

Changes in Chemical Characteristics and Aroma During Manufacturing Process of Kokuto (non-centrifugal cane sugar)

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Summary

The compositions of organic and amino acids, and aroma in mixed juice, clarified juice, high syrup and the product obtained from various stages of manufacturing Kokuto were analyzed. The yields of the high syrup and the mixed juice product were 12% and 9%, respectively. Four of the samples were found to contain 6 to 7 kinds of organic acid, 32% to 37% of which was aconitic acid. Two organic acids, succinic acid and acetic acid decreased greatly during the manufacturing process of Kokuto. In the 4 samples, 19 kinds of amino acid were detected. Acidic amino acids and amides such as Asp, Glu, Asn and Gin comprised 62% to 82% of total amino acids. All amino acids except for Glu decreased greatly during the manufacturing process. Therefore, it is suggested that organic and amino acids play important roles in the formation of the aroma of Kokuto. By analysis using GC and GC-MS, the mixed juice was found to contain many alcohols and esters and the product was found to contain many pyrazines and phenols. Therefore, it may be assumed that the changes in aroma between the mixed juice and the product arose during the heating stage of the manufacturing process of Kokuto.