ABSTRAK

Angela Maretha (01034180089)

KAJIAN PUSTAKA TENTANG POTENSI PEMANFAATAN TEPUNG PISANG SEBAGAI BAHAN FUNGSIONAL DALAM PRODUK RENDAH KALORI BERBASIS TERIGU

Skripsi, Fakultas Sains dan Teknologi (2021).

(xiii+55 halaman; 9 tabel; 6 gambar; 2 lampiran)

Bahan pangan dengan indeks glikemik tinggi dapat menyebabkan *diabetes mellitus.* Pangan rendah kalori dapat mengontrol glikemik para penderita diabetes tipe 2. Tepung terigu sering digunakan sebagai bahan untuk membuat berbagai produk pangan, namun dapat menyebabkan alergi pada penderita *celiac disease.* Keberadaan *celiac disease* dan *diabetes melitus* mendorong usaha mengeksplorasi bahan pangan rendah kalori seperti tepung pisang. Tujuan dari kajian pustaka adalah mengetahui pengaruh konsentrasi tepung pisang terhadap kadar pati resisten, daya cerna pati, uji proksimat, tekstur, warna, dan sensori produk berbasis tepung terigu yang meliputi *cookies*, pasta, *white salted noodles*, roti, *muffin*, *brownies*, *sponge cake*, *layer cake*, biskuit, kue kering, dan *chinese steamed bread,* serta menentukan pangan rendah kalori berbasis terigu yang ditambah dengan tepung pisang berdasarkan karakteristik fisiko-kimia dan sensorinya. Substitusi 15% tepung pisang pada *cookies* meningkatkan kadar pati resisten, sedangkan substitusi 15% tepung pisang pada pasta menurunkan daya cernanya. Kadar air, serat pangan, abu, dan protein meningkat pada *cookies* dan *layer cake* dengan substitusi 15% tepung pisang. *Hardness* dan nilai a* meningkat, serta nilai L* dan b* menurun dengan substitusi hingga 100% tepung pisang pada *sponge* dan *layer cake*. Substitusi 50% tepung pisang menyebabkan penurunan *cohesiveness* pada *hard biscuit* dan *sponge cake*. Substitusi 50% tepung pisang pada *hard biscuit* dan *layer cake* menurunkan *springiness*. *Adhesiveness* pada *chinese steamed bread* mengalami penurunan dengan substitusi 15% tepung pisang. Tingkat kesukaan pada rasa, tekstur, dan aroma meningkat pada *brownies* dan kue kering dengan substitusi 50% tepung pisang, namun menurun pada kesukaan warna *cookies* dan biskuit 80% tepung pisang. Secara keseluruhan, *cookies* dengan substitusi 40-50% tepung pisang dinyatakan berpotensi menjadi pangan rendah kalori berdasarkan karakteristik fisiko-kimia dan sensorinya.

Kata Kunci : pangan rendah kalori, pati resisten, serat pangan, tepung terigu, tepung pisang, serat pangan

Referensi : 87 (1992-2021)

ABSTRACT

Angela Maretha (01034180089)

LITERATURE REVIEW OF POTENTIAL UTILIZATION OF BANANA FLOUR AS A FUNCTIONAL INGREDIENT IN LOW-CALORIE WHEAT-BASED PRODUCTS

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(xiii+55 pages; 9 tables; 6 figures; 2 appendices)

Foods with a high glycemic index can cause diabetes mellitus. Low-calorie foods can control the glycemic index of people with type 2 diabetes. Wheat flour is often used as an ingredient to make various food products, but it can cause allergies in celiac disease patient. The existence of celiac disease and diabetes mellitus encourages efforts to explore low-calorie foods, such as banana flour. The purpose of the literature review are to determine the effect of banana flour concentration on resistant starch levels, digestibility of starch, proximate test, texture, color, and sensory of wheat flour-based products, which include cookies, pasta, white salted noodles, bread, muffins, brownies, sponge cake, layer cakes, biscuits, pastries, and Chinese steamed bread, and to determine low-calorie flour-based foods added with banana flour based on their physicochemical and sensory characteristics. The substitution of 15% banana flour in cookies increased the resistant starch content, while the substitution of 15% banana flour to pasta decreased its starch digestibility. Moisture content, dietary fiber, ash, and protein increased in cookies and layer cake with the substitution of 15% banana flour. Hardness and a* values increased, and L* and b* values decreased with the substitution of up to 100% banana flour in sponge and layer cake. Substitution of 50% banana flour decreases the cohesiveness in hard biscuit and sponge cake. The substitution of 50% banana flour to the hard biscuit and layer cake reduces the springiness. Adhesiveness in Chinese steamed bread decreased with the substitution of 15% banana flour. The level of preference for taste, texture, and aroma increased in brownies and pastries with the substitution of 50% banana flour but decreased in color preferences for cookies and biscuits with 80% banana flour. Overall, cookies with the substitution of 40-50% banana flour have the potential to become a low-calorie food based on their physicochemical and sensory characteristics.

Keywords : banana flour, dietary starch, low-calorie foods, resistant starch, wheat flour

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