

PENGARUH CARA PENAMBAHAN EKSTRAK DAUN PANDAN DAN LAMA PENDINGINAN TERHADAP MUTU TANAK, AKTIVITAS ANTIOKSIDAN, TINGKAT KESUKAAN DAN INDEKS GLIKEMIK *BROWN PARBOILED RICE* TERFORTIFIKASI

INTISARI

Prevalensi penderita diabetes mellitus di Indonesia mengalami peningkatan setiap tahunnya. Penderita diabetes mengalami defisiensi mikronutrien kromium dan magnesium. Beras *parboiled* diketahui memiliki aroma yang kurang disukai, sehingga perlu dilakukan penambahan ekstrak pandan untuk menghasilkan aroma yang disukai oleh konsumen. Untuk menghasilkan pangan fungsional bagi penderita diabetes yang memiliki nilai indeks glikemik rendah dan kecukupan mikronutrien, berturut-turut dilakukan pendinginan dan fortifikasi pada *Brown parboiled rice*. *Brown parboiled rice* diketahui memiliki penampilan tidak putih bersih melainkan agak kecokelatan. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan ekstrak pandan dan lama pendinginan terhadap mutu tanak, aktivitas antioksidan, tingkat kesukaan dan indeks glikemik pada beras *parboiled* coklat.

Penelitian menggunakan rancangan acak lengkap. Perlakuan yang digunakan adalah cara penambahan ekstrak pandan (EP) dan fortifikasi Cr dan Mg (cara penambahan 1: Cr+Mg+EP-65°C, cara penambahan 2: Cr+Mg-65°C & EP-100°C, cara penambahan 3: Cr+Mg+EP-65°C & EP-100°C, cara penambahan 4: Cr+Mg+EP-100°C) dan lama pendinginan suhu 2°C (0, 12, 24, 36 jam). Analisa yang dilakukan adalah mutu tanak, analisis fortifikan (kromium dan magnesium), aktivitas antioksidan, tingkat kesukaan dan indeks glikemik. Data yang diperoleh dilakukan analisa varian (ANOVA) pada tingkat kepercayaan 95 %. Apabila terdapat beda nyata masing-masing perlakuan dilanjutkan dengan uji *Duncan Multiple Range Test*.

Cara penambahan ekstrak daun pandan dan lama pendinginan mempengaruhi aktivitas antioksidan dan mutu tanak (*water uptake ratio*, *elongation*, dan *solid loss*) namun tidak mempengaruhi *cooking time*, dan *alkali spreading value*. Penambahan ekstrak daun pandan dan lama pendinginan (3: Cr+Mg+EP-65°C & EP-100°C) terfortifikasi menurunkan indeks glikemik beras yang dihasilkan. Nilai indeks glikemik *brown parboiled rice* sebesar 40 (<55). Cara penambahan 3: Cr+Mg+EP-65°C & EP-100°C menghasilkan *brown parboiled rice* yang memiliki *cooking time* 43 menit, *alkali spreading value* 2, *water uptake ratio* 3,10 g / g, *elongation* 1,21 mm / mm, *solid loss* 1,87 g / 100g.

Kata: *Brown parboiled rice*, mutu tanak, indeks glikemik.

EFFECT OF PANDAN LEAVE EXTRACT ADDITION METHOD AND COOLING TIME ON COOKING QUALITY, ANTIOXIDANT ACTIVITY, PREFERENCE LEVEL AND GLYCEMIC INDEX FORTIFIED - BROWN PARBOILED RICE

ABSTRACT

The prevalence of diabetics in Indonesia has been increasing every year. Diabetics have micronutrient deficiency of chromium and magnesium. Parboiled rice known to have the aroma of less preferred, do addition of pandan leave extract to produce parboiled rice aroma preferred by consumers. To produce functional food for diabetics that have the glycemic indeks low and adequate mikronutrien in a row done cooling and fortified on the brown parboiled rice. Brown parboiled rice known to have the appearance of not white clean but rather brown. This research aimed to determine the effect increasing pandan extract and frozen on cooking quality, scavenging activity, preference level and glycemic index of parboiled brown rice.

This research used completely randomized design. The treatments used were the addition of pandan extract (PE) and fortified of Cr and Mg (method of addition 1: Cr + Mg + PE-65⁰ C, method of addition 2: Cr + Mg-65⁰ C & PE-100⁰ C, method of addition 3: Cr + Mg + PE-65⁰ C & PE-100⁰ C, method of addition 4: Cr + Mg + PE-100⁰ C) and temperature cooling time 2⁰ C (0, 12, 24, and 36 hours). The analyzes were cooking quality, fortified of analyze (chromium and magnesium), antioxidant activity, preference level and glycemic index. The results obtained were analyzed variance (ANOVA) at 95% confidence level. If the real difference of each treatment is continued with Duncan Multiple Range Test.

The addition of pandan leaf extract and cooling duration effect the antioxidant activity and the cooking quality (water uptake ratio, elongation, and solid loss) but does not effect cooking time, and alkali spreading value. The addition of pandan leaf extract and cooling time (3: Cr+Mg+EP-65⁰C & EP-100⁰C) decrease the resulting glycemic index of rice. The value of the brown parboiled rice glycemic index was 40 (<55). The method of addition (3: Cr+Mg+EP-65⁰C & EP-100⁰C) produce Brown parboiled rice the value of 43 minutes cooking time, alkali spreading value 2, water uptake ratio 3.10 g / g, elongation 1.21 mm / mm, solid loss 1.87 g / 100g.

Keyword: Brown parboiled rice, cooking quality, glycemic index.