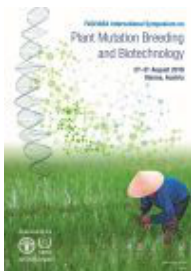


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CHILEAN FIRST STEPS IN PLANT MUTATION BREEDING

Due to its large geographic coverage and diverse climatic regions, Chile has a large variety of plant species. As a consequence of natural processes and human activities, climate change, wildfires and a decrease of cultivable lands, many crop variants run the risk of extinction. Furthermore, Chile needs to improve the quality and productivity of its crops. In this context, induced mutagenesis represents a valuable tool to the development of improved vegetable crops. From 2005, the Chilean Nuclear Energy Commission (CCHEN) in collaboration with other national research institution teams, through private and public funds proposed projects aligned with local strategies to obtain desired plant varieties by applying gamma radiation induced mutagenesis. As an example, radiosensitivity studies and radiation induced mutagenesis experiments were conducted on citrus twigs for developing specific characteristic such as seedless fruits. In 2006 new approaches using this powerful technique promoted the production of new commercial orchid varieties adapted to cold climatic conditions. In 2008, various biotechnology techniques were added to obtain the first Chilean ornamental and fruit variety. Since 2012, CCHEN has been involved in IAEA activities related with sustainable agricultural development and plant mutation breeding topics, participating in regional projects as RLA/5/063 and RLA/5/068 focused on the generation of local relevant crops varieties tolerant and resistant to abiotic stress. These projects have strengthened CCHEN's capabilities and are part of the institution and national strategic plan.

Country or International Organization

Chile

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