

Genebank Staff Accomplishment Highlight

December, 2017

Dr. Alfonso del Rio



This year we celebrate Alfonso del Rio's **25th year** as a colleague in the US Potato Genebank project.

Alfonso, a native of Lima, Peru, originated USPG's DNA marker lab in 1992, and has led our studies of the status and dynamics of diversity in the genebank ever since, publishing 40 peer reviewed papers and 5 invited book chapters¹.

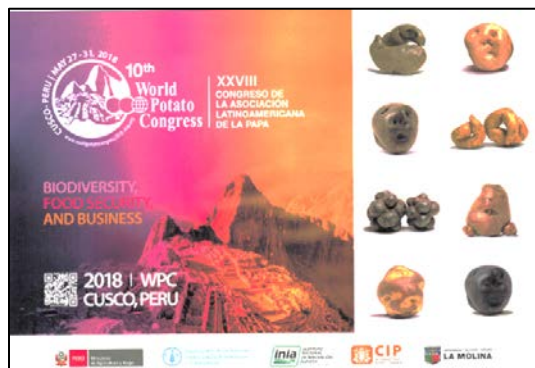
Another of Alfonso's important contributions has been as the essential facilitator for our projects in Peru. These include networking CIP, INIA, university, and NGO partners. He was instrumental in the creation of CITE-papa, a new national center of innovation for potato. He coordinated field trials of frost hardy populations bred by USPG in Wisconsin, resulting in selection of two new named cultivars scheduled for release in Peru in November 2018. With Dr. Palta and CIP



colleagues, Alfonso facilitated evaluation,

identification, and SNP genotyping of Peruvian cultivars that respond to calcium fertilizer with much better yield and quality. He has been invited to be on the planning committee of the multi-meeting of potato associations in Cusco, in May 2018. He led development of a successful international grant in cooperation

with the University of Cusco to create frost tolerant potatoes for the Andes and the Altiplano region of Peru. This is sponsored by the Peru's National Council of Science and Technology. It is a two-year grant and the funds allocated will be about US \$ 93,500.



Alfonso has participated in 14 of the 26 annual potato germplasm collecting trips USPG staff have made to the southwest USA. This effort captured new germplasm that proved to have valuable new traits, like anti-cancer components², floral mutants, tubers with

extremely long dormancy and even tolerance to freezing. This work has also provided evidence for the very earliest cultivation of potato in North America³, and made possible the study of the connection between germplasm diversity in the wild and in the genebank⁴.



Alfonso has attended 22 annual meetings of the Potato Association of America, usually presenting his work to the hundreds of potato research colleagues who attend.

Please join us in congratulating Alfonso for his many years of productive service to the US Potato Genebank and UW Horticulture as an Academic Staff Senior Scientist.

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- ¹ Bamberg, JB, del Rio, A, Jansky, S, and Ellis, D. 2018. Ensuring the genetic diversity of potatoes. In: Achieving sustainable cultivation of potatoes Vol.1 (Ed. Prof. Gefu Wang-Pruski). *In Press*.
- ² Nzaramba, M. Ndambe, Lavanya Reddivari, John Bamberg, and J. Creighton Miller, Jr. 2009. Antiproliferative activity and cytotoxicity of *Solanum jamesii* tuber extracts on human colon and prostate cancer cells in vitro. *Journal of Agricultural and Food Chemistry* 57:8308-8315.
- ³ https://www.ars-grin.gov/nr6/news_press.html. The Four Corners Potato - Conserving an ancient food from Escalante, Utah - Lisbeth Louderback
- ⁴ Bamberg, JB, AH del Rio, D Kinder, L Louderback, B Pavlik, and CJ Fernandez. 2016. Core Collections of potato (*Solanum*) species native to the USA. *American Journal of Potato Research* 93:564-571.