

## Starch Valorization: Biorefinery Concept for the Circular Bioeconomy

**Authors :** Maider Gómez Palmero, Ana Carrasco Pérez, Paula de la Sen de la Cruz, Francisco Javier Royo Herrero, Sonia Ascaso Malo

**Abstract :** The production of bio-based products for different purposes is one of the strategies that has grown the most at European and even global levels, seeking to contribute to mitigating the impacts associated with climate change and to achieve the ambitious objectives set in this regard. However, the substitution of fossil-based products for bio-based products requires a challenging and deep transformation and adaptation of the secondary and primary sectors and, more specifically, in the latter, the agro-industries. The first step to developing a bio-based value chain focuses on the availability of a resource with the right characteristics for the substitution sought. This, in turn, requires a significant reshaping of the forestry/agricultural sector but also of the agro-industry, which has a relevant potential to be deployed as a supplier and develop a robust logistical supply chain and to market a biobased raw material at a competitive price. However, this transformation may involve a profound restructuring of its traditional business model to incorporate biorefinery concepts. In this sense, agro-industries that generate by-products in their processes that are currently not valorized, such as potato processing rejects or the starch found in washing water, constitute a potential raw material that can be used for different bio-applications. This article aims to explore this potential to evaluate the most suitable bio applications to target and identify opportunities and challenges.

**Keywords :** starch valorisation, biorefinery, bio-based raw materials, bio-applications

**Conference Title :** ICBSD 2024 : International Conference on Bioeconomy and Sustainable Development

**Conference Location :** Zurich, Switzerland

**Conference Dates :** September 16-17, 2024