

Innovative technology to keep mangoes in excellent condition

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Addressing the needs of a company that sells mango as raw material for processing as puree, nectar or juice, researchers at the University of

Guanajuato (UGTO), in the center of Mexico, designed a prototype pasteurization machine and a procedures manual to keep products in excellent condition after harvest.

Thanks to the Innovation Research Program of High Added Value (Innovapyme) of the National Council of Science and Technology (Conacyt), [mango](#) products were studied for a year to learn how to keep them in optimal condition, explains Maria Del Rosario Abraham Juarez, from the Department of Food Division of the Life Sciences Campus of the University of Guanajuato.

"The [company](#) needed to know the quality characteristics of mango [pulp](#) for exportation. At the UGTO we performed two parts of the project: we delivered and trained people with a user's postharvest manual for handling raw material of the company, which produces five varieties of the [fruit](#), as well as designing a prototype of a pasteurization machine."

The company sells the fruit as raw material to customers who process the product to make puree, mango nectar or juice. Therefore, the research team designed the pasteurizer, which system preserves food, removing pathogens that could harm consumers.

It also prevents oxidation of the mango pulp, as well as a dark color of the pulp, one of the objectives of pasteurization. The technology conducted by researchers at the UGTO is pasteurizing mango varieties and maintaining their organoleptic pulp, which maintains its physical characteristics, and which is dehydrated without losing its flavor, color or nutrition.

"We work with five species of mango and talk about a technology that pasteurizes industrial tons of fruit. We verify its operation so that the fruit pulp maintains the characteristics of fresh mango," said the specialist UGTO.

According to the researcher, the company was satisfied with the technology and manual used for the five varieties of the fruit. And Abraham Juarez says that because the most difficult task was to manage the fiber of the fruit, they learned to maintain a certain temperature.

"Both the manual and technology were designed specifically for the mango industry, because we did a tailored suite for the company that requested it. And if a company is engaged in processing strawberries, [technology](#) should be designed specifically for them," concludes PhD Abraham Juarez.

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