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GLOBAL DEVELOPMENT TRENDS IN ORGANIC COTTON UP TO 2021

Purpose. The purpose of examining global developments in organic cotton up to 2021 is to comprehensively analyze the growth, trends, challenges, and impacts within the organic cotton industry on a global scale. This study seeks to provide insights into how organic cotton production has evolved over the years, and the factors driving its growth.

Keywords: cotton, organic cotton, developments, production.

Objectives. Explore the expansion of global organic cotton production from 2006-07 to 2020-21, placing a spotlight on noteworthy trends and critical turning points. Investigate regional variations in growth patterns and delve into the intricacies of organic cotton fiber quality, considering key factors such as fiber length.

Methodology. Conduct an extensive literature review encompassing literature, reports, and publications focused on organic cotton production and its global trends up to 2021. Employ a systematic data collection approach and perform a comparative analysis of organic cotton production utilizing reputable sources such as global databases and industry reports to evaluate its relative growth.

Research results. Sustainability and eco-conscious practices, such as recycling and organic production, have been emphasized by the global textile industry in recent years [1-3]. One of the key aspects of this shift is the remarkable increase in both the production and adoption of organic cotton. This natural fiber is grown using eco-friendly, organic farming methods, eschewing synthetic pesticides and fertilizers. The surge in demand for organic cotton can be attributed to the heightened awareness of sustainability, rising consumer expectations for ethically sourced goods, and a better understanding of the negative environmental and health impacts linked to traditional cotton farming.

Organic cotton cultivation is a deliberate effort to establish a harmonious relationship with nature. Integrating traditional farming practices, innovative techniques, and scientific knowledge is necessary to ensure both the protection and enhancement of the environment. The aim of this farming approach is to foster

equitable relationships between farmers and the environment while improving the overall quality of life. By utilizing ecological processes, biodiversity, and locally appropriate cycles, organic farming holds the potential to sustain and enhance the health of soils, ecosystems, and individuals without relying on harmful external inputs [4].

Transitioning to organic farming poses challenges for cotton farmers who depend on high yields for their livelihoods. The conversion period and constraints on conventional inputs can be demanding, and issues such as GM seeds and contamination from neighboring fields further complicate the process. Addressing these challenges necessitates additional research, training, seed access, and a shift toward localized solutions.

The 15-year trend showcasing of the global progression of organic cotton production from 2006-07 to 2020-21 is presented in Figure 1 [4-12].

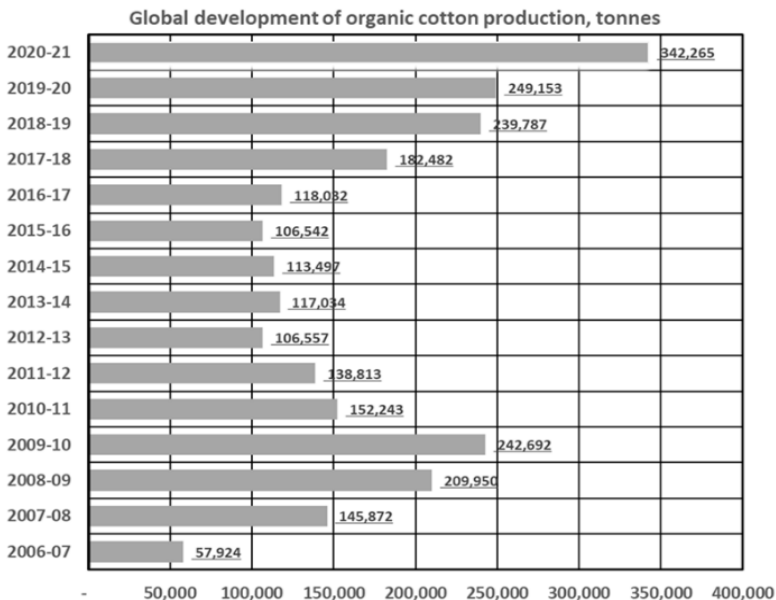


Fig. 1. Global development of organic cotton production from 2006 to 2021

The data presented in Fig. 1 highlights a significant 52.6% increase in organic cotton production from 2016-17 to 2020-21. Notably, there was a substantial 62% surge in global organic cotton production observed from 2006-07 to 2009-10. However, the aftermath of the global financial crisis led to a downturn in organic cotton production over the subsequent seven years (spanning from 2010-11 to

2016-17). During this period, there was a 7% decrease in the 2010-11 period and a range of 29.0-42.9% decline from 2011-12 to 2016-17.

Figure 2 displays the latest 6-year trend, showcasing the progression of organic cotton production from 2015-16 to 2020-21.

Global organic cotton fiber production, organic certified land and organic cotton farmers - 6 year trend

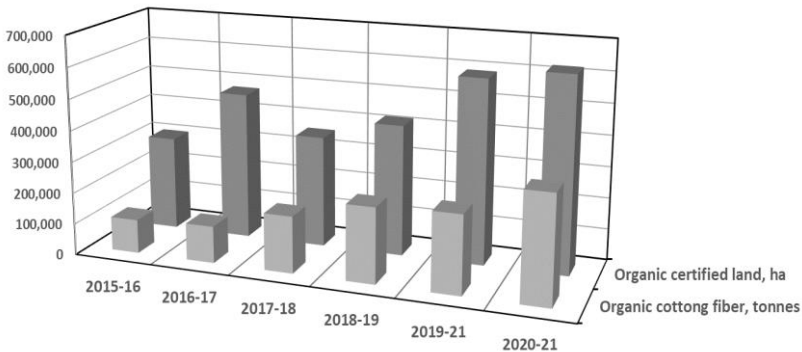


Fig. 2. The global 6-year trend of organic cotton production and organic certified land

As depicted in the diagram (Fig. 2), the area of land certified for organic cotton cultivation expanded by a notable 51.3%. This increase in certified land corresponded to a substantial rise of approximately 68.5% in organic cotton production within the same period. On average, the production of organic cotton ranged from 1.7 to 4.0 tonnes per hectare during this time frame [4-10].

The production of organic cotton has witnessed a notable shift in the number of countries involved. Initially, 18 countries were engaged in organic cotton production, a figure that rose to 21 by the 2020-21 period. In 2013-14, a mere five countries - India, China, Turkey, Tanzania, and the USA -accounted for a staggering 96.8% of the world's organic cotton production [12]. Subsequently, in the 2014-15 period, Kyrgyzstan joined this group of leading countries, bringing the total to six, collectively producing 92.2% of the global organic cotton output [11]. This trend continued to evolve from 2015-16 to 2018-19, during which the number of top-producing countries increased to seven, with Tajikistan joining the ranks. These seven regions collectively contributed to a substantial 95.2-97.8% of the total organic cotton production [5-9, 11]. In the production years 2019-20 and 2020-21, organic cotton was produced in 21 countries. The prominent seven nations—India, China, Kyrgyzstan, Turkey, Tanzania, Tajikistan, and the USA—were responsible for a significant 95.2% of the global organic cotton production in

2019-20 (Fig. 3). In 2020-21, these top seven countries, along with Kazakhstan, maintained their dominance, contributing to 97% of the global organic cotton production, with India alone accounting for 38.0% [4, 5]. Conversely, the remaining 14 countries, grouped as "others" in Fig. 3, made a minimal contribution, constituting just 4.8% of the total global organic cotton production [4, 5].

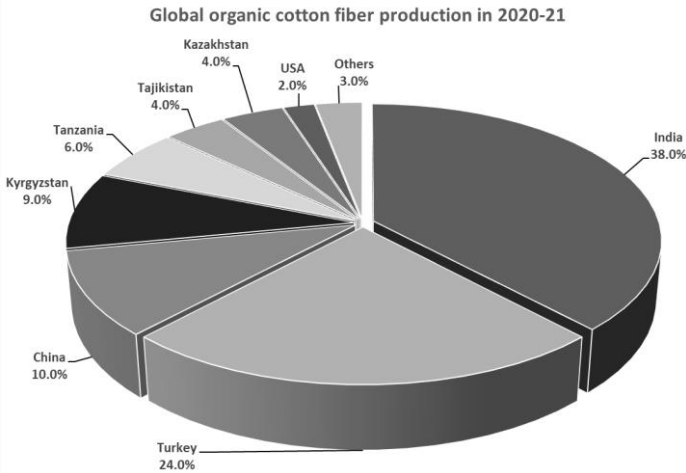


Fig. 3. Global organic cotton production in 2020-21

The quality of organic cotton is notably influenced by the length of its fibers, referred to as staples. Predominantly, India and the USA are major producers of organic cotton with a spectrum of fiber lengths. They range from short (S) staples, measuring between 0.95 cm to 2.40 cm, to extra-long staple (ELS) cotton fibers, measuring over 6.35 cm in length. Conversely, other significant producers like China, Turkey, Tanzania, Kyrgyzstan, Tajikistan, and Kazakhstan cultivate organic cotton with fibers categorized as medium (M) length, spanning from 2.54 cm to 2.86 cm, up to long-staple cotton, measuring between 3.00 cm to 6.35 cm [4-12]. Moreover, in the "others" group depicted in Fig. 3, several countries contribute to organic cotton production. This group includes countries such as Egypt, Burkina Faso, Uganda, Peru, Mali, Benin, Ethiopia, Brazil, Israel, Senegal, Madagascar, Colombia, Pakistan, Thailand, Greece, Argentina, Myanmar, Spain, and Uzbekistan. A significant portion of these countries primarily produced organic cotton fiber classified as medium (M) length, ranging from 2.54 cm to 2.86 cm.

Figure 4 provides a detailed representation of the 6-year trend in global organic cotton production in the top 8 countries, spanning from the agricultural year 2013-14 to 2020-21.

Global organic cotton production in the top 8 countries from 2013 to 2021, %

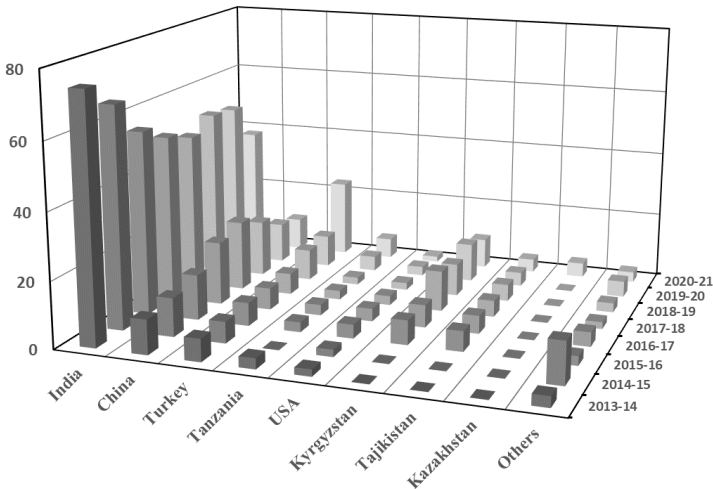


Fig. 4. The 6-year trend in global organic cotton production in the top 8 countries

Through a thorough examination of this trend, with a specific focus on major organic cotton-producing nations, a noteworthy surge in production in Turkey comes to the forefront. In the latest year represented, Turkey showcased a remarkable advancement, surpassing all expectations by more than doubling its organic cotton production in comparison to the preceding year. This exceptional growth serves as a clear indication of a substantial acceleration within the organic cotton sector, firmly establishing Turkey's position at the forefront of the global organic cotton landscape [4-10].

Conclusion. The analysis of global organic cotton production for the 2020-21 period highlighted the dominance of seven major producing countries: India, China, Tanzania, USA, Kyrgyzstan, Turkey, Tajikistan, and Kazakhstan. These regions collectively contributed significantly, making up an impressive 97% of the total global organic cotton production. Conversely, the remaining 14 countries made a modest contribution, accounting for a mere 4.8% of the global organic cotton production. The growth in organic cotton, recognized for its eco-friendliness and sustainability, is propelled by its significant environmental, social, and economic benefits. This includes reduced chemical pollution, better public

health, soil preservation, resource conservation, and ethical farming practices. Prioritizing these advantages and investing in research and training can drive global adoption for a sustainable and ethical textile industry.

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