

## Dr. Juan Carlos Rosas

Escuela Agrícola Panamericana- Zamorano, Honduras

### Biographical sketch

**Dr. Juan Carlos Rosas**, head of the bean breeding program at the Escuela Agrícola Panamericana–Zamorano in Honduras, has achieved unparalleled impact on common bean production in Central America and the Caribbean due to his passion for improving the livelihoods of smallholder bean farmers through the introduction of improved cultivars and a commitment to collaboration with the international community of grain legume scientists.



As a Principal Investigator and collaborator with Dr. James Beaver, University of Puerto Rico, in projects under the Bean/Cowpea Collaborative Research Support Program (CRSP) (1984-2006), 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, 2013-2017), the team of Drs. Rosas and Beaver are responsible for the breeding and release of more than 60 cultivars that have significantly increased yield, quality, and stability of common bean production in six countries in Central America (Honduras, El Salvador, Nicaragua, Guatemala, Costa Rica, and Panama) and Haiti. The small red-seeded cultivar ‘Amadeus’, for example, is the most widely grown cultivar in Central America combining disease resistance and heat tolerance with high market acceptability.

Dr. Rosas is specifically recognized for his leadership in and advocacy for participatory plant breeding approaches. As a result, these methods are utilized worldwide by grain legume breeders because of the value of farmer input into trait selection and of improved adoption of farmer–researcher collaborative cultivar selections. The widespread demand in Honduras for the newly released cultivar ‘Parasito Mejorado 2 - Don Rey’, a small red seda seed type with excellent adaptation to the agroecologies of the region, exemplifies the effectiveness of the participatory breeding approach.

Through the enduring collaboration with Dr. Beaver in CRSP and Legume Innovation Lab projects, the team has achieved significant advances in the improvement of virus resistance and the pyramiding of disease resistance, including the *Bean common mosaic virus* (BCMV), *Bean common mosaic necrosis virus* (BCNMV), *Bean golden yellow mosaic virus* (BGYMV), anthracnose, rust, and angular leaf spot within common bean. Since BGYMV and BCMV can cause more than 90 percent yield losses in common bean in the region, improved cultivars planted with virus resistances are game changers for smallholder farmers and contribute directly to improved incomes and household food security.

Additional research achievements by Drs. Rosas and Beaver include genetic improvements in heat and drought tolerance in common bean, traits that enhance resilience to drought and enable bean

production in marginal environments of Central America and Sub-Saharan Africa. Dr. Rosas's scholarship through scientific publications is recognized internationally.

At EAP-Zamorano, Dr. Rosas is known for his unwavering commitment to teaching. More than 30 students from Latin America that he has mentored have gone on to complete graduate degrees in the U.S. and Europe, with many now working as plant breeders.

Noteworthy awards received by Dr. Juan Carlos Rosas include the Bean/Cowpea and Dry Grain Pulses CRSP Award for Meritorious Achievement, the Bean Improvement Cooperative's Meritorious and Distinguished Achievement Award, and the Gamma Sigma Delta Honor Society of Agriculture Distinguished Achievement in Agriculture. In 2016, he received the distinction of having a teaching auditorium named for him at the Escuela Agrícola Panamericana with the apt dedication on the plaque stating, "In recognition of his exemplary and motivating work as a teacher and researcher, for his invaluable dedication to Zamorano University, and for his contributions to the welfare of the people of the Americas."