Preliminary study on detection of fungal infection in stored paddy using thermal image

ABSTRACT

Paddy plantation is still threatened by many factors that make rice production become less productive. One of the main factors is paddy infected with fungal. Mycotoxins are toxic substances produced by fungi that grow on seeds or grains in storage and usually will harm human health and animal. Thermal imaging technique is a potential method for the remote detection of abnormality in agricultural products based on temperature changes. In this research, the thermal images of fungal infected paddy were obtained using mid infrared thermal camera after heating for 180s and then cooling in ambient temperature for 30s. Average pixel of the image was used as feature to determine the moisture content. Based on the experiment, fungal infected paddy gave higher average pixel values compared with non-fungal paddy.

Keyword: Mycotoxins; Image analysis; Heat; Respiration