AWARD
African Women in Agricultural Research and Development

Profile

2013 AWARD Fellow
Lucy Kananu Murungi

Position	Lecturer
Institution	Department of Horticulture, Faculty of Agriculture Jomo Kenyatta University of Agriculture and Technology (JKUAT), Kenya
Country	Kenya
PhD	Horticulture, JKUAT, 2010
Mentor	Professor Baldwyn Torto, Principal Scientist and Head Behavioural and Chemical Ecology Department International Centre of Insect Physiology and Ecology, Kenya

Research area: Holistic management of herbivorous pests by focusing on semiochemicals in plant-pest interactions to reduce crop losses threatening the livelihoods of resource-poor farmers

Lucy Kananu Murungi got hooked on insects after her second-year university entomology lecturer introduced students to pheromones, the chemicals that insects use to communicate, prompting her to conduct a research attachment at ICIPE in Nairobi, Kenya.

Since then, "bugs" have dominated Murungi's professional life for more than a decade. She is currently working on two exciting research projects: the first one involves establishing the phytochemicals that make the red spider mite (*Tetranychus evansi)* avoid the leaves of the hairy African nightshade species (*Solanum sarrachoides*), and determining how to package the biologically active compounds as environmentally safe biopesticides. In the second project, she is developing simple platform technologies that resource-poor households can use to prevent nematodes (microscopic parasites in soil) from attacking their indigenous and exotic vegetables.

"The efficacy of essential oils extracted from the leaves of the hairy African nightshade compares with that of neem oil, which is sold commercially as a pest-control product," Murungi reports. "Farmers could eventually grow this nightshade species commercially for biopesticide production."

With a research grant from the International Foundation for Science, Murungi and her MSc student are working on identifying the compounds that attract spider mites to the other varieties of African nightshade. Surprising to Murungi, nematode infestation in nightshade plants is an even more pressing problem for farmers than red spider mites. This prompted her to include research on the compounds that attract nematodes, in addition to red spider mites.

Murungi has been awarded a 2-year postdoctoral research fellowship by the Department for International Development through a grant to ICIPE to explore semiochemicals associated with nematodes in selected indigenous and exotic vegetables. Her fellowship begins in September 2013. She is also collaborating with ICIPE and farmer stakeholders to identify farmers' specific problems with spider mites and nematodes on African nightshade and exotic vegetables, supported by a research grant from the National Council

for Science and Technology, Kenya, and including supervision of another MSc student. Her latest grant collaborates with partners from East Africa and Germany, funded under the Global Food Security: National Research Strategy BioEconomy 2030 program. She will also be involved in a sub-project to develop integrated pest-management strategies for production of important vegetable crops in Kenya, under which she will supervise a PhD student. Murungi is also co-supervising an MSc and a PhD student who are carrying out their research projects on coffee-berry borer and sweet- potato weevil at ICIPE and JKUAT respectively.

As a lecturer, Murungi is in her element, and is passionate about stimulating her students' interest with cutting-edge results. They consistently show their appreciation by giving her high ratings.

Murungi says that it has not been easy to juggle her career and a family with two small children. She defended her MSc thesis two weeks before her first child was born in 2005, and graduated with her PhD when expecting her second child, who was born on the same day as her first, just five years later.

She looks forward to improving her work-life balance and to becoming a role model, and is already actively supporting her university's drive to attract more female students.

Murungi expects that the AWARD Fellowship will help her develop enhanced fundraising and leadership skills. She admires former AWARD Fellows, many of whom are professors who have a positive impact on society. Her goal is to also influence policy, and she is looking forward to being more professionally visible. "I am a member of many committees and coordinate a number of activities at JKUAT, but I am evidently not significantly impactive as a scientist," she states. "I want to focus more on my research and see an impact in the field."

Murungi is one of a growing number of African women agricultural scientists who have won an AWARD Fellowship. 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, the Alliance for a Green Revolution in Africa, and Agropolis Fondation. For more information, visit www.awardfellowships.org