

Ragi varieties grown by tribal farmers in Koraput show drought tolerance: Study

Hemanta Pradhan
@timesgroup.com

Bhubaneswar: Researchers from Central University of Odisha (CUO) in Sunabeda and MS Swaminathan Research Foundation (MSSRF), Chennai, have identified some stress-resistant finger millets (ragi) cultivated by tribal farmers of Koraput district that showed superior drought tolerance capacity.

The stress-resistant ragi varieties might become reliable food security crops for tribal people during climate change, the researchers said in their study published on Friday in *Plant Physiology Report*, a peer-reviewed SpringerLink journal.

The researchers identified six finger millet varieties — ladu, lala, bati, biri, tumuka and bhalu — which showed superior drought tolerance capacity compared to improved varieties like Bhairabi, Chilika and Arjuna developed by Odisha University of Agriculture and Technology, Bhubaneswar, and GPU 28



Koraput region has been announced as a global agricultural heritage site by Food and Agriculture Organization of the UN

developed by Gandhi Krishi Vigyan Kendra, Bengaluru.

These varieties require less water and maintain better photosynthesis and growth under water deficit conditions. Genetic analysis and DNA profiling of these genotypes confirmed the presence of one or more drought tolerant genes which can be used for breeding programmes for the development of new varieties, said the study report.

The study was conducted by Debabrata Panda, assistant professor in department of biodiversity and con-

servation of natural resources, CUO, with the help of MSSRF scientist Kartik Charan Lenka. Aloukika Panda and Barsarani Bhoi of CUO were also part of the study.

Panda suggested these climate-resilient finger millets are suited for cultivation in drought-prone areas and should be popularised for mass cultivation and consumption by the Odisha Millet Mission. “Climate change is accelerating drought situation in different places of the world. In view of this, drought-resistant varieties of millets like ragi will address the issue of

food security in future,” he added.

He said these vital genetic resources are being gradually depleted due to modern agricultural practices and green revolution. “It is high time that we take necessary steps to conserve these valuable landraces (cultivated, genetically heterogeneous variety) of ragi in their natural habitat. These superior native ragi varieties should be popularised for climate-resilience breeding programmes for the development of new varieties to address food security,” he added.

The United Nations has declared 2023 as the International Year of Millets while the state government launched a special programme for promotion of millets in tribal areas in 2017. The Odisha Millet Mission motivated farmers of Koraput to grow the crop.

Koraput is predominantly inhabited by primitive tribes like Paroja, Bhunia, Gadaba, Bhatra, Durua and Kandha.

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