

ABSTRACT

STUDY OF GLUCOMANNAN FLOUR PURIFICATION FROM PORANG TUBERS (*Amorphophallus oncophyllus*)

By

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Porang tubers are plants that contain glucomannan for food. Purification of glucomannan flour is done to separate the glucomannan content and impurities more optimally. This research aims to determine the effect of adding ethanol concentration on the purity level of porang (*Amorphophallus oncophyllus*) glucomannan flour produced. The research was conducted with a single factor, namely ethanol concentration, with 5 replications. There were 6 treatments of ethanol concentration P1 (85%), P2 (75%), P3 (65%), P4 (55%) P5 (45%) and P6 (40%). The research consisted of the process of making porang tuber glucomannan flour, and analyzing calcium oxalate levels. The best treatment were tested for moisture content, ash content, pH measurement, solubility in alcohol, and solubility in ether. Data were presented descriptively in graphs. The results showed that the ethanol concentration produced glucomannan content in porang tuber flour ranging from 66,29-91,53%, and calcium oxalate content of (0,54 -1,74%). The (40%) ethanol concentration produced a high glucomannan content of (91,34%) and a low calcium oxalate content of (0,53%) with moisture content (13%), ash content (3,13%), crude fiber (6,46%), solubility in alcohol (1,2%) and solubility in ether (0,3%), Loss on drying (LOD) (6%), starch content (12,84%), lead content Pb (1,80 ppm), Cl⁻ content (0,23 %), viscosity (16800 cP), and water holding capacity of (78,43%).

Keywords: Calcium oxalate, ethanol, glucomannan, porang

ABSTRAK

KAJIAN PEMURNIAN TEPUNG GLUKOMANAN DARI UMBI PORANG (*Amorphophallus oncophyllus*)

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Umbi porang adalah tanaman yang terdapat kandungan glukomanan untuk bahan pangan. Pemurnian tepung glukomanan dilakukan untuk memisahkan kandungan glukomanan dan zat pengotor lebih optimal. Penelitian ini bertujuan untuk mengetahui pengaruh penambahan konsentrasi etanol terhadap tingkat kemurnian tepung glukomanan porang (*Amorphophallus oncophyllus*) yang dihasilkan. Penelitian dilakukan dengan faktor tunggal yaitu konsentrasi etanol, dengan 5 kali ulangan. Terdapat 6 perlakuan konsentrasi etanol P1 (85%), P2 (75%), P3 (65%), P4 (55%) P5 (45%) dan P6 (40%). Penelitian terdiri dari proses pembuatan tepung glukomanan umbi porang, dan analisis kadar kalsium oksalat. Perlakuan terbaik diuji kadar air, kadar abu, pengukuran pH, kelarutan dalam alkohol, dan kelarutan dalam eter. Data disajikan secara deskriptif dalam grafik. Hasil penelitian menunjukkan konsentrasi etanol menghasilkan kadar glukomanan dalam tepung umbi porang berkisar (66,29-91,53%), dan kadar kalsium oksalat (0,54-1,74%). Konsentrasi etanol (40%) menghasilkan kadar glukomanan yang tinggi sebesar (91,34 %) dan kadar kalsium oksalat yang rendah sebesar (0,53%) dengan kadar air (13%), kadar abu (3,13%), serat kasar (6,46%), kelarutan dalam alkohol (1,2%), dan kelarutan dalam eter (0,3%), *Loss on drying* (LOD) (6%), kadar pati (12,84%), kadar timbal Pb) (1,80 ppm), kadar Cl⁻ (0,23), viskositas (16800 cP), dan daya ikat air (78,43%).

Kata Kunci: Etanol, glukomanan, kalsium oksalat, porang