



**2013 AWARD Fellow**  
**Belinda Akinyi Weya**

<b>Position</b>	Research Technician
<b>Institution</b>	Global Conservation Agricultural Program International Maize and Wheat Improvement Center (CIMMYT)
<b>Country</b>	Kenya
<b>BSc</b>	Agriculture, University of Nairobi, 2004
<b>Mentor</b>	Dr. Nancy Karanja, Senior Lecturer, University of Nairobi

*Research area: Determining the effect of seed priming on growth and yield of common bean and lablab across a soil degradation gradient in Nandi South district, Kenya.*

Belinda Akinyi Weya, a research technician, works with a range of farmers from different cultures, age groups, and organizations as she conducts field trials relating to conservation agriculture.

“The trials are simple,” she says. “We lay out half the plot using conventional tillage methods, and the other half using conservation agriculture, which means no tillage, in order to boost soil fertility and reduce soil erosion.” Feedback has been positive, with farmers expressing excitement about the conservation techniques.

Another component of Weya’s research is determining the effect of seed priming on the growth and yield of common bean and lablab across a soil degradation area in Kenya’s Nandi South district. “The common bean is the primary source of dietary protein in the country,” she notes. “It is also a source of income for small-scale farmers, particularly women. Given that the common bean is a poor nitrogen fixer, lablab, a multipurpose legume, can be introduced during the short rainy season to enhance soil fertility and increase the long rainy season maize yields.” In addition to providing food and fodder, lablab provides an effective ground cover to suppress weed growth and minimize soil erosion by reducing the impact and runoff from rainfall.

Seed priming is a low-cost technology that can be used to provide a macronutrient starter dose, while alleviating micronutrient deficiency, reducing moisture stress, enhancing crop establishment and plant vigor, and consequently increasing legume yields. “Most rural households in Kenya are not self-sufficient in crop production due to low soil fertility,” she says. “This is caused by continuous cereal cropping, the fact that farmers can’t afford inorganic fertilizers, and the use of poor-quality organic residues.”

Weya says that including high nitrogen-fixing legumes in crop rotation and incorporating their residues in soil is a good way to enhance soil fertility. “The potential use of grain legumes to increase soil fertility is hampered by phosphorous deficiency, micronutrient deficiency, and moisture stress,” she explains. “Intensifying the production of grain legumes will increase yields, enhance food security, improve

nutritional status, provide high-quality fodder, and raise incomes through the sale of grains to local and urban markets. It will also improve soil fertility through biological nitrogen fixation, thus cutting down on the cost of nitrogenous fertilizer.”

In her previous work as an agriculture extension officer, Weya implemented crop development programs in Kenya’s Masaba North district, participated in the monitoring and evaluation (M&E) of agricultural projects and programs, assessed food requirements, deficits, and postharvest losses, and established production trends. Her work with a Ministry of Agriculture project included promoting compliance to standards of crop production and collaborating with stakeholders on the availability and quality of farm inputs.

In her work, Weya enjoys understanding situations on the ground. “It’s so rewarding to see the impact of my research and to understand the needs and constraints of farmer groups,” she says. “However, most of the farmers I work with are well along in years, and I’m concerned that there aren’t a lot of young people coming into farming as a career. To retain youth in agriculture, farming has to be profitable.”

Weya would like to see children more directly involved in agricultural education. “I would like to engage young people in passing along information to farmers,” she says. “Most adults will make their way to a school if a demonstration plot is there, and kids can explain how to do such things as rotate crops. I really want to invest in our future farmers.”

Weya plans to start a PhD in Integrated Soil Fertility within two years of completing her current master’s program in Soil Science at Egerton University. She expects the AWARD Fellowship to enhance her networking capacity and provide contacts with researchers and extension service providers in her field of study. “The leadership skills I will develop will empower me to be a more effective M&E officer. And in particular, working closely with a mentor will sharpen my vision to be among the leading soil scientists in Kenya,” says Weya, who credits the changes she saw in two AWARD Alumnae she works with as having sparked her interest in applying for the fellowship.

Weya also looks forward to enhancing her science writing and presentation skills through AWARD’s training courses. “I expect to do better with writing and defending my MSc and PhD theses, presenting at science conferences, and writing articles for publication in peer-reviewed journals in order to contribute to the agricultural body of knowledge,” she says. “I also want to give motivational talks to encourage young girls to take up careers in agriculture.”

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*Weya 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.*

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