

RESEARCH PAPER

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Process optimization for the characterization of wine from Burans (*Rhododendron arboreum*) flowers

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SUMMARY :

Burans is an indigenous flower with adequate nutritional attributes but short shelf-life under prevailing conditions. The study involves developing biotechnological product wine from Burans flowers using the dried form of yeast (*Saccharomyces cerevisiae*). The three levels of temperature (X_1 , 26°C, 30°C, and 34°C), total soluble solid (X_2 , 24°B, 26°B and 28°B) and pH (X_3 , 4.0, 4.5 and 5.0) were taken as the main process parameters. The fermentation was carried out for five days. After five days, the biochemical analysis of wine was done by quantifying alcohol by volume and titratable acidity. The first response, alcohol by volume, ranged between 6.6 per cent to 14.2 per cent. It was found to increase with increase in temperature and decrease with increase total soluble solid. However, on increasing the must's pH, the alcohol by volume of the wine first increased and then dropped. The second response, titratable acidity, varied between 0.598-0.906 g/l. The titratable acidity of the wine initially decreased with an increase in temperature and later increased. The titratable acidity was directly related to the total soluble solids as it increased with increase in total soluble solid. Similarly, on increasing pH, the titratable acidity increased. The statistical analysis of this study showed that the temperature had a highly significant effect on alcohol by volume, *i.e.*, 1 per cent level of significance, while pH was found to have a 1 per cent level of significance for titratable acidity. Therefore, from the present investigation, it can be concluded that an acceptable variety of wine can be produced from burans flowers, which can also reduce post-harvest losses.

KEY WORDS : Total soluble solid, Alcohol by volume, Titratable acidity, Post-harvest

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