34. Obtaining new potato varieties with late blight resistance and adaptation to climate change, using participatory varietal selection

Noemi Zuñiga[1], Manuel Gastelo[2] and Carolina Bastos[2]

1 *Instituto Nacional de Innovación Agraria (INIA), Huancayo, Peru*
2 *International Potato Center (CIP), Lima, Peru*

Corresponding author: Noemi Zuñiga, zunigaluz@yahoo.com

The potato crop in Peru is the main source of income and food in high Andean areas. To achieve the adoption and dissemination of new varieties, it is necessary to apply special methodologies such as participative varietal selection, which involves value chain actors taking into account gender equity, in order to prioritize the selection criteria. One way to deal with the adverse factors of climate change is to promote varieties that are genetically resistant to late blight, tolerant to frost, drought, heat, etc. This was the objective of this study. From 2016 to 2017, three potato advanced clones and two variety controls were evaluated in 8 field trials, located in Huánuco, Junín and Huancavelica, using Randomized Complete Blocks with three replications. The best selection criteria at flowering were: resistance to late blight, abundant foliage and tolerance to drought; and at harvest were: high yield, uniform tuber size and health. At flowering, clones CIP396034.268 and CIP393079.4 were selected. With regards to gender, male participants selected the clone CIP387096.2, while women selected the Canchan control variety.

At harvest time, participants selected clones CIP396034.268, CIP393079.4 and CIP387096.2, in first, second and third place respectively. Both men and women selected the same clones, but in a different order. The control varieties ranked fourth and fifth.

Organoleptic evaluation, considering appearance, flavor and texture selected the Canchan control variety and the clones CIP387096.2 and CIP393079.4. Clone CIP 387096.2, with the name INIA 326 SHULAY, was released as a new Peruvian variety in 2017.

Technical session D:
Potato Pests and Diseases

1. Characterization of physiological races of Phytophthora infestans (Mont.) de Bary in Spain

Nestor Alor[1] and Jose Ignacio Ruiz De Galarreta[1]

1 *Instituto Vasco de Investigación y Desarrollo Agrario (NEIKER), Vitoria, España*

Corresponding author: Jose Ignacio Ruiz De Galarreta, jiruiz@neiker.eus

The oomycete *Phytophthora infestans* is the main pathogen of the potato, which causes great losses in the production of this crop, constituting a threat to food security. A survey was carried out in the main potato-growing areas in Spain, obtaining a total of 52 isolates, to determine the aggressiveness and complexity of *P. infestans.* This was the first monitoring study of this pathogen in Spain. Characterization through the spectrum of virulence with differential cultivars has identified