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Effects of Harvesting Time on Sweetness of Cooked Rice and Activity of Starch-Degradation Enzymes of Rice Grains

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The effects of harvesting time on sweetness of cooked rice and activity of starch-degradation enzymes of rice grains were examined. In both Koshihikari and Nakateshinsenbon, the content of free sugars in cooked rice was the highest in the rice harvested extremely early (28 days after heading, DAH), and it decreased as the harvesting time was delayed. Maltotriose and maltotetraose were detected in the cooked rice when harvested early (28-34 DAH). On the contrary, in the cooked rice when harvesting time was standard (40 DAH) or late (43-49 DAH), maltoligosaccharides were not detected. In both varieties, α -amylase activity in rice grains of early harvesting (31 DAH) was higher than that of standard (40 DAH) and late harvesting (49 DAH). These findings suggested that the early harvesting of rice grains is an effective method of increasing the sweetness of cooked rice, because it activate α -amylase activity in rice grains.

Keywords: [early harvesting](#), [cooked rice](#), [sweetness](#), [maltoligosaccharides](#), [\$\alpha\$ -amylase activity](#)

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