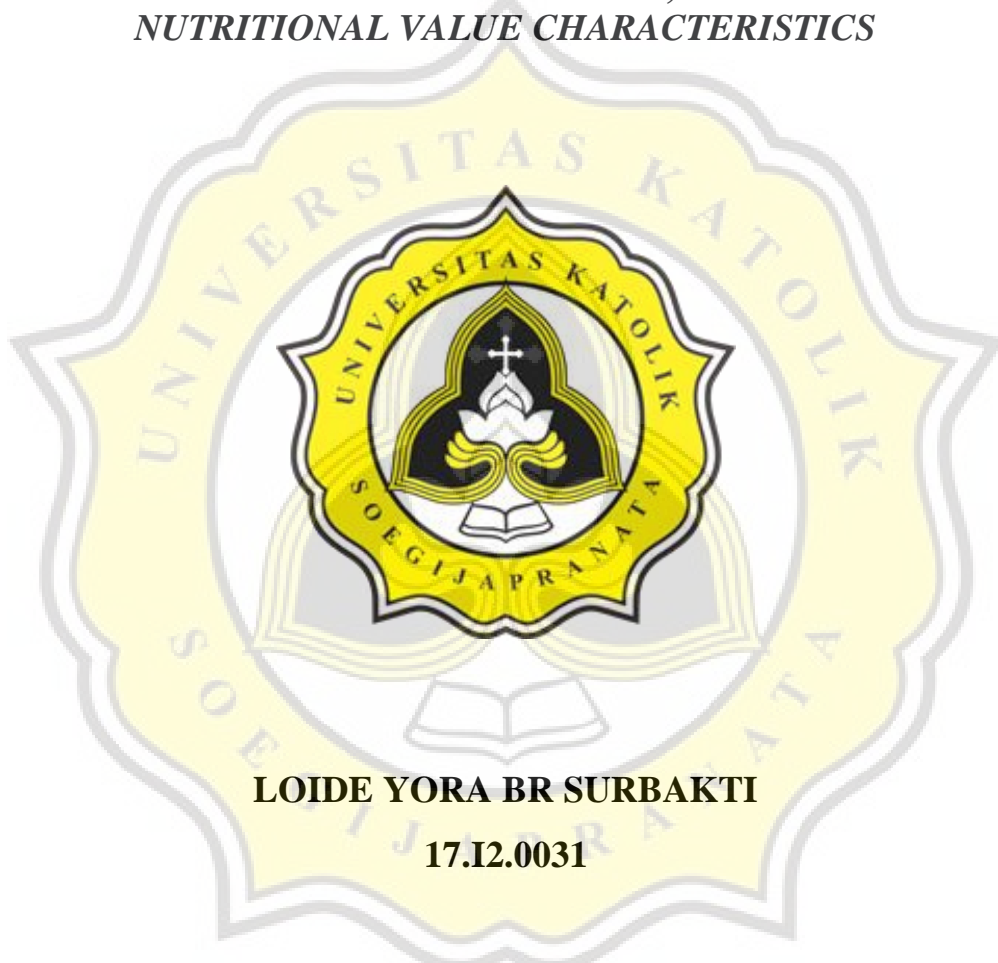


**OPTIMALISASI FORMULASI SUBSTITUSI TEPUNG UMBI  
PORANG (*Amorphophallus muelleri blume*) DALAM PEMBUATAN  
PASTA *GNOCCHI* BERDASARKAN KARAKTERISTIK SENSORI,  
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***OPTIMIZATION OF PORANG FLOUR (*Amorphophallus muelleri  
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PRODUCTION BASED ON SENSORY, PHYSICAL AND  
NUTRITIONAL VALUE CHARACTERISTICS***



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**Diajukan dalam Rangka Memenuhi  
Salah Satu Syarat Memperoleh  
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## RINGKASAN

Wisata kuliner di Indonesia sekarang cenderung mengusung produk yang berasal dari luar negeri sehingga ketahanan pangan lokal dapat terancam. Oleh karena itu, bahan pangan lokal harus dimanfaatkan sebaik mungkin agar memberi dampak yang nyata. Tepung umbi porang merupakan salah satu jenis bahan pangan lokal yang masih jarang dimanfaatkan dalam pembuatan olahan pangan oleh masyarakat, padahal tepung umbi porang memiliki sumber gizi dan serat yang baik. Salah satu sumber gizi yang ada dalam umbi porang adalah glukomanan. Tepung umbi porang dapat dimanfaatkan untuk pembuatan pasta *gnocchi*, pasta *gnocchi* merupakan salah satu jenis pasta yang berasal dari negara Italia dengan bahan dasar kentang, tepung terigu dan telur. Pasta *gnocchi* dapat dibentuk menjadi bola atau bantal dan biasanya dicetak berbentuk ulir. Inovasi produk pada penelitian ini bertujuan untuk memanfaatkan bahan pangan lokal dalam pembuatan pasta *gnocchi*. Tujuan penelitian ini dilakukan untuk mengoptimalkan substitusi tepung umbi porang pada pembuatan pasta *gnocchi* lalu dianalisa secara fisik meliputi uji tekstur menggunakan tekstur *analyzer*, warna menggunakan *chromameter*, uji organoleptik, dan analisa proksimat meliputi uji kadar air, abu, lemak, protein dan karbohidrat. Serta uji serat kasar untuk melihat seberapa optimal substitusi tepung umbi porang dalam pembuatan pasta *gnocchi*. Uji sensori juga dilakukan untuk mengetahui tingkat penerimaan panelis. Data hasil analisis fisiokimia diolah menggunakan metode One Way ANOVA pada Analisa sensori diolah dengan metode Kruskal-Wallis dan dilanjutkan dengan uji Mann-Whitney. Hasil tingkat penerimaan secara pada substitusi formulasi 25-50% penambahan tepung umbi porang. Berdasarkan hasil uji warna menggunakan *chromameter*, memiliki nilai  $L^*$  73,085-76,361 yang menunjukkan bahwa substitusi penambahan tepung umbi porang memiliki rata-rata warna yang cenderung terang. Sedangkan pada tingkat kekerasan dan kekenyalan pada hasil uji tekstur, semakin tinggi substitusi penambahan tepung porang maka tingkat kekerasan pasta semakin keras, dan semakin tidak kenyal dengan hasil rata-rata tingkat kekerasan yaitu 1862,150 gF dan tingkat kekenyalan 1,366 mm. Kadar air pada formulasi substitusi tepung umbi porang memiliki nilai kadar air semakin rendah, sehingga dengan bertambahnya substitusi tepung umbi porang maka kadar air yang dihasilkan juga semakin rendah, yakni 49,142% pada formulasi substitusi 75% tepung umbi porang. Dan nilai kadar air tertinggi pada sampel kontrol 100% kentang. Pada uji kadar abu, diperoleh hasil kadar abu yang semakin tinggi dengan bertambahnya formulasi substitusi tepung umbi Porang. Pada formulasi substitusi 75% tepung umbi porang diperoleh kadar abu sebesar 6,581%. Kadar lemak diperoleh tertinggi pada formulasi substitusi 75% penambahan tepung umbi porang dengan kadar lemak 5,466%. Pada kadar protein tertinggi di peroleh pada formulasi substitusi 75% penambahan tepung umbi porang yaitu 6,900%. Sedangkan pada hasil kadar karbohidrat didapati nilai rata-rata ialah 36,957% - 34,744 kadar karbohidrat pada formulasi substitusi tepung umbi porang, sehingga dengan penambahan tepung umbi porang tidak menghasilkan nilai yang signifikansi dan berbeda nyata dengan kontrol pasta *gnocchi*. Pada kadar serat kasar diperoleh nilai tertinggi pada formulasi substitusi 25% tepung umbi porang yaitu 9,309% dan terendah pada formulasi substitusi 75% tepung umbi porang yaitu 5,659%. Sehingga dari formulasi substitusi tepung umbi porang memiliki pengaruh terhadap karakteristik sensori, fisik, dan kimia pada pasta *gnocchi*.

**Kata Kunci :** Pasta *gnocchi*, tepung glukomanan, umbi porang.

## SUMMARY

Culinary tourism in Indonesia in this present time tends to carry products originating from abroad so that local food security can be threatened. Therefore, local food ingredients must be utilized as best as possible in order to have a real impact. Porang flour is a type of local food that is rarely used in the manufacture of processed food by the community, even though porang flour has a good source of nutrition and fiber. One of the nutritional sources in porang tubers is glucomannan.

Porang flour can be used to make gnocchi pasta, gnocchi pasta is a type of pasta originating from Italy with the basic ingredients of potatoes, wheat flour and eggs. Gnocchi paste can be formed into balls or pillows and is usually threaded. Product innovation in this study aims to utilize local food ingredients in making gnocchi pasta. The purpose of this research was to optimize the addition of porang flour in the manufacture of gnocchi paste, then it was analyzed physically which included a texture test using a texture analyzer, color using a chromameter, organoleptic tests, and proximate analysis including tests for water content, ash, fat, protein and carbohydrates. As well as the crude fiber test to see how optimal the addition of porang flour is in making gnocchi pasta. Sensory test was also carried out to determine the level of acceptance by the panelists.

The data from the physiochemical analysis were processed using the One Way ANOVA method. The sensory analysis was processed using the Kruskal-Wallis method and continued with the Mann-Whitney test. The results of the acceptance rate are based on the substitution of the formulation of 25-50% with the addition of porang flour. Based on the results of the color test using a chromameter, it has an L\* value of 73.085-76.361 which indicates that the substitution of the addition of porang flour has an average color that tends to be bright. Meanwhile, for the hardness and elasticity levels in the textural test results, the higher the substitution of the addition of porang flour, the harder the paste hardness, and the less chewy it is with an average hardness level of 1862.150 gF and a elasticity level of 1.366 mm. The water content in the substitution of the formulation with the addition of porang flour has a lower water content value, so that with the addition of the addition of porang flour, the resulting water content is also lower, namely 49.142% in the 75% formulation with the addition of porang flour. And the highest water content value is in the 100% potato control sample. In the ash content test, the results obtained were higher ash content with increasing substitution of the formulation with the addition of porang flour. In the 75% substitution formulation, the addition of porang flour obtained an ash content of 6.581%. The highest fat content was obtained in the substitution of 75% formulation with the addition of porang flour with a fat content of 5.466%. The highest protein content was obtained in the substitution of the 75% formulation with the addition of porang flour, which was 6,900%. Whereas in the results of the carbohydrate content it was found that the average value was 36.957% - 34.744 the carbohydrate content in the substitution formulation of the addition of porang flour, so that the addition of porang flour did not produce a significant value and was significantly different from the control pasta gnocchi. Whereas the crude fiber content obtained the highest value in the 25% formulation substitution with the addition of porang flour, namely 9.309% and the lowest in the 75% formulation with the addition of porang flour, namely 5.659%. So that from the substitution formulation the addition of porang flour has an effect on the sensory, physical, and chemical characteristics of the gnocchi paste.

**Key Words** : Porang tuber, glucomannan flour, *gnocchi* paste.