



ENRICHMENT OF COUMARINS CONTENT IN AQUEOUS EXTRACT OF *Pterocaulon balansae* BY FERMENTATIVE METHOD

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INTRODUCTION

Subcutaneous and cutaneous infections caused by fungus are a serious public health issue. Each year more cases of resistance are described, causing more debility among the population. That problem causes not only health problems, but also economical, mostly for the public health system.

An alternative to overcome these problems is the investigation of natural products through the secondary metabolites of plants, such as coumarins. These metabolites are highly present in the *Pterocaulon* spp. genus. The aim of this study was to release the coumarins from the sugars bonded to them, making them more available to act against some fungus species.

MATERIAL AND METHODS

Aqueous extract was obtained with 2% plant: solvent ratio, at 65 °C for 4h and 07 min, as previous described and validated by Medeiros-Neves (2015).

The fermentative process was performed with the totality of the extract for 24h, at 30 °C, with different amounts of yeast *S. cerevisiae* (0,5; 1,0 and 1,5g) in different pH (5,0; 6,8 and 8,0) (Nemitz et al, 2017). The Benedict's test, a semi-quantitative test, that verifies non-reducing sugars was performed to observe the presence of sugars in the extract.

RESULTS

The coumarin content in the aqueous extract was 26,82 mg/mL, as for the fermented extracts the quantities were not the expected. In a previous fermentative test, in a 7,4 pH, the coumarin content obtained were 11,55 mg/mL. As for the pH 5,0; 6,8 and 8,0 with the 0,5; 1,0 and 1,5 g of yeast, the results were respectively (mg/mL): 9.91, 8.35, 11.42; 2.54, 3.58, 3,81; 4.03, 2.85 and 3.83.

The Benedict's test evidenced that the extract was not rich in sugars, so it was not the best choice to pursue.

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CONCLUSIONS

The chromatogram profile remained the same, in comparison to the previous described by Medeiros-Neves et al, (2015).

Regarding the fermentative process, it was not effective as the hypothesis informed, demonstrating that, not only showed a fewer total amount, but also some peaks disappeared. These results demonstrated that the method was not efficient.

REFERENCES

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