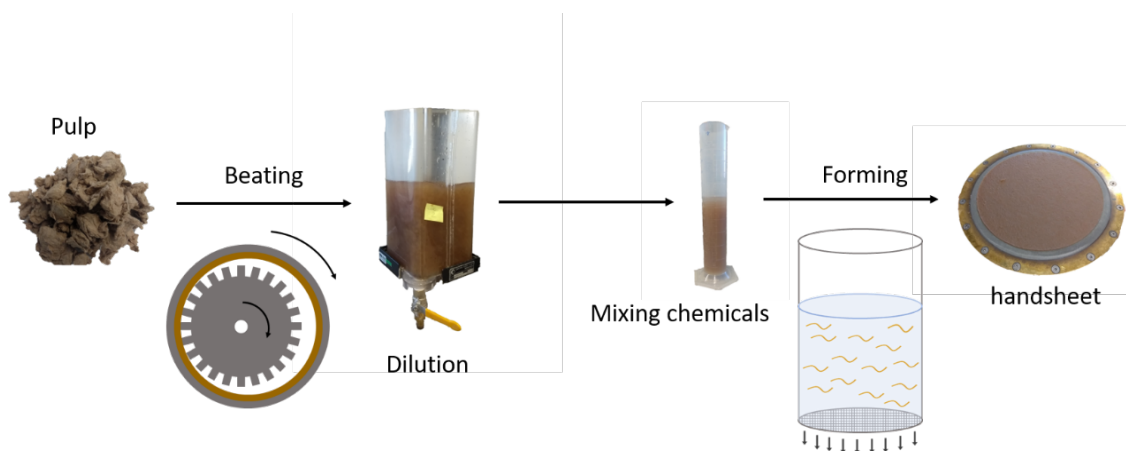


MASTER THESIS PROJECT

Influence of soy protein on paper performance

Strength is a vital property for packaging papers. Earlier investigations have proved that the strength properties of paper are deteriorated by the wood extractives, *e.g.* fatty acids, resin acids and sterols, which are carried over to paper mill together with the produced pulp. These extractives adsorb/precipitate on the pulp fibers and coagulate with strengthening agents (cationic starch) during papermaking, and thus disturb the fiber-to-fiber bonding, which is the weak link in paper strength.

Soy protein has been found to exhibit synergistic effect with cationic starch. Furthermore, it efficiently prevents the harmful effects of sticky materials, such as wood extractives. This interesting bifunctional property is the basis of this work. The objective of this master thesis project is to investigate how efficiently the cationic starch-soy protein hybrid is able to improve paper strength in the presence of extractives (see the scheme of experiments below). The work is done in close cooperation with our industrial partner within the frame of the project CD Laboratory for Fiber Swelling and Paper Performance.



Scheme of experiments: Preparation of paper in the laboratory to investigate the effect of cationic starch-soy protein hybrid on paper performance

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