INTISARI

KARAKTERISTIK FISIK DAN SENSORIS *DARK CHOCOLATE* DENGAN PENAMBAHAN TEPUNG GLUKOMANAN PORANG *(Amorphophallus oncophyllus)*

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Tepung glukomanan yang dapat diekstrak dari umbi porang *(Amorphophallus oncophyllus)* merupakan serat pangan larut air bernilai ekonomis tinggi, namun penggunaannya pada produk pangan khususnya cokelat belum banyak dilakukan. Permintaan konsumen akan produk cokelat yang sehat meningkat, penambahan glukomanan dapat menjadi salah satu upaya untuk membuat cokelat lebih sehat. Penelitian ini bertujuan untuk mengkaji pengaruh penambahan tepung glukomanan porang dan kadar lemak serta interaksinya terhadap karakteristik fisik *dark chocolate* yang meliputi kadar air, ukuran partikel, warna, kekerasan, titik leleh, reologi dan mikroskopi serta mengkaji karakteristik sensoris yang meliputi *glossiness*, warna, kekerasan, kecepatan leleh, *grittiness*, kelengketan, asam, manis, dan kesukaan. *Dark chocolate* dibuat dengan formulasi bubuk kakao 27,8%, kakao massa 5,8%, lemak kakao 21,4%, dan total gula 45%. Variabel bebas penelitian terdiri dari kadar penambahan tepung glukomanan porang yaitu 0%; 1%; dan 2% dan kadar lemak yaitu 30%; 32%; 34%. Hasil penelitian menunjukkan bahwa peningkatan kadar glukomanan berpengaruh pada parameter kadar air, kekerasan, warna (L*, a*, b*), titik leleh, reologi, mikroskopi, atribut sensoris kekerasan, sensoris kecepatan leleh, sensoris *grittiness*, dan kelengketan namun tidak berpengaruh pada parameter ukuran partikel, sensoris glossiness, sensoris warna, dan sensoris asam. Adapun peningkatan kadar lemak berpengaruh pada parameter warna (L*, a*, b*), kekerasan, titik leleh, sensoris kekerasan, sensoris kecepatan leleh, sensoris *grittiness*, dan sensoris kelengketan namun tidak berpengaruh pada parameter ukuran partikel, kadar air, sensoris *glosiness*, sensoris warna, sensoris asam dan sensoris manis. Penambahan tepung glukomanan yang tinggi kadar air dapat menyebabkan aglomerasi dan terbentuknya *sugar network*. Sampel yang paling disukai panelis adalah sampel dengan kadar lemak 30% dan kadar glukomanan 2%.

Kata Kunci: *dark chocolate*, umbi porang, glukomanan, aglomerasi, *sugar network*

ABSTRACT

PHYSICAL AND SENSORY CHARACTERISTICS OF DARK CHOCOLATE WITH THE ADDITION OF GLUCOMANNAN PORANG POWDER (*Amorphophallus oncophyllus)*

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Glucomannan powder which can be extracted from the tubers of porang (*Amorphophallus oncophyllus*) is a highly value water-soluble food fiber, but its use in food products, especially in chocolate, has not been widely used. Consumer demand for healthier chocolate products are increasing, adding glucomannan can be an attempt to make chocolate healthier. This study aimed to investigate the effect of glucomannan porang powder and fat content and their interactions on the physical characteristics of dark chocolate including water content, particle size, color, hardness, melting point, rheology and microscopy and to investigate the sensory characteristics including glossiness, color, hardness, melting rate, grittiness, adhesiveness, sourness, sweetness, and consumer preferences. Dark chocolate is formulated with 27.8% cocoa powder, 5.8% cocoa mass, 21.4% cocoa fat, and 45% total sugar. The independent variables of this study consisted of the level of glucomannan porang powder: 0%; 1%; and 2% and fat content: 30%; 32%; 34%. The results showed that increasing glucomannan affected the parameters of water content, hardness, color (L*, a*, b*), melting point, rheology, microscopy, sensory attributes of hardness, melting rate, grittiness, and adhesiveness but did not affect on the parameters of particle size, sensory attributes of glossiness, color, and sourness. The increase in fat content affected the parameters of color (L*, a*, b*), hardness, melting point, sensory atrributes of hardness, melting rate, grittiness, and stickiness but did not affect the the parameters of particle size, water content, sensory attributes of glossiness, color, sourness and sweetness. The addition of glucomannan powder which is high in water content can cause agglomeration and the formation of sugar network. Sample with 30% fat content and 2% glucomannan content was preferred by panelists.

Keywords: dark chocolate, porang tubers, glucomannan, agglomeration, sugar network