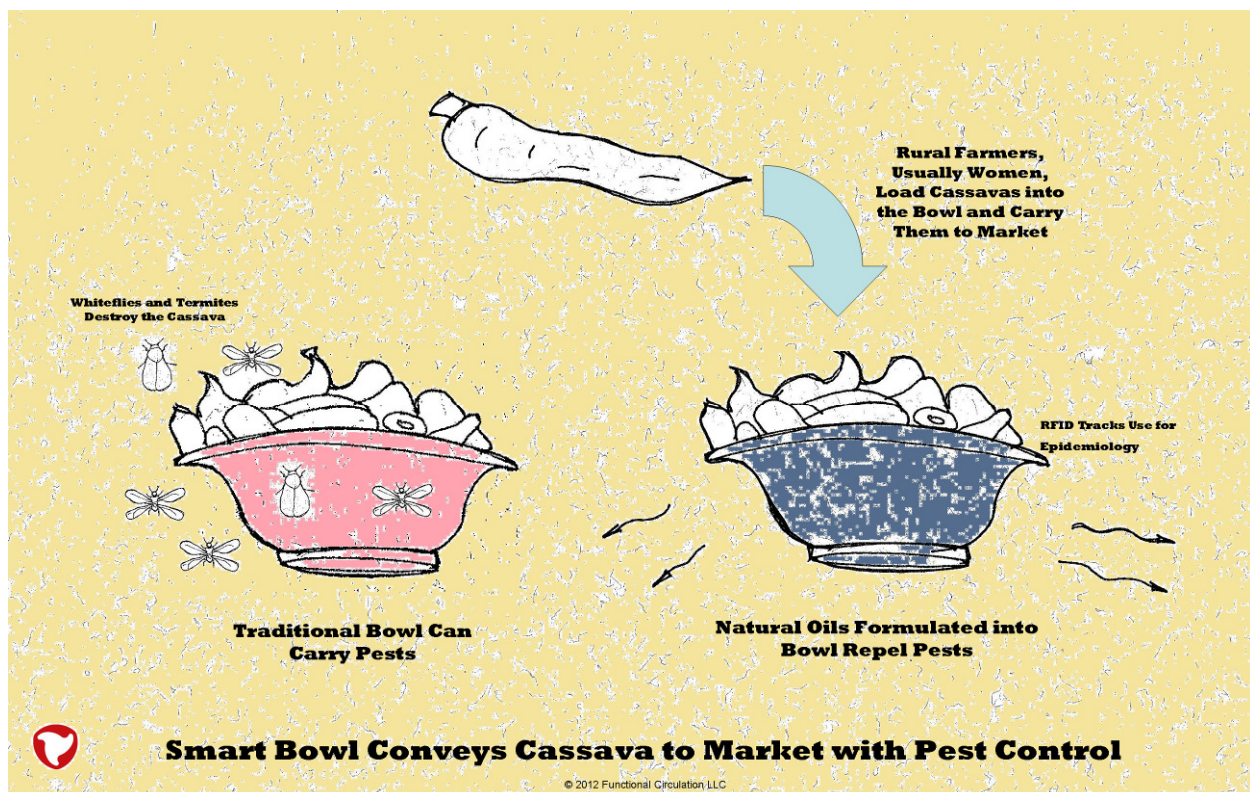


Functional Circulation Smart Bowl

The Functional Circulation Smart Bowl will improve the way small-scale farmers carry cassava roots to market by embedding natural pest repelling ingredients and passive communication electronics into the bowl's plastic material. These improvements will reduce the existing 20% loss of crops due to attacks by termites, whiteflies, scale, and grasshoppers, and will enable data to be collected that will show how the bowls are used and whether they are effective. By using these new bowls to prevent the transportation and arrival at market of infested vegetables, contagious spread of pests may be reduced and contained. The following diagram illustrates the Smart Bowl approach:



To develop the Smart Bowl, Functional Circulation will perform focused research and development in the following areas:

- Ethnographic studies of existing means of cassava root conveyance to market and related processes

- Development of natural, food-safe pest repellants as injection-moldable additives to polyethylene or other suitable plastic
- Identification and support for local manufacturing sources
- Production and testing of prototypes

Grant funds have been committed to this project and details will be publicly announced in May 2012.

For more information, contact

John Brassil
Principal Investigator
Functional Circulation
jbrassil@functionalcirculation.com
847.612.4820

Functional Circulation (www.functionalcirculation.com) is a biotechnology research partnership founded in 2008 that provides research and development services in sustainable systems, with disciplines in mechanical engineering, prototyping, and glass-blowing. The company develops and commercializes systems and technology-driven products that reduce resources and prevent harmful impact to accomplish important purposes in biologically related fields, including a special research focus on organ and tissue transplantation. The company's work has applications in medical devices, scientific equipment, and everyday implements and its teams collaborate with leading researchers worldwide.



FUNCTIONAL CIRCULATION, LLC

1810 Maple Avenue, Northbrook Illinois 60062, USA

Phone: +1.847.612.4820

www.functionalcirculation.com