

Genetic resources in tuber crops for food and nutritional security

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Abstract:

Conservation of genetic resources is fundamental for attainment of food and nutritional security. Food and nutrition security exist when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Tuber crops play important role in food and nutritional security in India particularly tribal areas in Odisha, Chhattisgarh and Jharkhand. At Present 1242 germplasm accessions were conserved in different tuber crops at ICAR-CTCRI, Regional Centre. The use of these genetic resources and of desired traits selected from this resource, improve food and nutritional security. Remarkable examples include sweet potato varieties Bhu Sona with increased pro-vitamin A and Bhu Krishna with high anthocyanin content, a variety of taro with leaf blight tolerance, Orissa elite in yam with high yield and yield stability and good taste. Eighteen varieties of different tuber crops were developed from ICAR-CTCRI, Regional Centre, for different agro climatic region of Odisha and other parts of India. 400 cultures of released, pre released and exotic lines includes 10 varieties in Cassava, 11 varieties in sweet potato, 5 varieties in taro, 4 varieties in yam, 2 varieties in EFY and 4 varieties in Chinese potato were maintained in vitro at Regional Centre, ICAR-CTCRI. Both ex situ and on-farm conservation strategies are required to have genetic insurance against biological disasters or natural calamities to contribute to food security and sustainable development.