

Breeding for Improving the Quality of Rice Grains in Japan

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Rice grains are produced almost exclusively for human food in Japan and other Asian countries. The rice breeders of Japan have also made great efforts to improve the grain and eating qualities which determine the qualitative evaluation of rice grains. In general, the grain quality is visually examined, while the eating quality is scored by the sensory test of cooked grains. Although several mechanized methods useful for the evaluation of these two traits have been devised, most of them remain undeveloped in practical breeding, presumably due to the complexity of the traits. Through consecutive selections for these traits, however, the breeders have succeeded in developing rice cultivars with superior grain and eating qualities.

Recently, as overproduction of rice has become a matter of major concern in Japan, emphasis is being placed on the identification of new gene sources associated with the modification of grain constituents to diversify the utilization of rice grains.

In this report, the subjects discussed are as follows: 1) evaluation of grain and eating qualities in rice breeding, and 2) new approaches to improvement of rice quality.