

Reducing waste in the fruit industry and taking care of the environment has been a central goal of the industry worldwide, and Chile's new biodegradable plastic has been developed to further those efforts.

The innovation - called NatPol - was created through a fermentation process in which scientists transformed fruit residue into plastics.

Rodrigo Andler of Chile's Catholic University of Maule came up with the bio-based product with the purpose of advancing what Chile's fruit industry used for packaging towards a more green-forward model.

Using waste and residue from agricultural products, researchers were able to create a plastic container that adheres to industry packing standards, makes production processes in packing more efficient and provides an eco-friendly alternative to traditional plastics.

NatPol as a bio-plastic alternative has been in the works for years, Andler told FreshFruitPortal.com.

## **Changing the fate of tons of fruit waste**

Initially, the researcher's thesis project, the idea for the development of the bioplastic emerged when Andler recognized the excess amount of waste created in the agriculture industry.

"Previously, they were destined to be feed for animals - which, honestly, is just a nuisance for producers," he explained.

To fix this issue, Andler decided to begin working to transform the product into something worthwhile for the fruit industry.

Then, last year Andler and his NatPol team worked alongside Chile's Know Hub Ignition - a group interested in advancing technology, innovation and green-forward developments in the country's agriculture industry. Through this collaboration, NatPol gained enough funding to get the tools necessary to launch its product testing.

Tools provided by Know Hub allowed the innovation to be scaled and fine-tuned. Andler said that this also marked a big period of growth for the innovation in the legal field as NatPol was in the process of being approved and legally recognized.

"If everything turns out as planned, we will be the first technology-based company from the

Catholic University of Maule ever," said Andler.

## **Bioplastics now and in the future**

In addition to the bioplastic developed by the university's team, they're currently working on a new biopolymer. Looking forward, the team's goal is to scale its product up to an industrial level so that it can be used across the industry.

To do this, NatPol will be sending the plastic materials to plastic producing centers that are willing to produce its product.

"We've arrived at a certain percentage, although it's admittedly the minimum percentage, of replacing plastics with bio-products. Specifically, when we look at polyethylene - the most harmful contaminant found in plastic bags - the industry is showing less percentages of that element in plastic products."

Then, with the long term goal being that the national percentage of plastic used in packaging going down and the use of eco-friendly alternatives to soar higher, the NatPol team "would be very happy".

Because, for them, "it would mean that there are less contaminants being used throughout the fruit industry," explained Andler.

Finally, Andler detailed that the overall mission of NatPol is to - from the point of view of academia - remind people that innovation provides a great opportunity to improve processes in the industry and, more importantly, the well-being of collective society and the environment.