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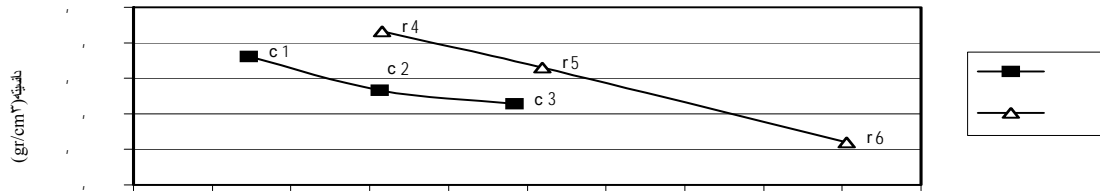
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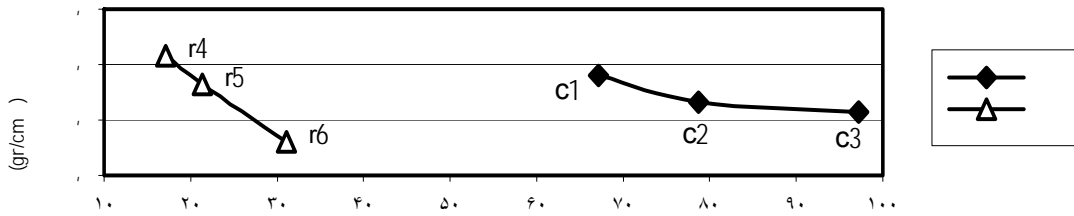
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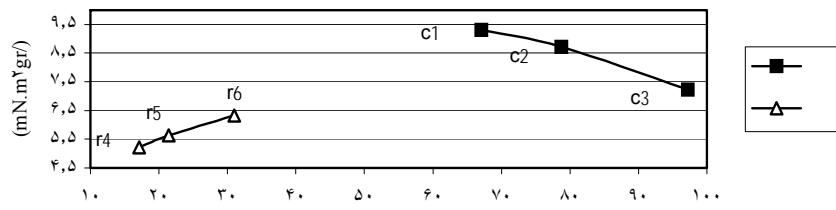
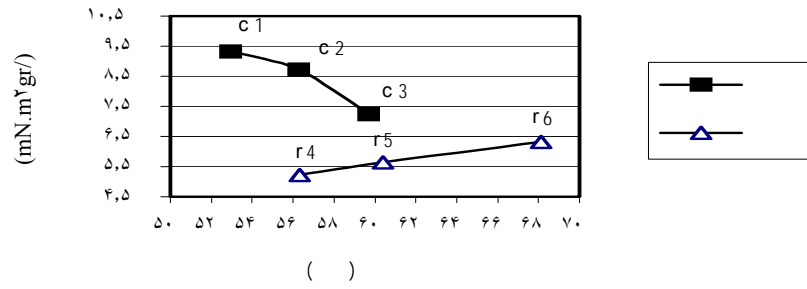


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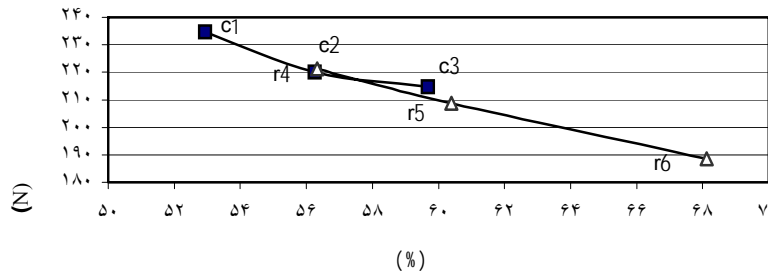
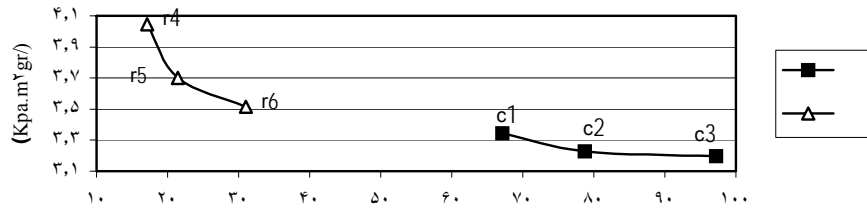
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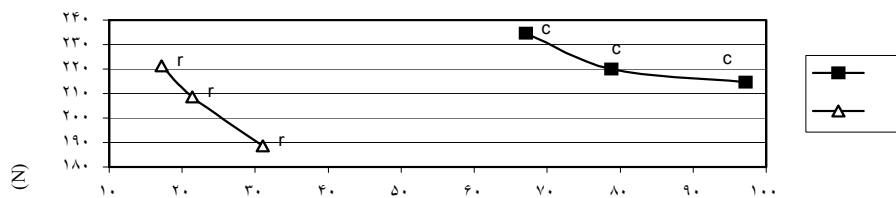
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- 12- Goyal, S.K (1991). "Non-wood plant fiber pulping", prog.rept.No.19, TAPPI press, Atlanta.
- 13- Murakami,K.(1990). "Structural characteristics of rice and wheat straw pulp sheets", mokuzai-gakkaishi Journal of the Japan wood research society, 36:3, p.200-206.
- 13- Rowell, M.R., Young, A.R., Rowell, K.G., (1997). Processing of agro-based Resources into pulp and paper in : paper and composites from agro-based Resources, CRC press, Boca Raton,FL.

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A Study of the Potentials of Producing Soda Pulps from Colza Straw for Making Fluting Paper

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S.Kazemi.Najafi³

Abstract:

This study was performed with the aim of investigating the possibility of making fluting paper from colza straw through soda pulping process in comparison with rice straw. Samples of colza and rice straw were prepared from the crop fields in the Bahnemir city of Mazandaran province. Chemical components of cellulose, lignin, extractives and ash were assessed as 41.1, 17.16, 8.12, 6.21% for colza and 48.7, 18.23, 5.21, 13% for rice straw, respectively. In order to study the full potential of colza straw and determine the proper needed treatments suitable for making fluting paper, three levels of pulp yields were selected in either cases of colza or rice straw. The pulp yields and kappa numbers of selected treatments were in the range of 52.93 to 59.68% and 67.1 to 97.17 for colza straw, and 56.32 to 68.12% and 17.15 to 31.01 for rice straw, respectively. The pulps of selected treatments were refined to the freeness levels of 300 ± 50 ml, CSF and used to make standard 127 gr/m² fluting handsheet paper, the physical and strength properties of which were then evaluated. Handsheet physical properties of calliper and density, along with strength properties of tear, burst and CMT were evaluated for each selected treatment of either colza or rice straw. On the basis of statistical analysis, papers from soda semichemical pulps of selected treatments of colza straw, in comparison with rice straw, were of lower density and higher strength properties, with the exception of burst index. Fluting papers of colza straw possess acceptable qualities as compared to other non-wood plants such as bagasse and cereal straws. In conclusion, colza straw can be recommended as suitable and new cellulosic resources for making fluting paper.

Keywords: Colza straw, Rice straw, Soda pulping process, Fluting paper, Semi chemical Pulp, Paper' properties.

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