

Jeff Ehlers Recognized for Research Achievements on Grain Legumes

Dr. Jeffrey Ehlers, program officer with the Bill and Melinda Gates Foundation, received the Legume Innovation Lab's *TMAC Award for Meritorious Achievement* on May 15, 2014, during the Legume Innovation Lab's bi-annual meeting in Athens, Greece. The award was presented to Ehlers by Drs. Julia Kornegay, chair of TMAC, and Barry Pittendrigh, a Legume Innovation Lab PI at the University of Illinois, Urbana–Champaign.



Jeffrey Ehlers being presented with the Legume Innovation Lab's Meritorious Achievement Award by Barry Pittendrigh at the Global Meeting in Athens, Greece, on May 15, 2014

“The prestige of this award lies in its peer recognition by international grain legume scientists who serve on the Technical Management Advisory Committee (TMAC) to the Legume Innovation Lab,” said Irvin Widders, director of the Legume Innovation Lab.

Ehlers, a plant breeder and geneticist, focused his research career on the genetic improvement of cowpea, a native African grain legume grown and consumed in more than 45 countries in the world. Cowpeas are especially important as a nutrient-dense staple food of the rural poor in the Sudano–Sahel region of West Africa. Due to crop losses from insect pests, drought stress, and low soil fertility, however, cowpea yields on smallholder farms are commonly only 25 to 40 percent of their genetic potential.

“Cowpea is an important crop for household food and nutritional security in Eastern Africa,” Ehlers said. “Smallholder women farmers grow cowpea for its green leaves and fresh-shelled peas in addition to the dry grain for household food needs. In certain areas, cowpea leaves have an even greater economic value in the local markets than the dry grain.”

Ehlers has worked on cowpea breeding in the public sector for more than 25 years, initially with the International Institute of Tropical Agriculture (1985–1988) and then with the University of California,

Riverside, beginning in 1992. As a Co-PI with Drs. Tony Hall and Phil Roberts, Ehlers was actively involved in Bean/Cowpea and Dry Grain Pulses Collaborative Research Support Projects (CRSPs) with ISRA–Senegal, INERA–Burkina Faso, IRAD–Cameroon, IIA–Angola, SARI–Ghana, and IAR–Nigeria for 20 years (1992 – 2012). He led the cowpea component of the GCP (Generation Challenge Programme) Tropical Legumes I project of the Consultative Group for International Agricultural Research (CGIAR) with partnerships in Mozambique, Senegal, Cameroon, and Burkina Faso from 2007–2012.

Ehlers’s significant scientific achievements in cowpea genetics and breeding, in collaboration with West African and U.S. scientists, include:

- Release of early maturing cowpea varieties in Senegal and Burkina Faso to provide food during the hunger period (*Melakh*, *Yacine*, and *Pakau*);
- Release of large-seeded, black-eye, high yielding cowpea varieties *CB46* and *CB50* in California;
- Identification of drought and heat tolerance genes and the development of screening protocols in cowpea;
- A consensus genetic map of cowpea and synteny based on EST-derived SNPs; and
- Genetic markers for resistance genes to *Macrophomina phaseolina* and *Fusarium oxysporum* in cowpea.

The publication of a dense consensus genetic map for cowpea (*Proceedings of the National Academy of Sciences*, 106:18159–18164, 2009; and *The Plant Genome* 4:1–11, 2011) and the development of a 1536 SNP marker genotyping platform for cowpea provides clear evidence of Ehlers’s scholarship and significant contributions to genetic improvement of cowpea worldwide.

Referred to as *green-fingered* and the *avant gardener* by the GCP of CGIAR, Ehlers “constantly honed the cutting edge of cowpea research as the genomics revolution dawned.”

“Genomics gives the breeder X-ray eyes into the breeding program, bringing new insights and precision previously unavailable,” said Ehlers.

Established in 2012, the Legume Innovation Lab’s *TMAC Award for Meritorious Achievement* recognizes and honors “laudable contributions to research on grain legumes and the development of technologies and policies that benefit smallholder farmers in developing countries.”

