

Spain: Courgette genome sequencing completed after ten years of research

The sequencing of the courgette genome, a project that has taken ten years of research, will make it possible to obtain new varieties with better properties and more resistant to pests, diseases and adverse weather conditions, such as drought and extreme temperatures.

Researchers from the Bioinformatics and Genomics Group and from the Cucurbitaceae Genetic Improvement Group of the Valencian Institute for the Preservation and Improvement of the Valencian Agrodiversity (COMAV), from the Universitat Politècnica de València (UPV), have managed to sequence the courgette genome for the first time, according to reports from the UPV.

The work began ten years ago with studies on the cultivation and improvement of courgettes, followed by the sequencing of the first transcriptomes (collections of genes that are expressed in the crop), the construction of the first genetic maps and the identification of regions that contain genes that control characteristics of interest.

According to the head of the Group of Genetic Improvement of Cucurbitaceae of the COMAV, Belén Picó, the activities began in the framework of two research projects funded by the National Institute of Agricultural and Food Research and Technology (INIA) and have now culminated with the sequencing of this vegetable's genome, which has been published in the Plant Biotechnology Journal.

This work developed by Spanish researchers will prove to be a "hugely useful" tool, since it facilitates the identification of the genes involved in the resistance to pathogens and other characters of interest, such as stress or organoleptic characteristics. It also makes it possible to compare the genome of this species with those of melons, cucumbers, watermelons and pumpkins (very important for rootstocks), which will facilitate the transfer of knowledge between these crops, according to the head of the Group of Bioinformatics and Genomics of COMAV, Joaquín Cañizares.

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