

以马铃薯为辅料的黄酒发酵条件优化

Optimization of the fermentation conditions of Chinese rice wine using potato as auxiliary material

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中文摘要:

采用响应面方法对以马铃薯为辅料的黄酒发酵条件进行了优化。通过单因素试验、正交试验及中心组合试验优化得到以马铃薯为辅料酿造黄酒的最佳发酵条件为: 酵母添加量0.114%(原料量的0.114%)、主发酵温度28℃、麦曲添加量14.0%(原料量的14.0%)、料水比1:0.7、每100 g原料添加425μL糖化酶、发酵初始pH值4.0。在优化得到的发酵条件下酿造得到的以马铃薯为辅料的成品黄酒, 其酒精度、酸度、色、香、味等各项理化指标和感官指标均符合国家黄酒标准GB/T 13662-2000, 成品酒的感官品质得到了改善, 且所含游离氨基酸含量为7063.4 mg/L, 是普通黄酒游离氨基酸含量的1.2~2.5倍。

英文摘要:

The fermentation conditions of Chinese rice wine using potato as auxiliary material were optimized using response surface methodology (RSM). Through single-factor experiment, orthogonal experiment and central composite designs (CCD) experiment, the optimum fermentation conditions of Chinese rice wine using potato as auxiliary material was obtained: addition quantity of active dry yeast and wheat starter was 0.114% and 14.0%, respectively, the ratio of material to water was 1:0.7, addition quantity of glucoamylase was 425 μL per 100 g raw materials, initial pH value was 4.0, main fermentation temperature was 28°C. Experimental results show that the sensory evaluation and physical and chemical characteristics of Chinese rice wine using potato as auxiliary material fermented under the optimized conditions, such as alcoholicity, total acid content, color, aroma and taste etc, meet the state standard of Chinese rice wine GB/T 13662-2000 and the organoleptic quality is improved. In addition, the content of free amino acid in Chinese rice wine using potato as auxiliary material is 7063.4 mg/L, which is 1.2~2.5 times of that of ordinary Chinese rice wine.

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