

## 荔枝果醋液态发酵工艺优化 Optimization of the Liquid State Fermentation Technology of Litchi Vinegar

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摘要: 研究了荔枝果醋加工中的液态酒精与醋酸发酵工艺, 试验表明添加4g/L的多肽, 可促进酒精发酵过程中菌种生长和风味成分(酯及氨基酸态氮)的生成。采用四因素二次通用旋转组合设计优化了酒精发酵工艺条件, 当接种量0.15% (安琪酵母和菌株CICC 1312的体积比为2:1)、还原糖质量浓度为18g/(100 mL)、发酵温度为30℃、pH值为4.5时, 发酵体的酒精度达9.76%。通过L9(34)正交试验优化的醋酸发酵工艺条件为: 接种量10%、温度33℃、酒精度6%; 此条件下, 荔枝果醋总酸质量浓度为5.99g/(100mL), 总酯质量浓度为0.48g/L, 氨基酸态氮质量浓度达59.8mg/(100mL)。The alcoholic and acetic acid liquid state fermentation technology of Litchi vinegar were studied. Experiments showed that the suitable addition of 4g/L polypeptide before alcoholic fermentation could promote microbial strains growth and the flavor compound formation of total esters and amino nitrogen. The alcoholic fermentation was optimized by means of quadratic general rotary unitized design. The optimized condition was 0.15% inoculation volume (the volume proportion of Anqi to CICC 1312 was 2:1), 18g/(100mL) reducing sugar, 30℃ fermentation temperature, pH value 4.5. The alcohol content was 9.76% under the optimized condition. The acetic acid fermentation was optimized by means of L9(34) orthogonal test. The optimized result was 10% inoculation volume of AS 1.41, 33℃ fermentation temperature and 6% alcohol content. Under the condition, Litchi vinegar had 5.99g/(100mL) acidity, 0.48g/L total esters and 59.8mg/(100mL) amino nitrogen.

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