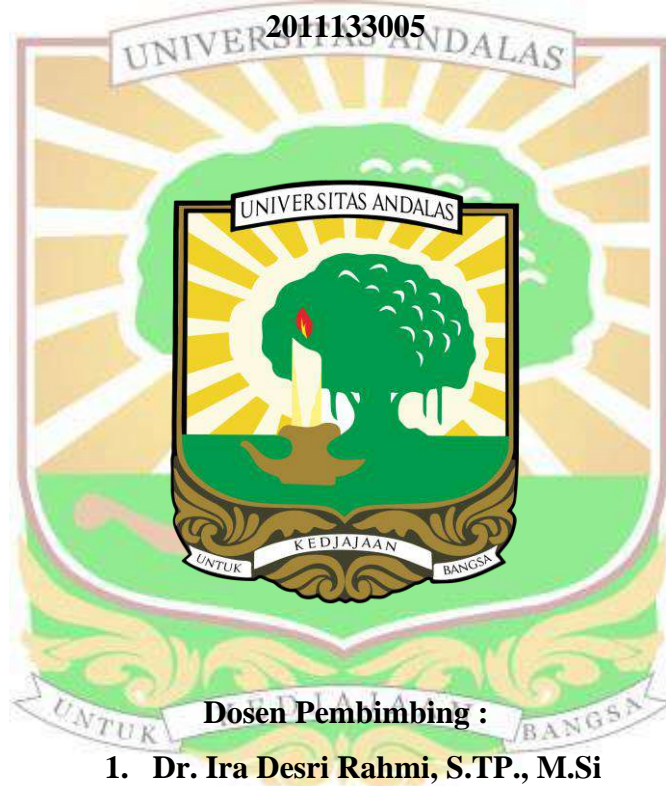


**PENGARUH JENIS *BLEACHING* AGENT DAN LAMA
WAKTU *BLEACHING* TERHADAP KARAKTERISTIK SERAT
SELULOSA DARI AMPAS TEBU (*Saccharum officinarum* L.)**

SKRIPSI

HASNA AFIFAH

2011133005



Dosen Pembimbing :

- 1. Dr. Ira Desri Rahmi, S.TP., M.Si**
- 2. Risa Meutia Fiana, S.TP., MP**

**FAKULTAS TEKNOLOGI PERTANIAN
UNIVERSITAS ANDALAS
PADANG
2025**

Pengaruh Jenis *Bleaching Agent* dan Lama Waktu *Bleaching* Terhadap Karakteristik Serat Selulosa dari Ampas Tebu (*Saccharum officinarum* L.)

Hasna Afifah¹, Ira Desri Rahmi², Risa Meutia Fiana²

¹ Mahasiswa Departemen Teknologi Industri Pertanian, Fakultas Teknologi Pertanian
Universitas Andalas, Limau Manis - Padang 25163

² Dosen Departemen Teknologi Industri Pertanian, Fakultas Teknologi Pertanian
Universitas Andalas, Limau Manis - Padang 25163
Email : hasnaafifah12082003@gmail.com

ABSTRAK

Penelitian ini bertujuan untuk mendapatkan interaksi penggunaan jenis *bleaching agent* dan lama waktu *bleaching* terhadap karakteristik serat selulosa dari ampas tebu, menganalisa pengaruh jenis *bleaching agent* terhadap karakteristik serat selulosa dari ampas tebu, menganalisa pengaruh lama waktu *bleaching* terhadap karakteristik serat selulosa dari ampas tebu terhadap serat selulosa yang dihasilkan. Penelitian ini menggunakan Rancangan Acak Lengkap Faktorial dengan 2 faktor yaitu waktu *bleaching* dan *bleaching agent* yang digunakan. Data hasil pengamatan dianalisis menggunakan Ducan's New Multiple Range Test (DNMRT) pada taraf nyata 5%. Hasil penelitian menunjukkan bahwa interaksi jenis *bleaching agent* dan lama waktu *bleaching* memberikan pengaruh nyata terhadap kadar hemiselulosa dan kadar zat ekstraktif. Jenis *bleaching agent* yang digunakan memberikan pengaruh nyata terhadap kadar selulosa, kadar hemiselulosa, kadar lignin, kadar zat ekstraktif, dan derajat putih. Lama waktu *bleaching* yang digunakan memberikan pengaruh nyata terhadap rendemen, kadar selulosa, kadar hemiselulosa, kadar zat ekstraktif, dan derajat putih. Berdasarkan hasil pengamatan yang telah dilakukan perlakuan A2B3 (*bleaching agent* menggunakan hidrogen peroksida dengan waktu 90 menit) dipilih sebagai perlakuan terbaik dengan karakteristik kimia yaitu pada rendemen sebesar 0,39%, kadar selulosa 89,74%, kadar hemiselulosa 0,24%, kadar lignin 7,45%, kadar zat ekstraktif 0,42%, derajat putih 74,29%. Nilai harga jual serat selulosa dari ampas tebu dalam satu kali produksi adalah Rp 26.000 /100 gram.

Kata kunci- Ampas Tebu, *Bleaching Agent*, Lama Waktu *Bleaching*, Serat Selulosa, dan Nilai Tambah

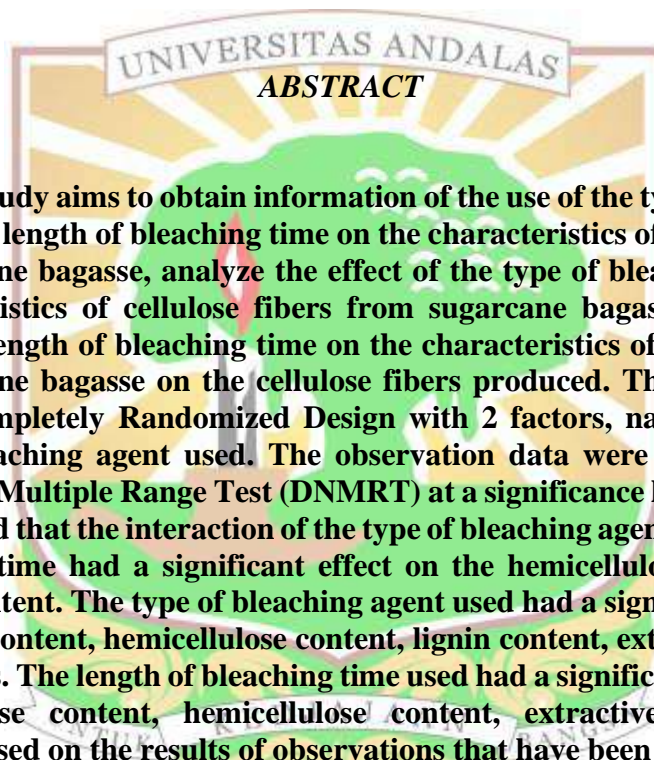
**The Effect of Bleaching Agent Type and Bleaching Time on the
Characteristics of Cellulose Fiber from Sugarcane Bagasse (*Saccharum
officinarum* L.)**

Hasna Afifah¹ , Ira Desri Rahmi², Risa Meutia Fiana²

¹ *Student of Agroindustrial Technology, Agricultural Technology Faculty, Andalas
University, Limau Manis-Padang 25163*

² *Lecturer of Agroindustrial Technology, Agricultural Technology Faculty, Andalas
University, Limau Manis-Padang 25163*

Email : hasnaafifah12082003@gmail.com



This study aims to obtain information of the use of the type of bleaching agent and the length of bleaching time on the characteristics of cellulose fibers from sugarcane bagasse, analyze the effect of the type of bleaching agent on the characteristics of cellulose fibers from sugarcane bagasse, analyze the effect of the length of bleaching time on the characteristics of cellulose fibers from sugarcane bagasse on the cellulose fibers produced. This study used a Factorial Completely Randomized Design with 2 factors, namely bleaching time and bleaching agent used. The observation data were analyzed using Ducan's New Multiple Range Test (DNMRT) at a significance level of 5%. The results showed that the interaction of the type of bleaching agent and the length of bleaching time had a significant effect on the hemicellulose content and extractive content. The type of bleaching agent used had a significant effect on the cellulose content, hemicellulose content, lignin content, extractive content, and whiteness. The length of bleaching time used had a significant effect on the yield, cellulose content, hemicellulose content, extractive content, and whiteness. Based on the results of observations that have been carried out, the A2B3 treatment (bleaching agent using hydrogen peroxide with a time of 90 minutes) was chosen as the best treatment with chemical characteristics, namely a yield of 0.39%, cellulose content of 89.74%, hemicellulose content of 0.24%, lignin content of 7.45%, extractive content of 0.42%, whiteness of 74.29%. The selling price of cellulose fiber from sugarcane bagasse in one production is IDR 26,000 /100 gram.

***Keywords-* Bagasse, Bleaching Agent, Bleaching Time, Cellulose Fiber, and Price Value**