

Advisor Report on Dissertation

of

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Title of Dissertation: Chemical and Chemical-mechanical Pulping of Rapeseed Straw

The dissertation on 223 pages (213 tables,73 images) deals with the processing of rapeseed straw (stalks and valves of siliques) to pulp. It is logically organised into chapters, successively into the theoretical, experimental part and lastly the part discussing the results.

Because of expanding usage of rapeseed in the production of bio-diesel fuel, the straw after the oily parts have been processed remains as a by-product suitable for further processing for the pulp and paper industry. Currently, the processing of straw gets lately higher prominence. Therefore the candidate's interest and his decision to follow the rapeseed straw processing, which has attracted lesser attention so far compared with other non-wood raw materials, should be highly appreciated. The dissertation is significant and is fully in line with the trends of the use of non-wood raw materials for applications in the pulp and paper industry. The use of any kind of straw is one of the most promising areas of research funded by the EU.

The experimental was carried out in laboratory conditions at the training Department of Wood, Pulp and Paper, Faculty of Chemical Technology, University of Pardubice. The PhD student used the technological processes of chemical delignification a combination of chemical and mechanical processing of rapeseed straw before disintegration into the papermaking fibres. To evaluate the processing of the raw material and to assess the obtained pulp , the student used appropriate laboratory methods and procedures. To determine the basic physical and mechanical properties and to evaluate the obtained results, the student used the procedures described and recommended in the applicable standards (TAPPI, ISO, DIN, CSN).

