

## KendyrTEX – Recultivation of salinised farmland in Central Asia with adapted raw material plants (apocynum ssp./kendyr) and textile value creation as an alternative to cotton

### Objective

Cotton cultivation, which has been established in Central Asia for more than 70 years, has led to some far-reaching negative effects on the natural production bases in the region. The increasing effects of climate change require the search for alternatives to supply the textile industry with raw materials.

The project investigated options for the yield-oriented cultivation of apocynum ssp. (kendyr) on former cotton sites and the production of textile-processable bast fibre qualities. The aim was to develop a process chain for the production of ultra-fine textile fibre qualities as an equivalent for regionally produced and processed cotton.

### Approach and results

During the project period, only apocynum straw from wild collection was available for process development. The stalks were harvested on site, sorted and mechanically opened in Germany. The remaining shives were almost completely removed and the fibre bundle structure was broken down to 90 dtex. The fibre length was shortened to cotton staple length. Degumming was necessary to further refine the fibre bundles. This halved the fibre fineness down to 40 dtex. With the subsequent carding, it could be further reduced to 5.6 dtex. This means that, apart from hemp fibres of Chinese origin, kendyr fibres come closest to cotton in terms of the fibre fineness achieved of all the types of bast fibres available regionally in Germany. Similar to colour-grown cotton, it has a unique, slightly rust-red inherent colour. The fibre was processably spun on production scale blended with 70 % cotton into a ring yarn 30 tex (Nm 34) and knitted as a lightweight knitted fabric (110-140 g/m<sup>2</sup>).



*Apocynum ssp. (kendyr) wild population*



*Apocynum ssp. cuttings in trial cultivation*



*Ring yarn 70730 CO/Kendyr 30 tex (Nm 34)*



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The final report on this project is available on request.

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Contact: Dipl.-Ing./Dipl.-WI Ina Sigmund  
Patrick Engel, M. Sc.

Phone: +49 371 5274-203  
Phone: +49 371 5274-209

Email: [ina.sigmund@stfi.de](mailto:ina.sigmund@stfi.de)  
Email: [patrick.engel@stfi.de](mailto:patrick.engel@stfi.de)

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