

Thesis Title	Preparation of Sparkling Oriental Pear Juice : <i>Pyrus pyrifolia</i> var. Pathanak	
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Abstract

Pear juice was prepared from oriental pear , Pathanak variety. The maturity was 21 weeks after bloom. The fruit was lye peeled for 2.5 min and cut into quarters before crushing. To prevent enzymatic browning reaction , pieces of pear were soaked in the mixture solution of potassium metabisulfite and ascorbic acid at the concentrations of 200 and 300 mg/l respectively. After crushing , the pulp was treated with 50 mg/kg of pectinases and incubated at room temperature for 90 min and pressed by hydraulic press at 5 metricton/m². Pressed juice was heated up to 90 °C to stop the enzymatic reaction. The juice yields of 60.72% with enzyme treated and of 50.08% without enzyme treated were obtained. The optimal conditions for clarification of pear juice were investigated. Pectinase concentrations of 0 , 50 , 100 , 150 and 200 mg/l were employed. The incubation temperature was kept constant at 45 °C , and the incubation time were 0 , 0.5 , 1.0 and 1.5 hours. It was revealed that the optimal condition for clarification was as follow : 100 mg/l of enzyme , 45 °C , and 1 h incubation. Brix/Acid ratios of 22.37 , 28.53 , 34.94 and 41.64 , which were equivalent to total soluble solid of 8 , 10 , 12 and 14 degree brix respectively , were studied. It was found that B/A ratio of 41.64 was significant different at P 0.01. From mathematical point of view , it was found that the optimal B/A ratio for clarified pear juice was 46.41 which was equivalent to total soluble solid of 15.2 degree brix. By using 2² + 2 c.p. factorial design , effects of B/A ratio and carbonation level of sparkling oriental pear juice were investigated. It was revealed that B/A ratio of 56 and carbonation level of 3.4 were significant different at P 0.05. Storage of sparkling oriental

pear juice at 5 °C and 37 °C for 14 weeks, it was found that colour value L , total acidity and reducing sugar after inversion decreased , but colour value a* and b* , turbidity and reducing sugar before inversion increased along with time. However , volume of carbondioxide and pH value were stable. Storage temperature at 37 °C had more effect to the parameters than those at 5 °C. No microorganisms was found during storage for 14 weeks at 5 °C and 37 °C. Test panels preferred sparkling oriental pear juice kept at 5 °C to 37 °C. It was significant different at P 0.05.