

Title Study on the cause of postharvest rice grain yellowing
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Abstract

Postharvest rice grain yellowing in particular and grain discoloration in general is a major problem in the production of good quality milled rice. Rice grains turned yellowish, yellowish-brown, and other undesirable color changes. Yellowing and other undesirable grain discoloration progresses with time and more prevalent in the wet season resulting in significantly lower market value and consequent economic loss. Studies on the cause of postharvest rice grain yellowing and other undesirable color changes of the rice grain were inconclusive. This study proved that microorganisms, particularly fungi, are the causal agents of postharvest rice grain yellowing and other color changes. *Aspergillus*, *Penicillium*, and *Rhizopus species* were isolated from yellow and discolored grains during the wet season experiment. Grains infected by *Penicillium species* exhibited more intense yellowing and discoloration relative to those infected by *Aspergillus* and *Rhizopus species*. *Aspergillus flavus*, *Rhizopus stolonifer* and a branching type *Rhizopus species* were validated the causal agents of rice grain yellowing.