

# Caryopsis Development and Main Quality Characteristics in Different indica Rice Varieties [PDF]

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摘要: A comparison on the caryopsis development, rice quality characteristics and the size, shape, structure of the endosperm amyloplasts (starch granules) between two indica rice varieties was made. The main quality traits in Yangdao 6 were better than those in Xiangzaoxian 33; In the early period after fertilization the dry matter in Yangdao 6 was accumulated more slowly than that in Xiangzaoxian 33 but faster in the later period, and the starch was accumulated strongly in the later period; There were two kinds of amyloplasts: single and compound amyloplasts, being 4.4  $\mu\text{m}$  and 9.5  $\mu\text{m}$  in diameter on average with the range of 2.4-8.0  $\mu\text{m}$  and 5.7-19.5  $\mu\text{m}$ , respectively. In the case of Xiangzaoxian 33, most of the single amyloplasts were elliptic or round with loose arrangement and great difference in size, and the coefficient of variation was high. While in the Yangdao 6, most of the amyloplasts were single, well developed, polyhedral, crystalline and compactly arranged, and the coefficient of variation was low. The amyloplasts in the dorsal region of endosperm were developed better than those in the ventral and central regions. The chalkiness in the endosperm resulted from badly-developed and loose-arranged starch granules, which was closely relevant to the transport of filling materials.

关键词: indica rice; caryopsis; development; quality traits; amyloplasts; chalkiness

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