AWARD
African Women in Agricultural Research and Development

Profile

Oluwafunmilayo Oluwanifemi Adeleye
2015 AWARD Fellow

Position	Lecturer II
Institution	University of Ibadan
Country	Nigeria
PhD	Agricultural Biochemistry and Nutrition, University of Ibadan, 2012
Mentor	Oyebiodun Longe, Professor, Department of Animal Science, University of Ibadan
Research Area	Exploration of non-conventional carbohydrates as suitable feed energy sources, and development of resistant starch products as alternatives to antibiotic growth promoters for safer poultry products.

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Oluwafunmilayo Oluwanifemi Adeleye was raised in urban southern Nigeria, where she attended primary school on the local university campus. She began her science journey in secondary school, and then attended Obafemi Awolowo University to pursue a BSc in Agriculture, specializing in Animal Science. "I found science interesting and easy when I was in high school and thought it would make a good career for me," she says.

Adeleye's fondness for the biochemistry and nutrition aspects of her studies prompted her to enter an MSc program at the University of Ibadan. Being part of a family of high educational achievers—all of her five sisters have at least two degrees—she immediately registered for a PhD after finalizing her master's in Agricultural Biochemistry and Nutrition at the University of Ibadan in 2004.

Currently a lecturer at the university, Adeleye is able to combine agriculture with her love for research. She is working on two poultry projects, one on the potential of resistant starch component of locally available carbohydrate sources as prebiotics, and the other on encouraging underutilized legumes as alternative feed sources.

The resistant starch component of carbohydrates is that portion of its starch that is not digested. "When resistant starch is fermented in the large intestine, it stimulates proliferation of beneficial bacteria populations at the expense of detrimental ones. When there are higher populations of beneficial bacteria, gut health is sustained," Adeleye explains. "This means that resistant starch can be used as prebiotics to control gut health, an alternative to antibiotics".

The project is therefore looking at local feed resources that are high in resistant starch, and is focusing on unripe bananas, which are high in starch but not easily digestible. "We will extract these starches from bananas and test whether they are able to manipulate the microbial

population in poultry," she says. "If it works, local companies that produce prebiotics can use the locally produced starches instead of importing them."

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Farmers usually use soybean meal as the protein source of choice for poultry. However, soybeans has become increasingly expensive as more soybeans is imported to meet demand, hence its price is subject to fluctuating foreign exchange rates. Adeleye's second project is therefore exploring the use of Bambara groundnut (Vigna subterranean) and pigeon peas (Cajanus cajan) as possible alternative sources of protein.

This project is seeking ways to add value to locally available legumes and involves exposing the legumes to high temperatures and pressure over short periods—known as extrusion cooking—to destroy the anti-nutritional factors present in the seed. The process of extrusion lowers the anti-nutritional factors to tolerable levels, enabling the animals to have easy access to the nutrients. Hopefully, the product will be as good as soybean and producers can start processing locally available alternatives. "One benefit of this project is that demand for the alternatives will increase and farmers can grow more, giving them additional income," says Adeleye.

Adeleye hopes that the results of her studies will encourage the use of these products and that this will trickle down to smallholders. She expects the AWARD Fellowship to help her achieve her goal of excelling in teaching and research. "Through teaching and research, I hope to positively influence students at both the undergraduate and post-graduate levels to ensure that those I teach remain in agriculture," she states.

She hopes her interactions with students and colleagues will improve based on the skills she gains from the fellowship. "I hope to lead by example, honing my mentoring skills and using my achievements to show female students that they too can attain their goals," Adeleye says.

Inspired by her mentor who was the only female lecturer in her department for a long time, Adeleye wants to show that it is possible for a woman to achieve a work-life balance so that more women will join the department. "I want to be a productive lecturer and researcher and at the same time, a good wife and mother," she says.

AWARD is a career-development program that equips top women agricultural scientists across sub-Saharan Africa to accelerate agricultural gains by strengthening their research and leadership skills through tailored fellowships. AWARD is a catalyst for innovations with high potential to contribute to the prosperity and well-being of African smallholder farmers, most of whom are women.

AWARD is generously supported by the Bill & Melinda Gates Foundation, the United States Agency for International Development and the Alliance for a Green Revolution in Africa. For more information, visit www.awardfellowships.org