A Mexican researcher has developed a bioprocess for the production of plant hormones that lead to larger and juicier fruits, which is said to be 60% cheaper than current methods.

The project was developed by biotechnician Eleazar Máximo Escamilla Silva at the Celaya Technological Institute (ITC), and involves the producing plant hormones called gibberellins.

One of the hormones, gibberellic acid, helps fruit increase their size and antioxidant activity, while also making them more juicy.

The innovation involves the production of gibberellin crystals from the fermentation process of the Gibberella fujikuroi fungus, which grows and develops within a culture and secretes phytohormones in a liquid form.

The fungus is later removed and the liquid containing the gibberellin is separated and converted into crystals, which are then diluted in water and applied to the crops. The production process takes about 20 days.

Grapes that receive the hormone treatment (left) grow larger and juicier

The new bioprocess is said to show great effectiveness in crops like strawberries, lemons and grapes, where larger, colorful and stronger fruits are grown.

According to a release, the beer brewing industry has managed to reduce the number of days needed to prepare malt from seven to three with the use of gibberellins, while the hormone has also been used to increase the thickness and height of sugarcane.

Escamilla Silva said the gibberellins used in Mexico were imported from China, the U.K. and the U.K. at a price of US$70 per gram, while the bioprocess of the ITC, currently under production, will cost only US$20 per gram.

The project, which has been under development for more than 13 years, is in the process of patent registration in Mexico with support from the National Council for Science and Technology (CONACYT) and the National Technological Institute of Mexico.

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