



2011 AWARD Fellow  
**Racheal Aye**

<b>Position</b>	Teaching assistant
<b>Institution</b>	Gulu University
<b>Country</b>	Uganda
<b>MSc</b>	Food Safety, North Dakota State University, 2010
<b>Mentor</b>	Dr. Morris Agaba, Associate professor, School of Life Sciences and Bioengineering Nelson Mandela Institute of Research and Technology

*Research area: Identifying and characterizing molecules involved in the interaction between Mycoplasma mycoides subsp. Mycoides, the cause of contagious bovine pleuropneumonia (CBPP), and target bovine cells.*

Racheal Aye is a young woman who is eager to make a difference in the lives of smallholder farmers in Uganda by eliminating their livestock losses. As the lastborn of six children, Aye grew up in a family that modeled compassion and generosity. Her father, a retired Anglican bishop, along with her mother, a homemaker, routinely took in children from less fortunate families.

Aye knew early on that she wanted to pursue a career in the sciences. After completing a bachelor's degree in veterinary sciences, she went on to take a master's degree in food safety at North Dakota State University. "I thought about medical school, but decided instead to go into veterinary medicine, even though in Uganda this is not considered a prestigious career," she says.

Her current research focuses on identifying the molecule that causes a severe respiratory disease in cattle. "CBPP is a devastating disease, and it needs to be eradicated. It's highly transmissible and affects 90 percent of a herd, causing major losses in the cattle industry," she says.

CBPP has great socio-economic consequences, reducing productivity, hindering international trade in animal and animal products, and leading to an estimated loss of about US\$2 billion annually. "Most rural families in Africa depend on cattle for their income," she explains. Although this disease only exists in Africa right now, it is expected to spread across borders. "The disease is endemic and is the only transmissible bacterial animal disease that must be reported to the World Organisation for Animal Health."

Aye says measures to prevent CBPP in Europe have involved quarantine, but this won't work in Africa. "Because farmers here are pastoralists, quarantine is not an option. When the disease is found, the cows have to be slaughtered." This is what drives Aye to look for the molecules that cause the disease, with a view to developing a vaccine.

The passionate young scientist speaks enthusiastically about her research. "What if I can find the molecule breakthrough?" she muses. Her immediate goal is to finish her doctorate, and she hopes to publish her work

and eventually have a patent. "In Europe, vaccines cost \$10—I want to find cheaper, but more effective treatments that Africans can afford."

Aye is currently working in Kenya, but plans to return to Uganda in the not too distant future. Her hope is to start in her village and create some income-generating activities around livestock. "I want to help farmers come up with their own ideas of how to improve their livelihoods through cooperative measures. I don't want to impose my ideas," she stresses. Aye also intends to set up a modern research lab in her home country to continue her research.

She is delighted to be an AWARD Fellow and says she has already become more focused. "At the Mentoring Orientation Workshop in Nairobi, I realized the importance of creating a career plan. Previously, I would wait to see what my next step would be, but I now know where I am heading as I set goals," she says.

Aye is also excited to work with her AWARD Mentor, also a veterinarian, whom she says has already given her helpful career advice. While Aye was one of only two women in a class of 46 during her undergraduate degree, and is still vastly outnumbered by men in her workplace, she has decided to concentrate on opportunities rather than challenges. "To see what I have accomplished and how far I have come gives me tremendous joy," she concludes.

*Aye is one of a growing number of African women agricultural 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. AWARD is generously supported by the Bill & Melinda Gates Foundation and the United States Agency for International Development. For more information, visit [www.awardfellowships.org](http://www.awardfellowships.org)*

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