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Development of a regionally produced, sustainable zero-waste functional cardigan made from 100% hemp

The aim of the project is to develop and produce a functional, sustainable cardigan made from 100% hemp. The jacket combines the positive physiological clothing properties of hemp, such as good moisture and temperature management, with the comfort properties of a knitted fabric.

The textile chain starts with the optimization/variation of the hemp fiber preparation for various product and process requirements. Sustainability is already taken into account in the design process through the concept of mono-materiality, versatility of use (optionally as a reversible jacket) and the planned recyclability of the finished product. A particular challenge is the production of yarn from 100% hemp. Yarns made from natural hemp and Lyohemp® (a regenerated fiber from the waste product of hemp extraction > hemp straw) have already been produced in different blends, allowing the properties of the fabric/product to be adjusted.

The jacket is planned as a zero-waste product. To this end, the fully fashioned and seamless processes will be tested and compared in the context of the product requirements. This eliminates the cutting of individual pattern pieces and time-consuming manufacturing processes as well as material losses due to cutting, etc.

With the help of a body mapping concept, ergonomically positioned functional zones are to be developed and integrated into the fabrics, adapted to the various requirements for casual, work and outdoor use. The plating technique can be used to optimize the function and comfort of the jacket.

Improving the processing of hemp fibers into attractive, sustainable natural products with a regional production chain in Germany promotes small and medium-sized companies with high innovation potential in the long term. In addition, increased hemp cultivation (with a low THC content) promotes biodiversity and relieves nitrate-polluted soils.

Duration

01.03.2022 - 28.02.2023

Project partners

The project is being carried out in cooperation with Bache GmbH and RiField GmbH.

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