

The pit of the avocados you eat could save thousands of lives



Besides being delicious, avocados may save thousands of lives! Tec researchers have discovered that **avocado pits contain an alternative to reduce cardiovascular diseases and lower the risk of cancer** related to the consumption of **preservatives**.

The group led by the researcher **Carmen Hernández Brenes** found **molecules called acetogenins** which can be used as **medicines and food preservatives**.

This research, which gave rise to **Avocardio** and **Avosafe**, was recognized during the **49th Research and Development Conference at the Tec**, as one of [4 projects with the potential to transform Mexico](#).

Avocardio: *an ingredient that can be used in foods or supplements as a natural alternative for the prevention of cardiovascular diseases.* **Avosafe**: *a safer and more effective natural preservative.*

HOW ACETOGENINS WORK

Acetogenins **have an anticoagulant effect** which **prevents the formation of blockages in the bloodstream, reducing the risk of embolisms and heart attacks**, said Hernández in an interview with **CONNECTA**.

This **effect** is **similar** to the one that **medicines like aspirin have**, but since it is a natural treatment **there would be no side effects**, assured the researcher.

Doctor **Dariana Rodríguez**, a member of the research team, affirmed that although **Avocardio** does not completely eliminate cardiovascular diseases, **it can be used to prevent them**.

*“The product **can especially be taken by people who at high risk of heart attacks or embolisms [...]** or by people who’ve **already had these and need to undergo treatment for life**,”* she said.

Acetogenins can also be used as natural preservatives to substitute those containing **nitrite**, **which have been linked to the development of cancer**.

These molecules have a **broad spectrum of use**, so they are not just limited to meat like other preservatives, but instead **can be used in cheese or processed foods**.

*“(They’re useful) for ready-to-eat products, such as a **chicken salad, for example, in a warm climate where you have to make sure that consumers are not going to get sick**,”* said Hernández.

ORIGINS OF THE PROJECT

The project was born **more than 10 years ago** after a company **that used** avocado pulp **to make** guacamole for sale reached out to **Tecnológico de Monterrey**.

The company simply discarded the excess, which is why it reached out to the Tec’s Biotechnology Center, where **they started to look into whether this waste could be put to good use**.

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Dr. Rodríguez affirmed that the initial **intention was to help resolve an environmental problem derived from the avocado waste**. However, after analyzing the content of the pits **they realized that there was a use for it**.

It was then that **they discovered the presence of acetogenins and started the work** that is currently **in the testing phase and might soon be available for human consumption**.

The first phase **is to add the molecules to different foods**, but **it could be synthesized into a pill in the future**, specified Rodríguez.

The molecules are safe for humans to eat; however, Hernández estimates that a further two years of research **still lie ahead**.

*“The advantage is that **we’re already eating the molecules that are found in the pit, which are also found in the pulp, so humans are already exposed to a certain extent**,”* pointed out Hernández.

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*“The fact humans already eat these molecules **provides evidence about their safety**, but there are **safety processes in place** that must be followed,”* said Hernández.

The researcher pointed out that **the work has already been protected by patents**, but there are protocols to be followed for **the products** to be approved **by national and international health agencies**.

ARE THERE ENOUGH AVOCADOS TO SUPPLY THE PROJECT?

The majority of the acetogenins used in the project come from avocado pits. However, **researchers are also working on developing molecules without having to resort to the extraction process**.

*“Although supply is guaranteed, **we at the Tec are working with the intention of looking for ways to create the molecules ourselves** so as not to have to depend on a supply of the product,”* said the scientist.

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This process implies **discovering how the plant** produces the molecules and the **use of reactors to produce them** without having to use avocado waste.

At the same time, **the team** is also **trying to attract funding** in order to finish the last phase of the projects.

*“The level of technological development we have at the moment is between 6 and 7 out of 9 levels, so **as regards development time, there’s still a long way to go**,”* she said.

IF YOU WOULD LIKE TO KNOW MORE:

- *The study used the Hass avocado.*
- *Avocados are called “aguacate” or “palta” in Spanish.*
- *Mexico has become the number one producer in the world.*
- *It’s considered a “super food” in Europe.*
- *Consumption in Mexico is around 11.6 kg per person per year.*

Source: Dynamics of the World Avocado Market / *Revista Virtual Universidad Católica del Norte* (2018)

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