# Article information:

Techno-economic and environmental impact assessment of an olive tree pruning waste multiproduct biorefinery - ScienceDirect  
<https://www.sciencedirect.com/science/article/pii/S0960308522000517>

# Article summary:

1. A study evaluated the economic and environmental impact of two biorefinery schemes using olive tree pruning waste as feedstock.

2. The first scheme produced ethanol, xylitol, and antioxidants, with antioxidants accounting for 60.2% of revenues and lower environmental impacts compared to business-as-usual production.

3. The second scheme focused on standalone antioxidant extraction, showing similar economic performance with lower initial investment requirements and reduced environmental impacts.

# Article rating:

Appears moderately imbalanced: The article provides some useful information, but is missing several important points or pieces of evidence that would be required to present the discussed topics in a balanced and reliable way. You are encouraged to seek a more balanced perspective on the presented issues by exploring the provided research topics and looking at different information sources.

# Article analysis:

The article titled "Techno-economic and environmental impact assessment of an olive tree pruning waste multiproduct biorefinery" presents a study on the economic and environmental performance of two biorefinery schemes using olive tree pruning waste (OTP) as feedstock. The first scheme is a multiproduct biorefinery producing ethanol, xylitol, and antioxidants, while the second scheme is a standalone antioxidant extraction plant. The study concludes that both schemes are economically viable and environmentally beneficial compared to the business-as-usual solution.

Overall, the article provides a comprehensive analysis of the potential benefits of using OTP as a raw material for biorefineries. However, there are some potential biases and limitations in the study that need to be considered.

Firstly, the study only considers one specific location for the proposed plant (south of Spain), which may limit its generalizability to other regions with different climatic conditions or agricultural practices. Additionally, the authors do not provide detailed information on how they selected this location or whether they considered other potential locations.

Secondly, while the study claims that both biorefinery schemes are environmentally beneficial compared to the business-as-usual solution, it does not provide a detailed analysis of all potential environmental impacts associated with each scheme. For example, it does not consider potential impacts on soil quality or biodiversity loss due to increased demand for OTP as feedstock.

Thirdly, while the study provides detailed economic analyses for both schemes, it does not consider potential risks or uncertainties associated with market fluctuations or changes in regulations that could affect their profitability over time.

Finally, while the article presents some counterarguments against using OTP as feedstock (e.g., concerns about land use change), it does not explore these arguments in depth or provide evidence to support its own claims.

In conclusion, while this article provides valuable insights into the potential benefits of using OTP as feedstock for biorefineries, readers should be aware of its limitations and biases. Further research is needed to fully understand all potential environmental and economic impacts associated with these schemes before implementing them on a larger scale.

# Topics for further research:

* Environmental impacts of using olive tree pruning waste as feedstock for biorefineries
* Biodiversity loss and land use change associated with increased demand for OTP
* Market fluctuations and regulatory changes affecting the profitability of biorefinery schemes
* Comparison of the economic and environmental performance of different biorefinery schemes using OTP
* Potential risks and uncertainties associated with the implementation of OTP-based biorefineries
* Generalizability of the study's findings to other regions with different agricultural practices or climatic conditions.

# Report location:

<https://www.fullpicture.app/item/6f52212aaaf455c10557a711a67ef8b1>