

Ferulic acid, gamma oryzanol and GABA content in whole grain rice and their variation with bran colour

ABSTRACT

The health advantages of whole grain rice are largely associated with the bioactive food components namely, ferulic acid (FA), gamma oryzanol (GO) and gamma aminobutyric acid (GABA) in the germ and bran of grain kernel. This study was aimed to determine the content of these health-promoting compounds among 53 local rice cultivars and their relation to bran colours. There was remarkable amount of health-promoting compounds in the rice collection, especially “Segerit”, “Merah” from Rumah Ulat and “Keladi” from Menitam. FA was the highest with an average of 1034.0 µg/g followed by GO 757.90 µg/g and GABA 191.16 µg/g. Rice with pigmented bran stored more FA and GO than their non-pigmented counterparts. An analysis of variance and Pearson’s student correlation showed that FA responded significantly with rice bran colour ($r= 0.75$) but no significant relations was found for GO and GABA. This result indicated that bran colour could be a quick indicator of FA content in whole grain rice. Whole grain rice rich in bioactive compounds is a good material for the development of nutraceutical products and functional food.

Keyword: Bran colour; Ferulic acid; Gamma oryzanol; Gamma aminobutyric acid (GABA); Whole grain rice