



**ADVANCES IN THE DEVELOPMENT OF BIODEGRADABLE PRODUCTS FROM COCONUT FIBRES
WITHIN THE FRAMEWORK OF A CIRCULAR ECONOMY**

**AVANCES EN EL DESARROLLO DE PRODUCTOS BIODEGRADABLES A PARTIR DE FIBRAS DE COCO
EN EL MARCO DE UNA ECONOMÍA CIRCULAR**

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Abstract

This seminar explores recent advancements in the development of biodegradable products made from coconut fibers, highlighting their significance within the framework of a circular economy. In a global context where reducing plastic waste is a pressing priority, coconut fibers emerge as a sustainable alternative due to their unique properties and wide-ranging potential applications.

The objective is to explore recent progress in using coconut fibers to create biodegradable products, emphasizing their benefits and contributions to a circular economy.

In the section on characteristics and potential of coconut fibers, the seminar examines their chemical composition, including high cellulose and lignin content, as well as their durability, flexibility, and low cost, which make them suitable for replacing non-biodegradable materials. Following this, the section on treatments applied to coconut fibers reviews techniques such as alkaline treatment and greener alternatives, which are essential for enhancing the mechanical and thermal properties of coconut fibers and expanding their applications.

The products and applications section highlights specific examples of coconut fiber-based innovations, such as biodegradable packaging, disposable utensils, and eco-friendly construction materials. Particular attention is given to the development of thermoformed products as substitutes for expanded polystyrene, a critical advancement for industries aiming to adopt sustainable practices.

In the section on impact on the circular economy, the seminar analyzes how these developments contribute to the comprehensive utilization of agricultural waste, fostering reuse and minimizing waste generation. This approach creates value from by-products while promoting sustainable and responsible economic models.

Finally, the conclusions underscore that coconut fibers hold significant potential to transform multiple industries, reducing reliance on synthetic materials. Although challenges remain, such as scaling up processes and achieving market acceptance, the advancements discussed in the seminar represent a substantial step towards a more sustainable future. Emphasis is placed on the need for continued research into greener treatments and the development of innovative biodegradable products that strengthen the transition to a circular economy.



Universidad
del Cauca

Facultad de Ciencias
Naturales, Exactas y
de la Educación

Seminario III- Maestría en Ciencias-Química
Seminario I, II-Doctorado en Ciencias-Química

2024.2

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Acreditada en
ALTA CALIDAD

*Resolución 6218 de junio de 2019

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