

**PENGARUH CARA PENAMBAHAN EKSTRAK PANDAN DAN WAKTU
PENDINGINAN GABAH TERHADAP TINGKAT KESUKAAN, AKTIVITAS
ANTIOKSIDAN, KADAR FORTIFIKAN DAN PATI RESISTEN SERTA
INDEKS GLIKEMIK BERAS *PARBOILED* TERFORTIFIKASI**

INTISARI

Prevalensi penyakit diabetes mellitus (DM) di Indonesia terus meningkat. Pengelolaan diet untuk penyakit tersebut dibutuhkan pangan yang mempunyai indeks glikemik rendah. Penderita DM pada umumnya juga mengalami defisiensi kromium dan magnesium, sehingga produk pangan terutama makanan pokok beras perlu dilakukan fortifikasi. Salah satu proses untuk menurunkan indeks glikemik beras dapat dilakukan dengan proses *parboiling*. Upaya untuk memperbaiki adanya aroma kurang disukai pada beras *parboiled*, dilakukan dengan penambahan ekstrak pandan dan untuk meningkatkan kadar pati resisten dapat dilakukan pendinginan gabah. Penelitian ini bertujuan mengetahui pengaruh cara penambahan ekstrak pandan dan lama pendinginan terhadap tingkat kesukaan, kadar fortikan, aktivitas antioksidan, kadar pati resisten serta indeks glikemik beras *parboiled* terfortifikasi kromium dan magnesium.

Penelitian ini menggunakan rancangan acak lengkap dengan perlakuan cara penambahan ekstrak pandan (EP), yaitu cara 1 (EP + Cr + Mg – 65°C), 2 (Cr + Mg – 65°C & EP – 100°C), 3 (EP + Cr + Mg – 65°C & EP – 100°C), 4 (EP + Cr + Mg – 100°C) dan lama pendinginan (2°C) selama 0, 12, 24 dan 36 jam. Analisa yang dilakukan meliputi uji kesukaan, aktivitas antioksidan, kadar fortifikan dan pati resisten serta indeks glikemik. Hasil yang diperoleh dilakukan analisa varian (ANOVA) pada tingkat kepercayaan 95%. Apabila beda nyata masing-masing perlakuan dilanjutkan dengan uji *Duncan Multiple Range Test*.

Penambahan ekstrak pandan dan lama pendinginan menurunkan IG nasi beras *parboiled*, meningkatkan kadar pati resisten dan memperbaiki penerimaan panelis terhadap beras *parboiled*. Nasi dengan IG paling rendah (20,03) adalah nasi beras *parboiled* yang dihasilkan dari cara penambahan 1 pendinginan 12 jam, yang mempunyai kadar pati resisten tinggi (23,99%) dan disukai oleh panelis. Beras tersebut mengandung 0,06 mg Cr/kg beras dan 131,80 mg Mg/kg beras serta mempunyai aktivitas antioksidan sebesar 28,77 (%RSA).

Kata kunci: beras *parboiled*, fortifikasi, indeks glikemik, pati resisten, pendinginan.

THE EFFECT OF PANDAN EXTRACT ADDITION METHODE AND COOLING TIME ON LEVEL OF PREFERENCE, ANTIOXIDANT ACTIVITY, FORTIFICANTS, RESISTANT STARCH AND GLYCEMIC INDEX OF FORTIFIED-PARBOILED RICE

ABSTRACT

The prevalence of Diabetes Mellitus (DM) in Indonesia continues to increase. Diet management of the disease requires food that has a low glycemic index. Generally, diabetics are known have chromium and magnesium deficiency, so the rice as staple food needs to be fortified. One of processing that can be lowering the glycemic index is parboiling. Efforts to improve the parboiled rice, then the process of parboiling is added with pandan extract and to increase level of resistant starch is done by cooling. This research aim to evaluate the effect of pandan extract addition and cooling time to level of preference, fortificants, antioxidant activity, resistant starch content and glycemic index of chromium and magnesium fortified-parboiled rice.

This research used completely randomize design, the treatment were used in this research is method of pandan extract addition : 1 (EP + Cr + Mg – 65°C), 2 (Cr + Mg – 65°C & EP – 100°C), 3 (EP + Cr + Mg – 65°C & EP – 100°C), 4 (EP + Cr + Mg – 100°C) and cooling time (2°C) of 0, 12, 24 and 36 hours. The parameters that was analysis were level of preference, antioxidant activity, fortificants, resistant starch and glycemic index. The datas were analyzed by analysis of variant (ANOVA). If there was significant difference in each treatment continued by Duncan Multiple Range Test (DMRT).

The pandan extract addition and cooling time have decreased glycemic index, increased the resistant starch content and improved the panelist's acceptance of *parboiled* rice. The lowest glycemic index (20,03) parboiled rice produced by method 1 and cooling of 12 hours, which has high resistant starch content (23,99%) and it is favored by the panelist. This rice containing 0,06 mg Cr and 131,80 mg Mg and has antioxidant activity about 28,77 (%RSA).

Keyword: cooling, fortification, glycemic index, parboiled rice, resistant starch