# ETHANOL PRODUCTION BY YEASTS ISOLATED FROM FLOWERS OF OXALIS SP.

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**RESUMO**

Flowering plants represent an extraordinary diverse group which harbors distinct microbial communities. Due to the presence of sugars, floral nectaries provide a peculiar environment with high osmotic concentration which adapted microorganisms can colonize. Flower-inhabiting yeasts are still poorly explored for their biotechnological potential, especially fermentative ability to generate ethanol. The aim of this study was to evaluate the fermentative potential for ethanol production by yeasts isolated from flowers of *Oxalis* sp., popularly known as azedinhas. Flowers were collected and approximately 1g was submitted to maceration with sterile distilled water. An aliquot of the homogenate was plated in chloramphenicol yeast glucose agar. Plates were incubated at 28°C for up to 72 hours and the resulting colonies were isolated and confirmed as yeasts. Isolates were subjected to carbohydrate assimilation and fermentation tests and evaluated for ethanol production potential. For fermentation test, isolates were pre-cultured 24 hours at 30°C, for adaptation, and then inoculated in supplemented YPD liquid medium (10% de dextrose, 1% de yeast extract, 2% de peptona, 0,25 g/L de $(NH_4)_2SO_4$, 2 g/L de $KH_2PO_4$ e 2 g/L de $MgSO_4$) and incubated for 48h. Aliquots of the supernatant were collected every 12h for glucose and ethanol quantification by HPLC. A control strain of *Saccharomyces cerevisiae* was used. Eight yeast samples were isolated from the flowers of *Oxalis* sp. In the first stage of the study, three isolates were tested, and one sample produced ethanol at the time of the experiment. The positive isolate is a pigmented strain and produced detectable ethanol from 36h of incubation, about 0,48%, while control strain generated about 1,4% from 12h showing a faster growing rate, as expected. Exploring nectaries for obtaining new fermenting yeasts may provide new strains of industrial interest for bioethanol production.

**PALAVRAS-CHAVE**: Ethanol, Flowers, Oxalis, Yeasts.

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