

Cellulose in textile technology - An opportunity for the bio-economy?

Current State of the Art of Cellulose in the Textile Industry and Identification of future Research Needs

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Due to increasing demand, poor environmental performance and limited resources, alternatives must be found for petrochemical-based plastics used in the textile industry. One possible solution is the use of cellulose - the most abundant organic compound in nature. Due to its remarkable properties, cellulose is suitable for a wide range of applications, from comfortable clothing to high-strength technical textiles such as fiber composite components or tire cord.

The aim of the presentation is to conduct comprehensive research on the current state of the art of cellulose in the textile industry. Special attention is paid to the currently used production processes, their advantages as well as their deficits, the needs of the industry and to what degree they are addressed the present research landscape. In order to complete the overview, it will be determined to what extent cellulose fibres are at the focus of textile manufacturers.

The research is based on the use of scientific publications, published patents and journalistic articles. In addition, expert interviews are conducted with leading research institutes as well as throughout a network of cellulose (fibre) manufacturers and processors. The results will be used to assess the technological and economic potential of cellulose and its ecological sustainability in the textile industry and to identify current as well as future research needs. This will contribute to the establishment of a sustainable bio-economy.