

(学位第3号様式)

学 位 論 文 要 旨	
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題 目	The development of reference standards and flavor wheel for establishing a sensory analysis of Honkaku shochu and Awamori and its application (本格焼酎・泡盛の官能評価体系確立に向けた標準見本及びフレーバーホイールの作成とその活用)
<p>Researching the relationship between aromatic compounds and flavor terminology is an important step in establishing a sensory evaluation system. In the field of Honkaku shochu and Awamori, there are no systematic studies covering all the different types of Honkaku shochu and Awamori. Also, it is demanded that we use a specific compound to provide a reference standard in a wide area. Therefore, identification of the aroma compounds contributing to the term for the evaluation is needed. In this study, we attempted to establish a new flavor wheel and reference standards for the sensory evaluation system of all categories of Honkaku shochu and Awamori.</p> <p>In the first step, the thresholds of 32 compounds in Honkaku shochu and Awamori were determined using a common method and the contribution degree was examined to identify the aroma compounds contributing to the aroma characteristics. The concentration of these compounds in Honkaku shochu and Awamori were determined and examine the contribution to the aroma quality. As a result, 18 compounds which are base aroma of Honkaku shochu and Awamori or contribute to the difference in raw materials and manufacturing method were found. Next, a GC-olfactometry technique was used in the identification of aromatic compounds contributing to the roast aroma of Honkaku shochu and Awamori. 2-Furanmethanethiol, a volatile thiol, was identified as a roast aroma compound in Honkaku shochu and Awamori. Then, 32 compounds which added 13 compounds whose contribution has been already reported to 19 compounds selected from the above consideration were selected as candidates and were into classified eight groups by their aroma characteristics. Furthermore, these compounds were evaluated by experts on Honkaku shochu and Awamori to test the validity of the concentrations and the sensory attribute terms. As a result, it is suggested that candidates are utilizable as reference standards, after increasing the concentrations of some compounds and changing the submission methods. We reviewed the compounds which have very similar terms. Finally, 30 compounds were listed as reference standards and a flavor wheel was established based on the results of the sensory attribute terms and their classification. In addition, reference standards were used to determine the characteristic of triple distilled Awamori. Multi-distillations using small pot stills were performed and the distillation behavior was analyzed. As a result, the distillation behavior was classified into five groups, and the concentrations of the aroma compounds increased and decreased respectively through distillations. In addition, the commercially available three times distilled Awamori was compared with normal Awamori (Ippanshu). Some volatile compounds showed the same tendency. It is suggested that these compounds, which were changed through the multi-distillation, contribute to the characteristics of the triple distilled Awamori.</p> <p>The flavor wheel for the whole type of Honkaku shochu and Awamori made in this study can make the aroma characteristics of shochu made by specific materials and manufacturing methods clear. Reference standards using specific compounds will help establish a sensory evaluation system.</p>	