

**PENGARUH KECEPATAN ANGIN HEMBUSAN *CYCLONE*  
*SEPARATOR* TERHADAP KARAKTERISTIK KIMIA TEPUNG PORANG  
(*Amorphophallus muelleri* Blume)**

**INTISARI**

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Kini tepung porang tengah menjadi produk turunan umbi porang yang banyak dikembangkan karena kandungan glukomanan di dalamnya yang berguna di bidang industri hingga mengalami *high demand* di pasar lokal dan ekspor. Kualitas tepung porang menentukan secara langsung jangkauan pemanfaatannya di bidang industri. Pemurnian mekanis menjadi salah satu upaya pemurnian tepung porang dengan biaya rendah. Salah satu metode pemurnian mekanis yaitu pemisahan *impurities* menggunakan *cyclone separator* dengan prinsip pemisahan partikel berdasarkan ukuran atau massa. Penelitian ini dilakukan untuk mengetahui pengaruh penghembusan terhadap karakteristik kimia tepung porang.

Dalam penelitian ini, *chips* porang dari PT Sanindo Porang Berkah sebagai bahan baku ditumbuk untuk mengecilkan ukuran, digiling, diayak dengan mesh ukuran 60, lalu tepung yang lolos ayakan mesh 60 dihembus menggunakan empat variasi kecepatan angin, yaitu 5,9 m/s, 6,6 m/s, 7,07 m/s, dan 7,17 m/s. Kemudian dilakukan penentuan kadar glukomanan, pati, kalsium oksalat, protein, dan kadar air pada tepung porang tanpa perlakuan dan tepung porang hasil penghembusan. Didapatkan kadar glukomanan, kadar pati, kalsium oksalat, dan protein dalam tepung tanpa penghembusan berturut-turut adalah 29%, 58,74%, 0,5825%, dan 10,74%; pada tepung dengan kecepatan hembus 5,9 m/s adalah 39,8%, 50,45%, 0,5091%, dan 8,66%; pada tepung dengan kecepatan hembus 6,6 m/s adalah 40,21%, 47,72%, 0,5657%, dan 8,21%; pada tepung dengan kecepatan hembus 7,07 m/s adalah 43,74%, 46,19%, 0,5219%, dan 8,6%; lalu pada tepung dengan kecepatan hembus 7,17 m/s adalah 42,57%, 40,73%, 0,5251%, dan 8,62%. Proses penghembusan berpengaruh secara signifikan pada kadar glukomanan, pati, dan protein tepung porang, namun variasi kecepatan yang ada tidak berpengaruh nyata pada kadar proteinnya. Sementara pada kadar kalsium oksalat dan kadar air, proses penghembusan tidak memiliki pengaruh signifikan. Perlakuan terbaik didapatkan pada tepung porang dengan penghembusan kecepatan 7,17 m/s.

**Kata kunci:** kecepatan angin, *cyclone separator*, tepung porang, glukomanan, kalsium oksalat

## THE EFFECT OF BLOWING AIR VELOCITY USING CYLCONE SEPARATOR ON THE CHEMICAL CHARACTERISTICS OF PORANG FLOUR (*Amorphophallus muelleri* Blume)

### ABSTRACT

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Now porang flour is becoming a derivative product of porang tubers that is being widely developed because of the glucomannan content in it which is useful in the industrial sector and is experiencing high demand in local and export markets. The quality of porang flour directly defines the range of its application in industry. Mechanical purification is an effort to purify porang flour at low cost. One method of mechanical purification is separating impurities using a cyclone separator with the principle of separating particles based on their size or mass. This research was aimed to determine the effect of exhalation on the chemical characteristics of porang flour.

In this research, porang chips from PT Sanindo Porang Berkah as raw material were ground to reduce the size, milled, sifted with a 60 mesh sieve, then the flour that passed through the 60 mesh sieve was blown using four variations of wind speed, namely 5.9 m/s, 6.6 m/s, 7.07 m/s, and 7.17 m/s. Then, the levels of glucomannan, starch, calcium oxalate, protein and water content in unblown porang flour and blown porang flour were determined. It was found that the glucomannan content, starch content, calcium oxalate, and protein in flour without blowing were respectively 29%, 58.74%, 0.5825%, and 10.74%; in flour with a blowing speed of 5.9 m/s it is 39.8%, 50.45%, 0.5091%, and 8.66%; in flour with a blowing speed of 6.6 m/s it is 40.21%, 47.72%, 0.5657%, and 8.21%; in flour with a blowing speed of 7.07 m/s it is 43.74%, 46.19%, 0.5219%, and 8.6%; then for flour with a blowing speed of 7.17% it is 42.57%, 40.73%, 0.5251%, and 8.62%. The blowing process has a significant effect on the levels of glucomannan, starch and protein in porang flour, but variations in speed do not have a significant effect on the protein levels. Meanwhile, on calcium oxalate levels and water content, the blowing process did not have a significant influence. The best treatment was obtained with porang flour with a blowing speed of 7.17 m/s.

**Keywords:** air velocity, cyclone separator, porang flour, glucomannan, calcium oxalate