



2014 AWARD Fellow
Hannah Wangari Karuri

Position	Lecturer
Institution	Embu University College
Country	Kenya
PhD	Crop Science, University of Nairobi, 2012
Mentor	Dr. Eusebius Juma Mukhwana, Lecturer, Embu University College
Research Area	Identification of nematode-resistant sweet-potato varieties using molecular markers.

Hannah Wangari Karuri carried her love of high school biology to university, where she studied botany, zoology, and chemistry. By her fourth year, she had developed an interest in genetically modified (GM) plants, and enrolled for MSc studies immediately after graduation. She floated her research idea with a departmental lecturer, who was the principal investigator of the BIO-EARN project based at the Kenya Agricultural Research Institute, and he agreed to incorporate her in the project.

During her MSc research, Karuri identified 38 virus-resistant sweet potato varieties that could increase farmers' yields dramatically. "When I see that my work has the potential to have a large impact on many people, I am encouraged to continue with research," she says.

Karuri's doctoral research involved an assessment of the use of GM cotton—known as Bt cotton—on soil nematodes to determine if the Bt gene affects any soil microorganisms. Nematodes are used in the assessment because they are an indicator organism in soil, as they are sensitive to any disturbances. Karuri is the first Kenyan woman to study the impact of Bt cotton on soil nematodes. Currently, there are no commercialized GM crops in Kenya. The National Biosafety Authority requires that all crops be tested before they can be introduced to Kenya. All GM crops must undergo an environmental risk assessment. Karuri's results will be used to determine whether Bt cotton should be commercialized in Kenya.

"At PhD level, I realized that there was more to my work and started thinking about how I could help the community, especially women," says Karuri, now a lecturer at Embu University College. She wrote a concept note that would enable her to work directly with smallholder farmers. The proposed project involves identifying farmer-preferred



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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.

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sweet potato varieties—identified by the International Potato Center (CIP)—that are resistant to root-knot nematodes. These nematodes reduce yields and cause cracks in the sweet potato, reducing the quality of the crop. After selecting the resistant varieties, the project will disseminate them to farmers and assess their suitability in various agro-ecological zones.

"I hope our proposal is successful because sweet potatoes are mainly grown by women, and I want to help improve their lot," she says. "We must convince farmers that the resistant varieties are better because they have higher yields and are of good quality."

Success stories about other women inspire Karuri to work harder to achieve her goals. Her vision is to become a leading crop scientist and mentor to young female researchers. "By 2019, I want to be a professor so I can have more impact, as the position opens up more avenues," she says.

As an AWARD Fellow, Karuri believes that the program will expose her to more networks, improve her science skills (especially in molecular work and writing scientific papers), and help her figure out how to move laboratory-based work to activities on the ground.

"I plan to hold seminars for my colleagues to share whatever I learn from this fellowship," Karuri says. "I believe that even those who have not had the chance to be AWARD Fellows will gain something from the program."