

A Comparison of the Physicochemical Properties of Parboiled Rice Exported from Thailand and Five Consumer Countries

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ABSTRACT

*This study compared the physicochemical properties of 39 parboiled rice samples exported from Thailand and 136 samples from five consumer countries, 26 from Spain, 25 from South Africa, 32 from the United Arab Emirates (UAE), 28 from Nigeria, and 25 from Saudi Arabia. The coefficient of variation among the characteristics of the collected parboiled rice samples both within and between the countries varied, indicating parboiled rice characteristics varied between Thailand, the exporting country, and the five consumer countries, as well as among the consumer countries, with color shade (lightness and whiteness), amylose content, and texture profile the key parameters. While cluster analysis of the 17 characteristics of parboiled rice samples collected from the six countries revealed that most samples shared similar characteristics, parboiled rice samples exported from Thailand differed the most from the samples from the consumer countries, especially with regard to hardness, gumminess, and color shade (both whiteness and *L values). To extend the Thai export market, the Thai producers of parboiled rice should adjust its characteristics to better match that consumed in the five countries.*

Keywords: Parboiled rice, Physicochemical, Texture analysis, Proximate composition