

# INNOVATIVE PROCEDURE FOR OBTAINING CUTIN THROUGH THE USE OF ULTRASOUNDS

**P** PATENTED TECHNOLOGY

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## ABSTRACT

The research group on **Polymers and Nanomaterials Analysis** has developed a new procedure for obtaining cutin from plant residues based on ultrasound-assisted sequential extraction.

The cutin obtained has a remarkable thermal stability that gives it considerable advantages for the industrial use. The procedure also makes it possible to obtain other compounds with high added value.

The procedure is more efficient and less expensive than other existing ones. In addition, it allows to provide added value to vegetable waste generating new business opportunities.

## ADVANTAGES AND INNOVATIVE ASPECTS

### ADVANTAGES OF TECHNOLOGY

The advantages of the technology are as follows:

- Obtaining cutin at a lower cost due to lower energy requirements.
- Elimination of the previous degreasing stage, common in this type of extraction procedures, which generated a significant temporary and energy cost.
- Obtaining other substances of great industrial interest, such as water-soluble proteins and antioxidant compounds.
- Obtaining cutin with higher quality by presenting a considerable thermal stability.
- It facilitates the recovery of a large amount of vegetable waste.

### INNOVATIVE ASPECTS OF TECHNOLOGY

The main novelty of the technology is the use of the ultrasounds technology to obtain cutin. The procedure allows to obtain a higher quality cutin with a more efficient and faster process.

This facilitates the exploitation of a wide variety of agri-food waste since it allows to obtain various substances of high value that can again be implemented in the industry.

## MARKET APPLICATIONS

The technology is very useful for the **recovery of waste** from the agri-food industry. It is therefore of interest to a wide range of companies.

It is interesting for agricultural companies and food producers that generate a high volume of vegetable waste. It is also interesting for waste management companies. Finally, it is also interesting for chemical companies specialized in the extraction of chemical compounds such as cutin, antioxidants and water-soluble proteins.

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#### COLLABORATION SOUGHT

We are looking for companies interested in acquiring this technology for **commercial exploitation** through:

- Patent license agreements.
  - R+D project agreement (technical cooperation) to undertake technology-related projects.
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