

HOME

About Journal@rchive

Journal List

Journal/
Society Search

GO

News



Science Links Japan

JST Japan Science and Technology Agency

Japanese journal of crop science

The Crop Science Society of Japan [Info](#) [Link](#)[TOP](#) > [Journal List](#) > [Available Issues](#) > [Table of Contents](#) > [Abstract](#)

ONLINE ISSN: 1349-0990

PRINT ISSN: 0011-1848

Japanese journal of crop science

Vol.64 , No.4(1995)pp.677-681

[\[Full-text PDF \(553K\) \]](#) [\[References \]](#)

Relationships between the Duration of Organic Farming Culture and Amylographic Characteristics and Mineral Contents of Rice

Masahiko TAMAKI, Keisuke YOSHIMATSU and Toshiro HORINO

- 1) Experimental Farm, Faculty of Agriculture, Yamaguchi University
- 2) Yamaguchi Agricultural Experiment Station
- 3) Chugoku National Agricultural Research Institute

[Published: 1995/12/05]

[Released: 2008/02/14]

Abstract:

The amylographic characteristics of milled rice and mineral contents (including nitrogen) of brown rice, which were produced under an organic farming culture (no chemical fertilizers, all of the rice residues returned to the paddy fields) were determined for 1 to as long as 16 years. The maximum viscosity and breakdown values of rice flour increased with increasing duration of the organic farming culture. The contents of minerals in the rice grain, produced one year after the beginning of organic farming culture, were similar to those of the rice from a customary farming culture. The N, P and K contents decreased with the duration of organic farming culture, but the Mg content increased gradually. These changes in the content of the elements were the greatest during the first 5 years. The Mg/K ratio, which is thought to be a suitable index of the eating quality of cooked rice, gave significant correlations with both the maximum viscosity and breakdown values. These results suggested that the eating quality of cooked rice by organic farming culture was better due to increases of rice starch stickiness and of the Mg/K ratio.

Keywords:

Amylographic characteristics, Duration, Mineral, Organic farming culture, Quality, Rice

[\[Full-text PDF \(553K\) \]](#) [\[References \]](#)

Copyright© Crop Science Society of Japan