

Abstract - 2nd Int. Cellulose fibres Conference**Title: Overview on alternative Cellulose-Feedstocks and introduction of an innovative process for the cellulose supply**

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Various types of wood currently form the main raw material to extract cellulose in order to produce fibers for the textile industry. Due to the increasing demand for sustainable fibers and textiles based on renewable raw materials, the request for cellulose is also rising as can be seen from the rising production figures [The Fiber Year 20]. In order to meet the increasing needs in a sustainable way, it is necessary to identify novel sources. By providing alternatives to the conventional cultivation in agriculture and forestry, ecological implications can be counteracted. The ecobalance of cellulose-based textiles can be improved by using e.g. residual materials from the agricultural and food industry, especially the use of regional sources. The use of aquatic biomass, such as algae, as an alternative to wood can also reduce competition for terrestrial cultivation areas for the cultivation of food or animal feed, if efficient farming models for high cellulose containing aquatic biomass are developed. In this lecture an overview of different alternative cellulose sources will be given and evaluated. Furthermore, an innovative and holistic process concept, for the supply of cellulose from various raw material sources with simultaneous utilization of side streams will be presented. This presentation ties in with the survey conducted by the Institute of Textile Technology at RWTH Aachen University in cooperation with the Nova Institute on challenges and development approaches in the cellulose fiber industry in the run-up to the 1st International Conference on Cellulose Fibres 2019 and addresses the topic of alternative cellulose sources relevant for this industry.

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Mein Zeichen: SSch
15.11.2020