Wijanji, R.R., 2006, Pengaruh Konsentrasi NaOH dan Waktu Pemasakan Terhadap Rendemen Pulp Serat Daun Nanas (*Ananas comosus*). Skripsi di bawah bimbingan Drs. Tokok Adiarto, MSi dan Drs. Hery Suwito. Jurusan Kimia, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Airlangga, Surabaya.

ABSTRAK

Salah satu karakteristik produksi pulp yang baik adalah jika menghasilkan rendemen yang tinggi dengan tetap mempertahankan kualitas dan biaya produksi. Penelitian ini bertujuan untuk mengetahui kondisi optimum yang dapat menghasilkan pulp serat daun nanas (*Ananas comosus*) dengan rendemen tinggi. Variabel yang sangat berpengaruh selama proses pembuatan pulp dengan metode Soda AQ (antakuinon) adalah konsentrasi NaOH dan waktu pemasakan. Dari rendemen optimum yang dihasilkan ditentukan komposisi kimia pulp yang meliputi kadar α-selulosa, kadar lignin, dan kadar abu. Disamping itu juga ditentukan sifat mekanik pulp yang berupa kekuatan tarik. Pulp dibuat dengan cara merefluks serat daun nanas dengan NaOH dan larutan antrakuinon 0,2% (b/v). konsentrasi NaOH divariasi 16,5%; 17,5%; 18,5% (b/v) dan waktu pemasakan divariasi 4; 5; 6 jam. Setelah direfluks, serat daun nanas menjadi lunak, kemudian diblender dan dicetak menjadi lembaran pulp. Pulp yang dihasilkan berwarna putih keruh. Kondisi optimum eksperimen ditentukan dengan uji statistik menggunakan metode taguchi. Dari uji statistik diketahui bahwa kondisi optimum diperoleh pada konsentrasi NaOH 17,5% (b/v) dan waktu pemasakan 4 jam. Komposisi kimia pulp serat daun nanas pada kondisi tersebut adalah: kadar selulosa 83,80%, lignin 5,90%, dan abu 5,49%. Sedangkan kekuatan tarik optimumnya diperoleh pada konsentrasi NaOH 16,5% dan waktu pemaskan 4 jam, dengan nilai *stress* 0,018 kN.

Kata kunci: pulp, serat daun nanas, kondisi optimum

Wijanji, R.R., 2006, The Influence Of NaOH concentration and Processing Time To The Pulp Yield From Pineapple (*Ananas comosus*) Leaf Fibres. Script is under guidance of Drs. Tokok Adiarto, MSi and Drs. Hery Suwito. Department of Chemistry. Faculty and Mathematics and Natural Sciences, Airlangga University, Surabaya.

ABSTRACT

One of the characteristic of successfully pulp production is high yield but still maintain its quality and production's cost. The purpose of the research was to investigate the optimum condition of pulp production of ananas (*Anannas comosus*) leaf fibres . Variebles influenced during pulp production using soda-AQ (anthraquinone) methode are concentrations of NaOH and processing time. The chemical composition of the pulp produced from the obtained optimum condition was then determined, that are contents of cellulose, lignin and ash. In addition, mechanical property of the pulp, that is strengthness of stretching of pulp was also observed. Pulp was produced by refluxed of pineapple leaves with the various concentration of NaOH (16.5%, 17.5%, 18.5% b/v) and processing time (4, 5, 6 hours) with addition of 0.2% (b/v) anthraquinone. Reflux softened the leaves. The mixture was then blended and cast as pulp sheet. The produced pulp had broken white colour. The optimum condition of the experiment was analyzed by statistical method using Taguchi test. Based on the statistical test, the optimum condition was concentration of NaOH 17.5% (b/v) with 4 hours processing time. Chemical compositions of the pulp at this condition were as followed: content of cellulose 83.80%, lignin 5.90% and ash 5.49%. The best stretching strength was obtained by using NaOH 16.5% solution with processing time 4 hours and showed stress value of 0.018 KN.

Key word: *pulp, pineapple leaf fibers, optimum condition.*