

Nigeria's plantain wine: A traditional drink with huge economic potential

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Agadagidi, a wine made from plantain, is a popular drink at festive occasions in Nigeria. But it's not always of a high quality.

It is usually produced in the [southern part of the country](#) in limited quantities because it is difficult to store. Akwa-Ibom, Cross River, Imo, Enugu, Rivers, Edo, Delta, Lagos, Ogun, Osun and Oyo states are known for plantain cultivation.

[Our study](#) examined ways to improve the production of agadagidi and ultimately create more jobs.

Agadagidi is traditionally produced from overripe plantain by fermenting the juice, known as must, for three days and filtering it thereafter. The juice has a cloudy appearance, is effervescent and has a sweet-sour taste.

Given that plantain is readily available in the country, and imported wines are expensive, we conducted [research](#) to establish if it was possible to make better quality agadagidi.

In Nigeria the [agricultural sector](#) employs about 70% of the labor force and contributes about 30% of the national GDP. Smallholder farmers account for almost 90% of the total food production.

But losses due to poor post-harvest practices can reach up to 50% for some fresh food produce. Half of the food that is produced for humans never gets consumed. The country grapples with [food insecurity](#) partly due to bottlenecks such as high food losses along its food supply chains. Farmers also lose out on income.

Plantain production [increased](#) from 994,000 tons in 1972 to 3.12 million

tons in 2021. The average production increase is 2.75% which could be a boon to the economy if well managed.

[Our study](#) was carried out to optimize the [production process](#) to make it safe and of consistent quality. This would be beneficial in a number of ways: it would reduce reliance on imported wine, reduce waste and encourage the production of indigenous wineries, thereby creating jobs and boosting Nigeria's economy.

How we conducted our research

One batch of agadagidi was produced using the traditional method. We also produced agadagidi using controlled fermentation and divided the liquid into six batches, testing various scenarios using sodium metabisulphite and wine yeast. Some of the samples were pasteurized and some not.

All samples were fermented for three days and dispensed into sterile bottles.

Microbial count, pH and acidity were determined at a weekly intervals for a period of three weeks.

Microorganisms were identified to determine the safety of the products and the consumer acceptability test was also assessed.

Our findings

All the unpasteurised samples treated with sodium metabisulphite with or without the addition of wine yeast were acceptable in terms of microbial count, physicochemical properties and consumer acceptability.

Our method could be replicated on a large scale using the same materials we did. It's also made easier with the abundant plantain in Nigeria. The country can generate more jobs for its teeming young population. Nigeria's unemployment rate is expected to rise to [40.6% in 2023 as compared to 2022's 37.7%](#), and as high as 43.9% in 2024.

Our findings show that plantain waste can be reduced and used in production of wine. The quantity of imported wine consumed in Nigeria [increased](#) from 26.7 to 33.1 million liters from 2015 to 2021. In 2021, Nigeria [spent US\\$116 million on wine imports](#), becoming the 36th largest importer of wine in the world.

Optimization of locally produced wine will reduce reliance on imported [wine](#) and boost the country's economy, especially in these days of [scarce foreign exchange](#).

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