



The Archatina fulica snail species whose slime is being tapped for development of cough syrup. Photo Credit: Wikimedia

Your next cough syrup will be made from snail slime

By Murimi Gitari

RESearchers at Kenya's Jomo Kenyatta University of Agriculture and Technology (JKUAT) are in the process of developing a cough syrup from snail slime after the institution received a grant of €950,646 (approximately Ksh.127 million) from the Cherasco Worldwide Institute of Snail Breeding to advance its snail research.

The JKUAT team emerged top in a competition for funding that spanned three rounds from March 2022 and involved over 10 countries, including Nigeria, Ghana and Cameroon.

Dr Paul Kinoti, the lead scientist in the project, said they hope to have the cough syrup available in pharmacies within four to five years having identified a suitable type of snail for slime production and engaged farmers to rear it. "We have done mapping and noted that *Achatina fulica* which is our local species is the best in terms of quantity production, quality and a lot of medicinal components that have not been tapped unlike the other African species especially those found in Ghana," said Dr Kinoti, who is a specialist in non-conventional farming and a lecturer at JKUAT.

"We have identified farmers in different localities to distribute the ecotypes for them to rear and multiply them. This will help in getting enough slime for the syrup and now that we are also doing skin care products, the snails become a source of income to these farmers."

The farmers are compensated through a contract signed at the initial stages.

Archatina fulica, which is found on land, has no documented health risk to humans, including transmission of zoonotic diseases.

Snail farming is gaining traction in Kenya, mainly for meat and shells.

The standard price of snail meat in Kenya is Ksh1,500 per kilogramme (USD11.75) with the shell and Ksh3,000 per kilogramme when deshelled. The deshelled can be packaged and exported.

The protein content of snails is similar to the protein found in pork and beef, but snails come with a much lower fat content.

In addition to containing significant sources of protein and low amounts of fat, snails are also good sources of iron, calcium, Vitamin A and a number of other minerals.

Dr Kinoti said they got the idea of developing a cough syrup from snail slime from Ghana where it is common for families to use a solution from mixing slime with honey to treat coughs in children.

“This is where we realised that this can be used to curb persistent cough, only that the production was not done commercially through the normal procedure approved by Food

and Drug Authority. We intend to go through these channels in the right way, get all the approvals and then have a worldwide distribution of the product through pharmacies and more importantly to benefit Kenyans,” Dr Kinoti said.

For the JKUAT project, Dr Kinoti and his team are going through the formal legal and regulatory procedures, including getting approvals and certification from Kenya Medical Research Institute (KEMRI).

His interest in snails research began when doing his doctorate programme in Austria where he was residing with an old retired professor who was keeping snails as a source of income.

“When I came back to Kenya I did several proposals until I got some funding and rolled out the project of snails research and value-added products from snails that are culturally accepted by our community.

I then proceeded to visit West African countries like Ghana, Liberia and Nigeria to compare the tradition ways of farming snails and the modern technology. This was to help come up with other ways that are not being exploited and come up with value added products that have not been exploited,” he adds.

The process of developing the cough syrup starts with identifying the ecotype - in this case *Achatina Fulica*. The sub-species is easier to multiply and feed to get the right specifications in terms of growth, weight and size.

Extraction of slime is done using a simple kit that does not kill the snail but produces substantial amount of the material.

This is then subjected to laboratory test, with the next step being upscaling to the level of getting the real molecules to be used in generating the cough syrup.

Other than getting slime, they are also using the snails to get animal feeds as well as packaging for meat consumption.



The Achatina fulica species is easier to multiply and feed. Photo Credit: Earthling Nature