

HUGO BOSS

COTTON & OTHER PLANT-BASED FIBER COMMITMENT

1 PRELIMINARY REMARKS

HUGO BOSS takes responsibility for the environment and future generations. Therefore, we aim to protect people and the environment by more sustainable farming and refinement processes of our products. This includes, that we continually endeavor to find new ways to produce in the most resource-efficient way possible and promote innovative products. To this end, we closely collaborate with our business partners, farmer organizations and other stakeholders.

Our cotton & other plant-based fiber (e.g., flax, hemp) commitment aims to guide the effective implementation of sustainability standards for plant-based fiber cultivation and therewith includes objectives to continuously improve farmers wellbeing, soil health, biodiversity, and water accessibility. We focus particularly on sustainability standards that offer farmers training and local support for plant-based fiber cultivation, but also foster responsible agriculture in general.

One of the keyways to achieve the sourcing of more sustainable cotton and other plant-based fibers is to ensure that all employees involved in the creation of design and products and in the selection of suppliers and raw materials understand the cultivation and agriculture in general. Therefore, these employees should take into account the HUGO BOSS criteria for cotton and other plant-based materials in the creation of designs and products and in the selection of suppliers and raw materials.

2 COTTON & OTHER PLANT-BASED FIBER COMMITMENT

We, as HUGO BOSS, are aware of the importance and ramifications of safeguarding agriculture areas and are fully committed to compliance with all applicable national and international laws and regulations. Beyond, HUGO BOSS commits to continuously increase the share of cotton & other plant-based fibers cultivated under the sustainability criteria defined in this commitment. As cotton is the main fiber used in HUGO BOSS products, we have set ourselves the concrete target:

Use of 100 % sustainably sourced cotton by 2025 in accordance with the updated criteria described in this HUGO BOSS Cotton & other Plant-based Fiber Commitment.

All achievements related to the defined target will be monitored, published and, if necessary, the improvement programs will be strengthened.

3 SCOPE OF APPLICATION & INFRINGEMENTS

This commitment applies to all companies and divisions of the HUGO BOSS Group. The responsible governing corporate bodies of all Group companies must implement it in an appropriate manner. They must ensure ongoing alignment with the commitment. In the case of any conflict between this commitment and country-specific laws or regulations, exceptions may be made to individual provisions contained in this commitment. However, the essence and spirit of the respective provision must be respected.

4 USE OF COTTON & OTHER PLANT-BASED FIBERS

Cotton and the other plant-based fibers are essential raw materials for the fashion industry due to their natural properties: Cotton, for example, is a soft, absorbent, and breathable natural fiber and ideal for HUGO BOSS high quality garments. It provides good thermal insulation, provides good fabric odor management, and it is hypoallergenic. Using high quality cotton and other plant-based fibers guarantee a long-lasting garment. Unlike synthetic fibers, during washing procedures cotton and other plant-based fibers do not release any critical synthetic microfiber particles that would get into the natural water cycle and be taken up by marine organisms and enter the food chain¹. Therefore, HUGO BOSS share of cotton fibers within its product portfolio is roughly 55%, which is equal to 9,095 thousand tons in 2021².

5 SUSTAINABILITY IMPACTS OF COTTON & OTHER PLANT-BASED FIBERS

We derive our knowledge to address sustainability impacts in the cultivation of cotton and other plant-based fibers from our Natural Capital Valuation (based on Lifecycle Assessments (LCA) in collaboration with field experts). Additional studies and for cotton especially papers such as the "Cotton Paper" from the Transformers Foundation provide further information³.

In the following chapters, we summarize these sustainability issues of plant-based fibers, especially of the cotton cultivation. The information illustrates the complexity of bringing together all relevant issues with the intention to create added value for all stakeholders. Importantly, cotton and other plant-based fibers are grown in an extremely diverse range of geographic, ecological, social, economic, and cultural conditions, all of which influence or affect the extent of the impact of farming, and how the impacts can be best managed.

¹ Napper I, Thompson R (2016), Release of synthetic microplastic plastic fibers from domestic washing machines: Effects of fabric type and washing conditions, *Marine Pollution Bulletin*, 112(1-2), pp. 39-45, <https://doi.org/10.1016/j.marpolbul.2016.09.025>

² HUGO BOSS Sustainability Report 2021

³ Transformers Foundation (2021), Cotton: A case study in misinformation, <https://www.transformersfoundation.org/cotton-report-2021>

5.1 CLIMATE CHANGE

Climate change is the most challenging environmental concern of our time. Cotton, flax or hemp are renewable raw materials generating less greenhouse gas emissions compared to other fibers: The production of one ton of cotton fibers emits about 1755 kg CO₂-eq, linen only 335 kg CO₂-eq compared to one ton of polyester fiber production with 5357 kg CO₂-eq⁴. Based on these facts, cotton and other plant-based fibers are an ideal solution to combat climate change especially when cultivated being part of recognized cotton standards, with organic or even regenerative farming practices.

5.2 CHEMICALS

A lot of positive initiatives, such as organic, bio-dynamic or lately the regenerative agriculture, have been launched to move away from "conventional" farming that uses a lot of chemicals. Especially cotton under the pressure of negative publicity has improved a lot, which has been helped farmers also for more sustainable cultivation of other crops.

5.2.1 PESTICIDES AND INSECTICIDES

"Pests destroy up to 40 percent of global crops and cost \$220 billion of losses"⁵, hence, an efficient pest management in both conventional and organic production systems is required. The World Health Organization's (WHO) efforts in emphasizing the importance of minimizing the potential health and environmental risks is outlined in the WHO Pesticide Evaluation Scheme (WHOPES) through the application of the WHO Pesticide Management and the WHO Classification of Pesticides. This forms the basis for a minimum pest management.

Due to improved farming methods, and a focus on integrated pest management (including a reduced reliance on pesticides), the total pesticides sales for cotton decreased worldwide to a rate of 4.71% in 2019 and 10.24% of all insecticide sales⁶.

5.2.2 FERTILIZERS

Optimal crop nutrition is essential for maximizing cotton yield: Too little nutrition reduces the yield potential, while too much fertilizer affects profitability because of increased costs, contamination of groundwater, excessive vegetative growth in the crop and related pests, disease, and harvest problems. Research shows that the ability of a crop plant to resist or tolerate insect pests and diseases is bound to optimal physical, chemical, and biological properties of the soil. Soils in organically or regenerative farmed crops are characterized by high organic matter and active biology (e.g., earthworms, nematodes, protozoa, fungi,

⁴ Moazzem et al. (2018). Baseline Scenario of Carbon Footprint of Polyester T-Shirt, *Journal of Fiber Bioengineering and Informatics*, 11(1), pp. 1–14, doi:10.3993/jfbim00262

⁵ FAO (2021). Climate change fans spread of pests and threatens plants and crops, new FAO study, retrieved from: <https://www.fao.org/news/story/en/item/1402920/icode/>

⁶ International Cotton Advisory Committee. (2021). ICAC cotton data book 2021, <https://icac.org/Publications/Details?publicationId=8>

bacteria). Crops grown in such soils usually attract fewer herbivorous insects and this minimizes also risks to soil and water.

5.2.2 HERBICIDES

To protect the specific crop against weed attacks, herbicides are applied at different stages of a plant's life cycle. Cotton is especially susceptible for weed attacks mainly because of the higher fertilizer applications, slow growth in early stages and wider spacing. Regarding herbicides, there is an increasing concern in terms of health issues⁷. Using such applications increases the water evaporation and reduces the soil health in general. Regenerative agriculture optimizes the combination of crop, other plants, no or low tillage and pasture management in a holistic way to increase organic matters and with this the capacity to retain water and carbon.

5.3 WATER

Fresh drinking water is one of the world's most critical resources and in some regions the situation will further deteriorate. Several approaches have been developed to assess the impact of water use, including water foot-printing. The water footprint includes three components: Green water consumption (water from rainfall), blue water consumption (irrigation) and grey water (volume necessary to dilute any pollution to an established concentration at the point of emission).

Especially cotton is perceived as "thirsty crop". However, since cotton is a crop that grows perfectly in arid climates, it is often the best or only crop for farmers. The water consumption of blue water depends on many factors like climate, applied farming technology (irrigation) but also land and pest management for grey water and finally the water footprint is highly influenced by the resulting yield.

5.3.1 Water resource depletion (blue water)

The water consumption for irrigation (blue water) impacts more water-stressed (dry) areas where also groundwater is limited. Since a lot of areas (ca. 50% of world cotton production) grow cotton only rain-fed (green water), the range of blue water varies from 0 liters up to 13'000l/kg per lint produced with an average of around 1931l/kg per cotton lint⁸.

Importantly, the blue water footprint can vary significantly also within the same country depending on farming technology like irrigation, microclimate, and the intensity of rain.

⁷ World Health Organization. (2016). Q&A on Glyphosate, https://www.iarc.who.int/wp-content/uploads/2018/11/OA_Glyphosate.pdf

⁸ International Cotton Advisory Committee. (2021). ICAC cotton data book 2021, <https://icac.org/Publications/Details?publicationId=8>

5.3.2 FRESHWATER ECOTOXICITY AND GREY WATER

Freshwater ecotoxicity and eutrophication is caused by the fertilizers, pesticides and/or herbicides used (conventional and organic). The fertilizer uptake rate of crops influences the freshwater quality and depends again on the soil type, the available quantity of fertilizer and the stage of plant growth. The potential of pesticides and other chemicals to reach either groundwater or surface water bodies impacts the freshwater quality.

5.4 SOCIO-ECONOMIC

Especially cotton plays a significant role for over 20 Mio. farmers around the world⁹ with mainly small cotton farms. Cotton has allowed these farmers to organize themselves into associations at the village level, and these local groups belong to national professional organizations, regarded as an instrument to professionalize the rural world.

However, there are concerns that peoples' participation in cotton cultivation is not always to their benefit, due to factors such as high input costs, high interest rates or other structural financial conditions, health and safety, child labor and forced labor. In many countries, especially women are exploited for cotton cultivation. Therefore, the application of the ILO 'core conventions' as outlined in the "OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector" must as well be enforced in cotton farming¹⁰.

6 HUGO BOSS COTTON & OTHER PLANT-BASED FIBERS SOURCING STRATEGY

Based on these summarized sustainability impacts, HUGO BOSS has defined clear principles to follow for a more sustainable fiber sourcing. To this end, we have joined forces with farming organizations for recognized cotton standards and also take part in development programs like the Egyptian cotton project lead by the United Nations Industrial Development Organization (UNIDO). Further, we directly support organisations that are active in regenerative farming such as RADDIS to seek ways to improve the cultivation of plant-based fibres as part of more sustainable, holistic farming systems and to develop joint solutions.

6.1 PHYSICALLY IN PRODUCTS VERSUS MASS-BALANCE

HUGO BOSS supports both systems, "physically in products" and "mass-balance", whereas the latter helps to reach easier the farmers for an immediate change at the root. The different levels of impact from indirect to direct support of farmers is also connected to the applied farming methodology and the level of engagement and supporting systems.

⁹ International Cotton Advisory Committee. (2021). ICAC cotton data book 2021, <https://icac.org/Publications/Details?publicationId=8>

¹⁰ OECD. (2018). OECD Due Diligence Guidance for Responsible Supply Chains in the Garment and Footwear Sector, <https://doi.org/10.1787/9789264290587-en>

Organic cotton and other more sustainable standards like Recot2, REEL, cleaner cotton, the Egyptian cotton project by UNIDO, but also recycled cotton will be managed in physical segregated but still as a mass-balance system to assure the claim of the sustainability standard in the products with a minimum of 60% as outlined in the HUGO BOSS RESPONSIBLE Product Policy¹¹. Such systems often cannot guarantee the origin. Therefore, we have set up for our traceable HUGO BOSS collection specific requirements with our supply chain partners to trace back to the origin of the used cotton.

Moreover, all regenerative farmed raw materials at HUGO BOSS such as cotton and other plant-based fibers, or animal based raw materials are based on the "Farm to Brand" model. This means, that all regenerative raw materials are coming from farmers or local farmer organizations that are in line with the HUGO BOSS principles of regenerative farming (see figure 1) and will be published for full transparency for this agriculture practice.

HUGO BOSS acknowledges that generating a positive impact in agriculture includes all farmer activities in a holistic way and will be practiced in different ways depending on the region, soil, crops or livestock and some more specific characteristic of the farm. Therefore, the principles need to be adapted to the regional circumstances, but it must be excluded that any biodiversity rich area is converted to agriculture land, e.g., by deforestation.

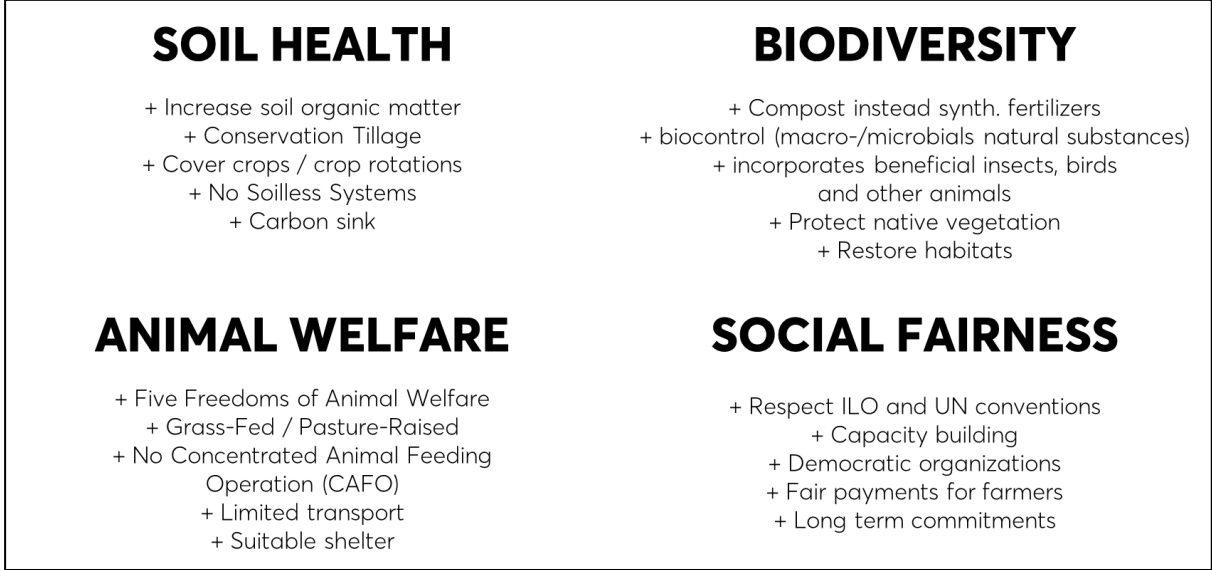


Figure 1: HUGO BOSS principles for regenerative farming

¹¹ [HUGO BOSS RESPONSIBLE Product Policy](#)

6.2 RECYCLED FIBERS

Textile waste can be classified as either pre-consumer or post-consumer. Pre-consumer textile waste results from waste produced during manufacturing whereas post-consumer textile waste results from any type of garments and manufactured textile product that is discarded by the final customer. Using recycled fibers, compared to virgin fibers, reduces the impact on specific resources such as fresh water.

However, a major difference regarding recycled fibers to virgin fibers is that the fibers from post-consumer waste result in very short textile fibers that impacts the quality of the final garments.

6.3 CERTIFICATIONS & INITIATIVES FOR MORE SUSTAINABLE COTTON & OTHER PLANT-BASED FIBERS

Many initiatives exist that promote more sustainable farming, including some that focus on cotton farming only. HUGO BOSS is member of such recognized cotton standards and is a certified partner of the Cotton LEADS™ program. In addition, the following certifications are part of our sourcing strategy for cotton or other plant-based fibers

- Regenerative farming according to the HB regenerative farming principles like the ZQ RX, NatureTex of SEKEM, Raddis®System, fibershed and similar
- Organic or demeter certified
- Recycled fibers from pre- or postconsumer textile waste
- Different recognized standards like Cleaner Cotton, REEL from Cotton Connect, myBMP in Australia, the Egyptian cotton project by UNIDO or organic in transition
- CELC and Master of Linen

HUGO BOSS will continue to support supplementary more sustainable farming practices that have a clear benefit for the environment but also the farmers.