

Title Changes in sugar and total oxalic acid contents in different sections of bamboo shoots harvested at different maturity

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Abstract

shoots (*Phyllostachys pubescens* Mazel) harvested from the Ohma cultivation area (Fukuoka, Japan) at different stages of maturity (above ground and underground) were used to investigate the amount of sucrose, glucose, fructose, and total oxalic acid in four sections along the length of the shoot. Harvested bamboo shoots were also used to study the changes in total oxalic acid content during storage at both 5 and 25°C. Contents of sucrose, glucose, and fructose were higher in underground bamboo shoots than in above ground shoots. Sucrose content in the apical section (first section) was significantly higher than in other above ground sections, while higher contents of glucose and fructose occurred in the most basal section. Total oxalic acid content of underground bamboo shoots was lower than that in above ground bamboo shoots. During storage, except for day 6 at 25°C, total oxalic acid content of the basal section was significantly lower than in other sections. Additionally, at 5°C, total oxalic acid content of the first and second sections seemed to increase during 6 days of storage. The chemical composition of fresh bamboo shoots differed depending on the specific histology of each shoot section and harvest maturity.