



2010 AWARD Fellow
Mary Obodai

Position:	Senior research scientist
Institution:	Council for Scientific and Industrial Research Food Research Institute (CSIR-FRI)
Country:	Ghana
PhD:	Food Science, University of Nottingham, 2006
Mentored by:	Dr. Wisdom Kofi Amoa-Awua Chief research scientist, CSIR-FRI

Research area: Molecular characterization of micro-organisms involved in the fermentation of African foods, and evaluation of agricultural waste for mushroom production.

Science has always been a passion, says Mary Obodai, who wants to help people attain better health and nutrition. Growing up in Ghana, Togo, and the U.K., she graduated with a BSc in Mycology and Plant Pathology from the University of Ghana, Legon in 1986. Her MPhil studies introduced her to oyster mushroom cultivation, which was also the main topic of her research at the CSIR-FRI, which she pursued for 10 years.

“For my PhD studies at Nottingham University, I studied the molecular characterization of bacteria responsible for the fermentation processes that create our African delicacies, such as *nyarmie* (a yoghurt-type dairy product) with the aim of establishing starter cultures for the product, but in recent times I’ve been working on mushrooms,” she explains. More than 3,000 farmers have been trained in mushroom production, about 30 percent of whom are still active mushroom growers. Farmers sell the mushrooms fresh or dry. Some also process the fungi into powder for the local delicacy *shito* (a hot pepper sauce), for the thickening of soups and stews, and also as an additive to weaning foods, which fetch very high prices.

Farmers fill bags with one kilogram of substrate and inoculate with the mushroom spawn (seeds), Obodai explains, which yields about 200 grams of fresh mushrooms. Agricultural waste, such as sawdust, rice straw, maize stover, cassava peels, plantain leaves, among others, is being tested as a replacement for substrate mixtures. “Seeing this waste—which otherwise is left to rot by the roadsides and landscapes or burnt to dispose of it—being turned into cash income, particularly for resource-poor women, provides me with great satisfaction,” she says.

Obodai also studies mushroom varieties for high-yielding strains. Cultivation of the termite mushroom, which is cherished as a delicacy in many African countries, as well as in Asia, is another one of her research projects and, if successful, would yield high returns for farmers. “My institute runs training programs twice

a year on mushroom production, and most participants are women farmers, retirees, and housewives, among others. Mushroom production is an easy way to supplement household income without requiring much land, and it provides nutritious food for the family," says Obodai. Despite the relatively steep cost of US\$200 for the five-day course, interest is high.

AWARD has already increased her self-confidence, Obodai reports, but she sees a need to improve her networking and leadership skills. She also looks forward to learning how to successfully write grant proposals, which is a requirement for climbing the career ladder. Eventually, she wants to see Africans produce mushroom nutraceuticals and cosmetics, which are already available in China and the United States.

Obodai is one of 180 African woman scientists who have won an AWARD Fellowship. AWARD is a professional development program that strengthens the research and leadership skills of African women in agricultural science, empowering them to contribute more effectively to poverty alleviation and food security in sub-Saharan Africa. For more information, please visit www.awardfellowships.org
