

The Wave Andaman

The Voice of Andaman and Nicobar Islands

ICAR-CIARI Secures National Germplasm Registration for Rare Endemic Andaman Kokum



Sri Vijaya Puram, July 9: A rare fruit species found only in South Andaman has received national germplasm registration after years of scientific research, marking a significant step in the conservation and future cultivation of one of India's most restricted endemic plant species.

Researchers at ICAR-Central Island Agricultural Research Institute (CIARI), Sri Vijaya Puram, have secured the registration of a unique germplasm of Andaman Kokum, botanically known as *Garcinia dhanikhariensis*, with the ICAR-National Bureau of Plant Genetic Resources (NBPGR), New Delhi. The registered germplasm has been assigned the unique identity INGR26027.

Andaman Kokum is a micro-endemic species that occurs only in South Andaman Island. At the time of its discovery in 1993, only a single individual plant of the species had been reported. Recognising the need for its conservation and scientific evaluation, ICAR-CIARI initiated systematic research on the species in 2015 to develop conservation strategies and assess its potential for use in the food, pharmaceutical and allied industries.

As part of the conservation programme, researchers developed regeneration protocols that enabled the production of more than 2,000 seedlings at the institute's Horticultural Plants Propagation Unit. These seedlings helped generate genetic variability and were also used for habitat enrichment programmes at different locations across the Islands and for creating public awareness about the species.

Phytochemical profiling carried out using advanced chromatographic techniques identified the presence of industrially important and pharmaceutically active compounds, including hydroxycitric acid, anthocyanins, fatty acids and phenolic compounds. Based on these findings, the researchers recommended the species as a potential fruit crop for the Islands and named it "Andaman Kokum" to provide it with a national identity.

Since the species is dioecious, seedlings can develop into either male or female plants, with sex becoming identifiable only after flowering several years later. To overcome this challenge and support cultivation, ICAR-CIARI standardised a grafting technique capable of producing fruit-bearing plants for farmers.

Extensive field surveys conducted by the institute led to the identification of additional individual trees in South Andaman, including male plants that had not previously been reported for the species. Selected seedling progenies have been planted in experimental blocks for long-term evaluation.

After continuous evaluation, researchers identified a superior germplasm with consistently larger fruits and a higher percentage of rind, the economically valuable part of the fruit. The findings were published in the peer-reviewed journals *Genetic Resources and Crop Evolution* and the *International Journal of Fruit Science*.

The selected germplasm was subsequently multiplied through grafting and conserved at the National Active Germplasm Site of ICAR-CIARI before being registered with the National Bureau of Plant Genetic Resources. According to the institute, the registered germplasm is expected to support future crop improvement programmes and area expansion initiatives.

The research was carried out by scientists Pooja Bohra and Ajit Arun Waman with financial support from the Indian Council of Agricultural Research. Director (A) of ICAR-CIARI Jai Sunder welcomed the achievement, describing it as an important milestone in conserving the Islands' unique plant diversity.