

Poster

Isolation, identification and characterization of natural yeasts for brewing



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ABSTRACT

In recent years, there has been a worldwide increasing interest in craft beers and in microbreweries. Producers and consumers continuously require new beers with new aroma, flavors, alcohol or sugar content, etc. that can be in part conferred by using other yeast instead of the ones supplied by the yeast companies [1].

The objective of this study is to carry out an analysis on the *Saccharomyces* biodiversity in Andalusia, studying them at the genetic as well as at the phenotypic level. Thus yeasts with different properties to those currently used in the brewing industry could be found. With this, we would be able to create a catalogue of autochthonous yeasts with different features for microbreweries, so they could chose the one that suits their procedures or their beer best, taking into account the fermentation conditions and the characteristics that they can contribute to the final product [2].

For wild type yeast isolation, we have collected wine must from several wineries of Andalusia as well as fruits. Natural microbial population in these samples were incubated in grape or malt must at 16 or 22 °C, taking samples at different times along the fermentation. Later, isolated colonies for different samples were grown and *Saccharomyces* strains were selected and analysed by PCR of microsatellite regions to distinguish different strains.

At this time ninety strains of *S. cerevisiae* have been identified with different genetic patterns. Now we will study them phenotypically in order to analyze their growth capacity in different conditions and sugar sources. After this, beer will be produced with selected strains to evaluate their effect on the organoleptic characteristics.

At this point of the project, we can conclude that the results seem promising and that there are numerous yeasts present in nature in Andalusia that we can isolate and characterize to make them available to microbreweries. This means that they could use this autochthonous yeasts to make their craft beers without the need to buy commercial yeasts from abroad, thus providing more authenticity to its products.

REFERENCES

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