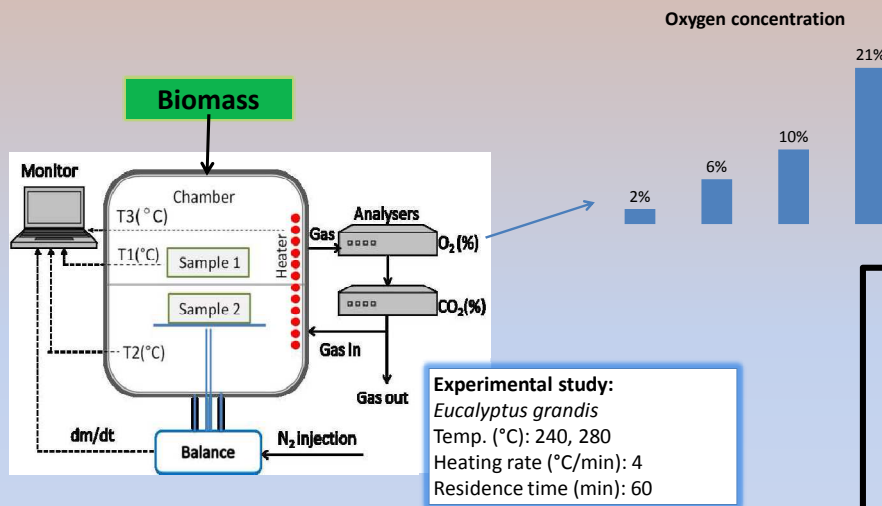


# BIOMASS TORREFACTION UNDER DIFFERENT OXYGEN CONCENTRATIONS AND ITS EFFECT ON THE COMPOSITION OF THE SOLID BY-PRODUCT

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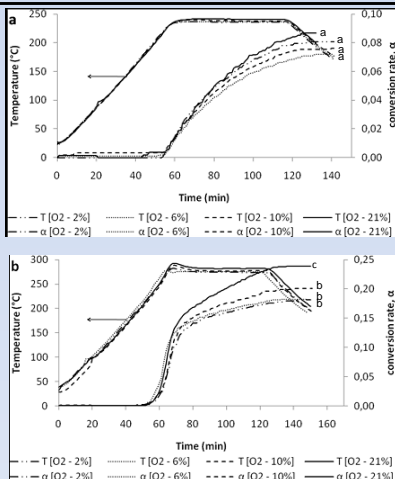
1. Is it necessary to maintain a totally inert atmosphere for torrefaction?
2. Does the increase in oxygen content affect end-product quality?

Objective: Investigate the thermal reactivity of *Eucalyptus grandis* during torrefaction under different oxygen concentrations by examining the relationship between mass loss and the physical and chemical properties of the solid by-product.

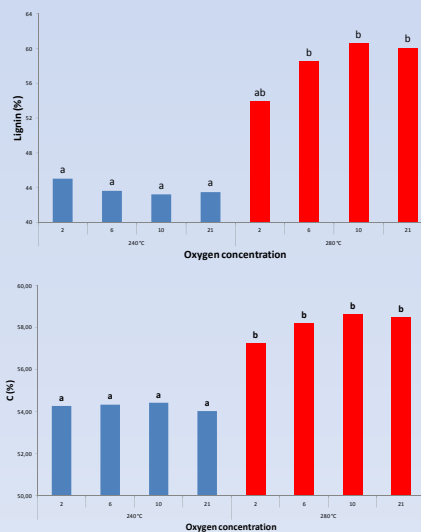


➤ The increase in oxygen content did not significantly affect the conversion rate  $\alpha$ .  
 ➤ The results show that it is necessary to maintain an inert atmosphere above 280°C.

For both temperatures (240 and 280°C) the oxygen content did not significantly affect the characteristics of the end-product.



Effect of the oxygen concentration on the conversion rate for both temperatures 240 and 280°C. For each group, the means with the same letter were not significantly different at a probability of 5% with regard to Tukey's test.



Classification by Tukey's test of averaged results for the response variables considering 2 replicates per treatment. For each group, the means with the same letter were not significantly different at 5% ( $\alpha = 0.05$ ).



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