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Effect of ohmic and microwave cooking on textural softening and physical properties of rice

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1 **Effect of ohmic and microwave cooking on textural softening and physical properties of**
2 **rice**

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12
13 **Abstract**

14 The effects of two volumetric heating methods, ohmic and microwave, on consumed energy and
15 physical properties, such as color, texture, and hydration, of a rice recipe (rice-water ratio of 1:15)
16 were investigated and the results were compared to that of the hotplate cooking method. The
17 textural parameters were analyzed using texture profile analysis and fitted into a previously
18 suggested equation to obtain the texture softening rate (K) and residual constant (A) values.
19 Although the color values were negatively affected by ohmic heating, this processing method
20 resulted in greater softening rates with the K value of 0.4 as compared to that of the traditional
21 method (0.2). In addition, ohmic heating consumed 69 % of the required energy in the

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