Dr. James Beaver
University of Puerto Rico

Biographical sketch

Dr. James Beaver, University of Puerto Rico, has had a distinguished and extraordinarily productive career as a common bean breeder and geneticist for the lowland tropics of Central America and the Caribbean. His leadership and commitment to collaborative research, institutional capacity strengthening, and the development of a new generation of scientists have contributed to his success as a principal investigator of USAID-funded grain legume research projects in the Bean/Cowpea Collaborative Research Support Program (CRSP) (1982-2006), the Dry Grain Pulses CRSP (2007-2012), and the current Feed the Future Innovation Lab for Collaborative Research on Grain Legumes Program (Legume Innovation Lab) (2012-2017).

During his illustrious career, Dr. Beaver has developed more than 45 high yielding, early maturing, and disease resistant cultivars and germplasms of common bean in diverse market classes that are being grown by smallholder farmers in Central American and the Caribbean. Within Puerto Rico, the small white-seeded cultivars 'Morales' and 'Verano' are grown widely and are examples of Dr. Beaver's contributions to U.S. agriculture.

Through an enduring collaborative partnership with Dr. Juan Carlos Rosas, bean breeder at the Escuela Agricola Panamericana-Zamorano in Honduras, the team of Drs. Beaver and Rosas has elucidated the genetics of disease resistance and the development of SCAR makers for four different genes for bean golden yellow mosaic virus (BGYMV) resistance and a gene that confers resistance to common bacterial blight, two economically important diseases that can cause up to 90 percent losses in bean yield within this tropical region.

Dr. Beaver has also been a principal proponent and visionary scientist in the development and release of cultivars with pyramided viral, fungal, bacterial, and insect resistances within the common bean research community through the integration of genetic studies, conventional breeding approaches, marker assisted selection, and the development of novel screening techniques. These efforts have resulted in the pyramiding of disease resistance to Bean common mosaic virus (BCMV), Bean common mosaic necrosis virus (BCNMV), Bean golden yellow mosaic virus (BGYMV), bacterial blight, and web blight.

During the current Legume Innovation Lab project, the team of Drs. Beaver and Rosas has also incorporated bruchid (grain weevil) resistance in new common bean varieties, enabling household storage of bean grain for food and nutritional security purposes. This is a game-changing technology for smallholder farmers in the tropics of both Latin America and Sub-Saharan Africa, where postharvest losses can undermine successes in increasing bean yields.

Drs. Beaver and Rosas have also provided innovative leadership by developing and promoting local seed multiplication systems in Haiti and Central America to ensure that smallholder farmers have access to quality seed of varieties with improved genetics.

Among his many recognitions, Dr. Beaver has received the Bean Improvement Cooperative's Meritorious Service and Distinguished Achievement Awards, a 2015 Certificate of Recognition from the House of Representatives of the Commonwealth of Puerto Rico for Bean Research Contributions, and the 2007 Arturo Roche Award for Excellence in Research presented by the dean and director of the College of Agricultural Sciences of the University of Puerto Rico. He was also named a fellow of the Crop Science Society of America in 2011.

A major part of Dr. James Beaver's legacy are the over 50 Master's level students that he has mentored who are now successful researchers in universities, national agriculture research organizations, International Agriculture Research Centers and the private sector around the world.