

## Investigation of yeast performances in the fermentation of beet and cane molasses to ethanol production

Elena PĂTRAȘCU<sup>a</sup>, Gabriela RÂPEANU<sup>\*b</sup>, Camelia BONCIU<sup>b</sup>, Constanța VICOL<sup>c</sup> and Gabriela BAHRIM<sup>b</sup>

<sup>a</sup>*S.C. Euroavipo S.A., 2B Cuptoarelor Str., Ploiesti, Romania*

<sup>b</sup>*Dunarea de Jos University of Galați, Faculty of Food Science and Engineering, 111 Domneasca Str., 800201, Galați, Romania*

<sup>c</sup>*Regional laboratory of wine control, 61 Stefan cel Mare Str., Odobesti, Romania*

**Abstract** In commercial ethanol production producers often use sugarcane or sugar beet molasses as raw material due to their abundance and low costs. The most employed microorganism used for fermentation is *Saccharomyces cerevisiae* yeast due to its ability to hydrolyze sucrose from cane or beet molasses into glucose and fructose, two easily assimilable hexoses. The aim of this study was to evaluate the influence of different five commercial dry yeasts of *Saccharomyces cerevisiae* on sugar beet and cane molasses fermentation by ethanol and secondary products yield quantification. When the different types of *Saccharomyces cerevisiae* were used to ferment sugar beet and cane molasses an ethanol production of 7–9% v/v was obtained. Ethanol yield was calculated as milliliter of ethanol produced per 100 mL of fermentation broth. The most suitable yeast seems to be Safdistil C-70 when the ethanol yields obtained are compared.

**Keywords:** ethanol, *Saccharomyces cerevisiae*, molasses, fermentation