

**FOOD FIBER LEVELS AND ACCEPTANCE OF BREAD BREAD WITH  
THE SUBSTITUTION OF ARROWROOT FLOUR (*Maranta arundinacea*)  
AND HANJELI FLOUR (*Coix laryma jobi-L.*) AS ALTERNATIVE  
SNACKS FOR THE PREVENTION OF DIABETES MELLITUS**

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**ABSTRACT**

**Background:** Consuming high dietary fiber food is one of preventing diabetes mellitus methods. In general, white bread made from wheat flour is low in dietary fiber and high on the glycemic index. The content of soluble dietary fiber in arrowroot flour is 2.37% and insoluble dietary fiber is 12.49%. While the dietary fiber of hanjeli flour is 3.56 g. Arrowroot flour and hanjeli flour are one of the processed products of local tubers and cereals high in dietary fiber that have the potential as a substitute for flour in processed white bread.

**Objective:** Determine the dietary fiber content and acceptability of white bread with substitution of arrowroot (*Maranta arundinacea*) and hanjeli flour (*Coix laryma jobi-L.*).

**Methods:** This type of research was purely experimental with a completely randomized design (CRD). There are four experimental designs, namely 100% wheat flour: 0% arrowroot flour: 0% hanjeli flour, 70% wheat flour: 15% arrowroot flour: 15% hanjeli flour, 70% wheat flour: 20% arrowroot flour: 10% hanjeli flour, 70% wheat flour: 25% arrowroot flour: 5% hanjeli flour. Then the results were analyzed and reviewed in terms of dietary fiber content and acceptability.

**Results:** The results showed that there was no significant difference between the substitution of arrowroot and hanjeli flour in the manufacture of white bread on the level of preference for taste, color, and aroma ( $p > 0.05$ ). There was a significant difference in the level of preference for texture and dietary fiber of white bread ( $p < 0.05$ ).

**Conclusion:** The more arrowroot flour substitutes, the lower the panelists' preference level. The substitution of arrowroot flour and hanjeli flour increased the dietary fiber of white bread.

Keywords: arrowroot flour, hanjeli flour, white bread, dietary fiber, acceptability

**KADAR SERAT PANGAN DAN DAYA TERIMA ROTI TAWAR  
DENGAN SUBSTITUSI TEPUNG GARUT (*Maranta arundinacea*) DAN  
TEPUNG HANJELI (*Coix laryma jobi-L.*) SEBAGAI ALTERNATIF  
KUDAPAN UNTUK PENCEGAHAN PENYAKIT DIABETES MELLITUS**

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**ABSTRAK**

**Latar Belakang:** Salah satu cara pencegahan diabetes mellitus adalah dengan mengonsumsi makanan tinggi serat pangan. Pada umumnya roti tawar terbuat dari tepung terigu rendah serat pangan dan tinggi indeks glikemik. Kandungan serat pangan larut tepung garut sebesar 2,37% dan serat pangan tak larut 12,49%. Sedangkan serat pangan tepung hanjeli sebesar 3,56g. Tepung garut dan tepung hanjeli merupakan salah satu produk olahan umbi-umbian dan serealia lokal tinggi serat pangan yang berpotensi sebagai substitusi terigu dalam olahan roti tawar.

**Tujuan:** Mengetahui kadar serat pangan dan daya terima roti tawar dengan substitusi tepung garut (*Maranta arundinacea*) dan tepung hanjeli (*Coix laryma jobi-L.*).

**Metode:** Jenis penelitian ini adalah eksperimental murni dengan rancangan acak lengkap (RAL). Ada empat rancangan percobaan yaitu 100%tepung terigu : 0% tepung garut : 0% tepung hanjeli, 70% tepung terigu :15% tepung garut : 15% tepung hanjeli, 70% tepung terigu : 20% tepung garut : 10% tepung hanjeli, 70% tepung terigu : 25% tepung garut : 5% tepung hanjeli. Kemudian hasilnya dianalisis dan ditinjau dari kadar serat pangan dan daya terima.

**Hasil:**Hasil penelitian menunjukkan bahwa tidak ada perbedaan yang bermakna antara substitusi tepung garut dan hanjeli pada pembuatan roti tawar terhadap tingkat kesukaan rasa, warna, dan aroma ( $p>0,05$ ). Ada perbedaan yang bermakna terhadap tingkat kesukaan tekstur dan kadar serat pangan roti tawar ( $p<0,05$ ).

**Kesimpulan:**Semakin banyak substitusi tepung garut, tingkat kesukaan panelis semakin rendah. Substitusi tepung garut dan tepung hanjeli meningkatkan kadar serat pangan roti tawar.

**Kata kunci:** tepung garut, tepung hanjeli, roti tawar, kadar serat pangan, daya terima