October 31, 2007

''Nishina Zao,' a yellow sakura cherry tree born in the RIBF

Researchers at the RIKEN Nishina Center for Accelerator-Based Science, collaborating with the Japan Flower Culture (JFC) Ishii Farm, have for the first time created a new variety of sakura cherry tree using heavy-ion beams. The new strain is a tree with pale yellow flowers that has been named 'Nishina Zao'. Using the RIKEN Ring Cyclotron (RRC) at the RI Beam Factory (RIBF) in the Nishina Center, the group, led by Tomoko Abe, induced mutations at a high rate compared with conventional breeding techniques that use gamma rays, X-rays, or chemicals.

The high energy and penetrating power of the RRC's heavy-ion beams yielded a high mutation rate. The number of genes damaged by the radiation is much lower, and the mutations stabilize much more quickly. The RIKEN group took cuttings from Gyoikou cherry trees from Zao in Yamagata Prefecture, which have a mixture of yellow and green blossoms. They irradiated the cuttings with heavy-ion beams from the RRC, and the resulting plants were taken back to Zao to be grown, where they blossomed in the spring.

RIKEN, jointly with JFC Ishii Farm, registered the Nishina Zao with the Ministry of Agriculture, Forestry and Fisheries as a new variety of sakura on October 16, 2007.

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