

# BIOVASE: REUSE OF *EUTERPE OLERACEA* BIOMASS WASTES FOR THE PRODUCTION OF ECOLOGICAL VASES

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## 1. Introduction

The “açai” (*Euterpe oleracea*) is a typical fruit from North of Brazil, rich in properties and vitamins has a great nutritional value. The consumption of the juice extracted from the açai pulp gained space in the national and international market. The production is concentrated in the northern Brazilian region, and in the State of Amapá (Brazil) it is estimated that more than 1.893 tons are generated per year, and the most of this production is processed and consumed in the State itself. In the Macapá city (Capital of the Amapá State) due the lack of management, the açai lumps (organic wastes generated by the extracted juice), and they are discarded on public roads and sewer lines causing damage to the public health and environmental problems. The aim of this research is to propose an alternative management of the açai lumps through the production of biodegradable ecological vases for plants with a low cost and potential substitute for xaxim (*Dicksonia sellowiana*) - endangered species.

## 2. Research Methods

The research methods were through the wastes collection (açai lump), screening and cleaning process. After this part begins the production of binder to make the ecological vase, followed by the lumps grinding and mix of materials. At the end of these steps, the mass is formed and set for drying, obtaining the ecological vase. The Figure 1 shows the final result after the research methods.



Figure 1: Final result of biodegradable ecological vase. Researcher's collection/Aira Beatriz.

## 3. Results

Table 1- Final result of the chemical analysis from the ecological vase prototype/Researcher's collection/Aira Beatriz:

Potential acidity – (CTC) – (pH7) / cmolc/dm <sup>3</sup>	Hydrogen potential (pH) – H <sub>2</sub> O
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10,2	6,8
High	High

The tabulated results show that the potential acidity and the hydrogen potential are high which indicates a pH very similar to neutral soil (pH 7), and the higher the potential acidity the better the fertility of a certain matter, which is the case of the ecological vase giving the plant its essential nutrients. From this, a vase was developed for conventional plants, other with potential substitute to *Dicksonia sellowiana*, a reforestation pump - reforestation pumps to be launched in degraded areas - and seedling tubes.

## 4. Conclusion

The present study allows concluding the possibility to propose an alternative and sustainable management using the açai lumps to make biodegradable vases with a low cost, substitute potential to plastic packaging and xaxim (*Dicksonia sellowiana*). It is important to affirm that with the prototype created it contributes to the solidarity economy development, ecology, family agriculture and incentive to environmental education following the sustainable development goals making it possible to show the solution of a social problem present in all the localities that work with the production of açai in Brazil that entails damages to the environment and public health.

## 5. References

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