

Quality Improvement of Low-quality Rice Grains
by a Combined NaCl-enzymatic Treatment

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Summary

The cooked rice preparations with low paratabilities were inferior to those with high paratabilities in hardness, stickiness and luster in sensory test. Instrumental analyses showed that the rice preparations were characterized by their low values of degree of gelatinization, stickiness, luster and hot-water extractable starch content and by high values of hardness. These results indicate that the common characteristics of unfavorable cooked rice are a hard and unsticky texture, and a dull appearance. In the case of Japonica grains treatment of grains with 1M NaCl was effective for solubilization of globulins and, as a result, liberation of starch was enhanced. The liberated starch contributed to increase in stickiness of cooked rice. In the case of Indica grains a combined NaCl-protease treatment was effective to obtain cooked rice with high stickiness like Japonica rice.