

How nuclear science and technology are used to address food security and protect our environment under a changing climate

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Abstract:

Climate change is a major threat to global food security. Changes in weather patterns, with increasing severity of storms, floods, droughts and extreme temperatures, impact sustainable agricultural production. These increasingly amplify soil erosion, land degradation and crop failures worldwide. Agriculture can further accelerate climate change due to the greenhouse gas it emits. The need to sustain agricultural production in these challenging conditions has never been greater. Consequently, there is an increasing demand from countries for technical assistance and training in developing soil and water management packages for climate-smart agriculture.

The Soil and Water Management & Crop Nutrition Subprogramme of the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture assists countries in the development and transfer of isotopic and nuclear technologies to improve the resilience of farming communities to climate change by optimizing soil, water and nutrient management practices. These efforts are supported by a new generation of robust and affordable isotope and nuclear techniques that can be used in situ at plot (on-farm) or area-wide level.

During the online keynote, examples will be shown demonstrating the use of these isotope and nuclear techniques, and how they can be used to address food security and protect our environment under a changing climate.

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