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CONTENT

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Beyond Raw Fiber: Uzbekistan's Cotton-to-Textile Transformation

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Abstract

Uzbekistan's cotton sector is undergoing a structural transformation from a raw-fiber-oriented system to a productivity-led, value-added, and human-centered cotton-textile chain. The 2026 season reflects rapid gains in yield, mechanization, intensive planting, water-saving technologies, domestic processing, and market-based reforms. At the same time, the country is deepening sustainability through Better Cotton participation, regenerative agriculture, biochar, biostimulants, traceability, and the HECI framework of Humanity, Ethics, Creativity, and Imagination. Looking toward 2027/28, Uzbekistan aims to strengthen cotton-textile clusters, expand the use of resilient local varieties, increase exports of finished products, and enhance its role in regional and international cotton markets.

Introduction

Uzbekistan enters the 2026 cotton season at an important point in its reform cycle. The country remains one of Central Asia's major cotton producers, but the meaning of that role is changing. The sector is no longer defined mainly by the volume of raw fiber available for export. It is increasingly defined by productivity per hectare, domestic processing, textile value addition, sustainability standards, and the ability to serve regional and international buyers with traceable, higher-value products. This direction is consistent with the wider global challenge of raising agricultural productivity while reducing pressure on land and water resources in vulnerable regions [1-3]. The current outlook is therefore best understood not as a simple crop forecast, but as a transition from a production-led cotton economy to an integrated cotton-textile economy (Figure 1).

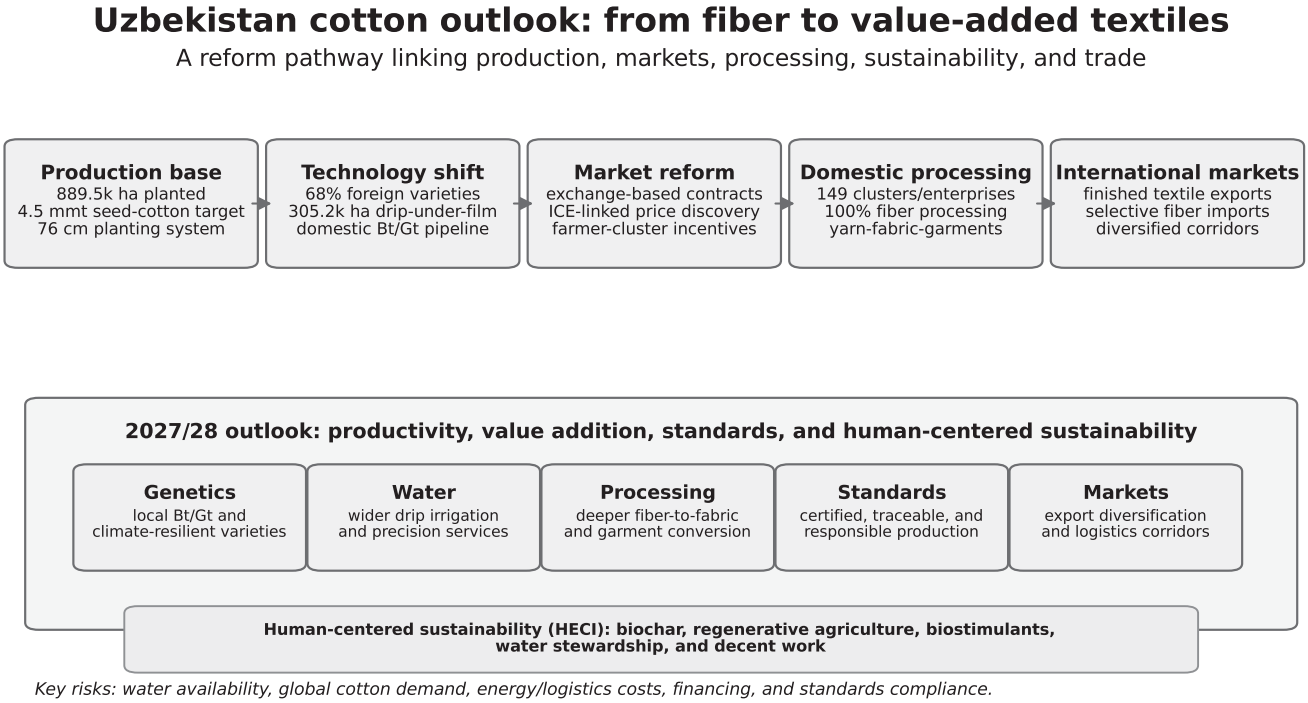

Figure 1. Uzbekistan cotton outlook as a transition from productivity-led production to market reform, domestic processing, human-centered sustainability, and value-added exports.

The current season builds on a rapid productivity shift observed during 2021-2025. National-scale analysis of official production records showed that Uzbekistan increased average cotton yield from 3.24 to 4.55 tons per hectare over that period, a gain of about 40%, while cultivated area fell by about 15%. Total output nevertheless increased by about 19% [4]. This is an important message for the market: Uzbekistan is seeking to produce more value from less land, allowing some land to be reallocated while keeping cotton as a strategic industrial crop. The same analysis found that advanced technologies, including RNAi-derived, marker-assisted selection, and imported Bacillus thuringiensis-resistant and glyphosate-herbicide-tolerant (Bt/Gt) cultivars, expanded to about 38.5% of the national cotton area by 2025 [4]. These results build on earlier Uzbek research showing that PHYA1 RNAi, marker-assisted selection, and related molecular-breeding approaches can improve fiber quality, agronomic performance, and stress-response traits [5-8].

Production and technology in the current season

For the 2026 harvest, national planning materials indicate that 889.5 thousand hectares have been planted to cotton. Of this area, 604 thousand hectares, or 68%, were planted with foreign Bt/Gt varieties, while 285.5 thousand hectares, or 32%, were planted with local varieties. The season also marks a full transition away from the former 90 cm and 60 cm planting schemes toward 76 cm single- and double-row systems. This technical shift is significant because it connects varietal change with water-saving irrigation, higher plant density (above 200 thousand plants per hectare) and improved management uniformity. It is not simply a change in row spacing; it is a production-platform reform.

One of the most visible agronomic developments is the expansion of the Xinjiang-style intensive system based on 76 × 10 cm double-row planting under plastic film with drip irrigation. In 2025, this technology was introduced on 181.2 thousand hectares and reportedly delivered 6-7 tons per hectare in demonstration and commercial practice. In 2026, its area expanded to 305.2 thousand hectares, an increase of about 124 thousand hectares. The current season also includes first-stage field testing of colored plastic films on 5,000 hectares to accelerate maturity and improve yield and fiber quality. These technologies matter for the market because they are expected to support earlier maturity, more uniform harvesting, greater water-use efficiency, and more predictable fiber supply.

Table 1. Key indicators shaping Uzbekistan cotton outlook

Indicator	Recent/current status	Outlook significance
Cotton area	875.6 thousand ha in 2025; 889.5 thousand ha planted for 2026	Stable area base with productivity-led growth rather than area-led expansion
Seed-cotton production	Nearly 4.0 million tons in 2025; 4.5 million tons target for 2026	Higher output is expected mainly from technology, management and mechanization
Average yield	4.55 tons/ha in 2025; 5.1 tons/ha target for 2026	Continued yield improvement is central to supply security
Technology adoption	Advanced technologies reached about 38.5% of the national cotton area by 2025; 68% of the 2026 area was planted with foreign varieties	Modern genetics, intensive planting and local Bt/Gt pipeline are key productivity drivers
Mechanized harvest	28% in 2024, 51% in 2025, and expected to be around 70% in 2026	Improves harvest timeliness, labor efficiency and fiber uniformity
Domestic processing	100% cotton fiber processed domestically from 2023; 149 clusters and textile enterprises are active	Supports transition from raw fiber exports to yarn, fabrics, knitwear and garments
Sustainability and standards	BCI expansion reported at +47 thousand ha; labor and sustainability standards increasingly embedded	Improves access to international buyers and premium supply chains
Trade and logistics	Selective U.S. cotton-fiber imports expected from 2026; transport corridors remain strategic	Blending, certification and logistics diversification support value-added exports

Source note: Current-season Uzbekistan indicators in this table are drawn from national cotton reform materials dated June 12, 2026 (not published, internal to the Ministry of Agriculture of Uzbekistan), provided for this outlook; published contextual sources are cited in the main text and reference list.

Production targets for 2026 are correspondingly ambitious. National materials set a target of 4.5 million metric tons of seed cotton, equivalent to about 5.1 tons per hectare, with expected cotton-fiber output of about 1.65 million tons at a lint turnout of 36.7%. In 2025, 875.6 thousand hectares produced nearly 4 million metric tons of seed cotton, with expected fiber output of about 1.4 million metric tons. The historical comparison is noteworthy: in 2017, cotton occupied about 1.2 million hectares and produced 2.9 million tons of seed cotton. By 2025, the area had declined by roughly 330 thousand hectares, yet output had increased by about 1.1 million tons. By 2026, the increase over 2017 is expected to reach about 1.6 million tons. The principal current-season indicators are summarized in Table 1.

Mechanization is also changing the supply profile. In 2025, nearly 2 million tons of the crop were harvested with 1,756 modern cotton-picking machines, shortening the harvest period by up to one month. The mechanization rate increased from 28% in 2024 to 51% in 2025. In 2026, 800 additional harvesters are planned, bringing the fleet to 2,556 machines and raising the expected share of mechanized harvest to around 70%. Mechanization improves timeliness, reduces dependence on seasonal labor, and supports more reliable fiber quality. It also interacts with the new defoliation and desiccation strategy now being introduced to accelerate boll opening and improve harvest management.

Precision agriculture is becoming another layer of the outlook. The establishment of Dron Service LLC is intended to support foliar nutrition, pest and insect control, plant growth regulators, and defoliation operations using agricultural drones. The practical advantages are clear: less mechanical damage to plants, higher labor productivity, and an estimated twofold reduction in some operational costs. Together with drip irrigation, fertigation, and intensive planting, these services suggest a sector moving toward more data- and service-intensive cotton production.

Demand, supply and value addition

Demand and supply within Uzbekistan are increasingly shaped by the textile industry rather than by raw lint exports. The country reports strong domestic demand for fiber and, from 2023 onward, 100% domestic processing of cotton fiber. The operating model is built around cotton-textile clusters and textile enterprises, with 149 such clusters and enterprises currently active. Earlier World Bank analysis of Uzbekistan's cotton-textile clusters described this vertical integration model as a central component of the country's agricultural modernization pathway [9]. The strategic goal is to convert national cotton into yarn, fabrics, knitwear, hosiery, and finished garments rather than exporting fiber as a low-value raw material. USDA market reporting similarly notes that Uzbekistan's cotton consumption and imports have reached record levels as domestic processing expands and raw lint exports cease or become minimal [10].

The value-addition pathway has important implications for exports. As raw fiber exports decline, the export basket is expected to contain a higher share of yarn, fabrics, knitted products, and finished garments. Public government export indicators report textile exports of USD 2.6 billion in 2025 and identify a 2026 export target of USD 4.0 billion, including expansion through e-commerce platforms [11]. National materials prepared for this outlook indicate an even broader textile-product export value under national classification, so figures should be read in light of the stated statistical basis. The policy direction is nevertheless consistent: greater value must be retained inside the country. This also explains why fiber imports may become part of the supply balance [10].

Policy reform is another important element of the cotton outlook. Uzbekistan has been moving from administrative allocation toward more market-based mechanisms in raw cotton cultivation and sale. Presidential Decree DP-7 of January 17, 2025, formalized the continued application of market mechanisms in raw cotton cultivation and sale, including exchange-based arrangements [12]. Exchange-based contracting, futures and forward instruments, and price discovery linked to international cotton quotations are intended to improve transparency and align incentives between farmers, clusters, and processors. These reforms are still evolving, and regional contracting limits and financing conditions remain practical issues. Nevertheless, the policy direction is clear: a more transparent cotton market must support both farmers' incentives and the textile sector's competitiveness.

Policy reform, sustainability and logistics

Sustainability is now central to market access. Uzbekistan has made major progress in eliminating systemic forced labor and child labor from the cotton harvest. The International Labor Organization reported that

Uzbek cotton was free from systemic child labor and forced labor during the 2021 production cycle, a milestone also noted by the World Bank in relation to the sector's reform pathway [13,14]. At the same time, sustainability in Uzbekistan is increasingly being framed not only as environmental efficiency, but also as part of a broader shift from market-based agriculture to market-based plus human-centered agriculture, consistent with the country's emphasis on human dignity and responsible development. A recent HECI (Humanity, Ethics, Creativity and Imagination) framework paper from Uzbekistan argues that agricultural modernization should combine technical innovation with ethical reasoning, creativity, and human-centered stewardship [15]. In cotton, this perspective supports water-saving irrigation, regenerative agriculture, wider use of biostimulants, emerging biochar initiatives, including collaboration with the International Cotton Advisory Committee (ICAC), decent work, and traceability as mutually reinforcing elements of competitiveness. Better Cotton participation is also expanding, and its 2026 Uzbekistan convenings brought together cotton-textile clusters, agronomists, sustainability specialists, and other stakeholders to strengthen field-level implementation and alignment with regenerative practices [16].

Logistics will remain a defining constraint and opportunity. Uzbekistan is landlocked and therefore depends on diversified corridors, regional cooperation, and efficient customs and transport infrastructure to reach global markets. As the export basket moves from fiber to higher-value textiles and garments, logistics requirements also become more complex: speed, reliability, packaging, certification documents, and buyer-specific delivery schedules matter more. The country's emphasis on transport corridors and trade cooperation with Central Asian neighbors is therefore part of the cotton market outlook rather than a separate infrastructure issue [10].

Looking toward 2027/28, the outlook is cautiously positive, provided that water availability, financing, energy costs, and external demand remain manageable. USDA's 2026/27 cotton outlook for Uzbekistan points to record or near-record domestic cotton consumption and rising imports alongside continued domestic processing, while also identifying hydrological deficits and external demand as risk factors [10,17]. The next national phase is expected to include further improvement of cotton-textile clusters, wider deployment of high-yielding local varieties resistant to climate stress, bollworm, and herbicides, expansion of wa-

ter-saving technologies, deeper processing of cotton fiber, increased exports of finished textile and garment products, growth in certified sustainable production, and larger inflows of private and foreign investment. A particularly important domestic milestone will be the planned multiplication, starting in 2027, of 56 new local Bt and Gt cotton varieties designed to compete with imported varieties while strengthening national breeding capacity.

Expectations for 2027/28

Overall, Uzbekistan's cotton outlook reflects structural transformation. The market signal is not only more cotton, but more efficient cotton; not only fiber, but textiles; not only production, but certified, traceable, and increasingly human-centered production; not only domestic reform, but integration into regional and international value chains. If the current productivity gains are sustained and the processing, logistics, standards, and human-centered sustainability agenda continue to mature, Uzbekistan could strengthen its position as a reliable Central Asian source of value-added cotton and textile products in 2027/28 and beyond [4,9,15].

Data note

Unpublished current-season figures on 2025/2026 planting, production targets, machinery, clusters, Better Cotton area expansion, U.S. cotton-fiber import plans, biochar/regenerative-agriculture direction, and 2027/28 expectations are drawn from the national cotton reform materials provided for this invited outlook article, dated June 12, 2026.

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Quality Over Quantity: Argentina's Cotton at a Turning Point

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Introduction: A Crop with History and a Future

Cotton is deeply connected to the history and identity of northern Argentina. Following the development of commercial production in the late nineteenth century, the crop reached its greatest expansion with more than one million hectares planted, becoming one of the economic pillars of northeastern Argentina. The crisis of the 1990s, the expansion of soybean production, and market instability led to a sharp decline in planted area. However, in recent decades, the sector has recovered through improved prices, support policies, and the increasing professionalization of the production system.

Today, production operates within an economic environment marked by significant changes in national policy, including trade deregulation, the gradual unification of the foreign exchange market, and efforts to improve systemic competitiveness. Following years of macroeconomic volatility that distorted the cost of imported inputs, the current season is showing signs of greater operational stability. Nevertheless, unavoidable structural challenges remain, particularly those related to the tax burden and the lack of long-term financing.

The main production hubs are concentrated in Santiago del Estero, which leads in terms of production volume and productivity; Chaco, which has the strongest tradition and the largest number of producers; and northern Santa Fe, which is recognized for its production efficiency. These areas are accompanied by more recent expansion into other provinces.

2025/26 Season: Climate, Area, and Yields

The 2025/26 production cycle has been dominated by considerable climatic variability, typical of transitional phases of the El Niño-Southern Oscillation, or ENSO. After beginning the season with replenished soil moisture profiles, the crop experienced periods of extreme heat and intermittent drought during critical stages, particularly flowering and boll filling. These conditions affected production areas in different ways.

The national planted area reached 390,000 hectares, representing a 43.5% decline compared with the 690,000 hectares planted in the 2024/25 season. This sharp reduction resulted from a combination of factors: lower international fiber prices, improved expected profitability for competing crops and related changes to export duty arrangements, as well as the financial consequences of suboptimal results during the previous two seasons, which were also affected by heat and water stress. For many producers, the decision of whether to plant cotton is based on an equation involving dollar-denominated costs, prices in US dollars, and an exchange rate that has been systematically distorted in recent years.

As of 19 June 2026, the national harvest was 73% complete. Harvesting had been completed in Salta, Catamarca, Formosa, and Chaco, while progress had reached 70% in Santiago del Estero, 51% in northern Santa Fe, and 45% in Córdoba. Recent delays were caused by heavy rainfall, high humidity, and cloudy conditions recorded between April and May.

This climatic disruption divided the harvest window into two clearly differentiated scenarios. Producers who were able to harvest early, during February and March, achieved excellent color parameters and low levels of foreign matter, resulting in lots with medium-to-high yields and quality. By contrast, fields where harvesting was delayed because of autumn rainfall face the risk of lower yields and reduced fiber quality, including possible deterioration in parameters such as color grade and strength, which directly affect the prices obtained in international markets.

With estimated average national seed cotton yields of 1,970 kg per hectare, slightly below the five-year average of 2,050 kg per hectare, official estimates project final production of 770,000 tonnes of seed cotton. Although modest by historical standards, this volume

is sufficient to meet domestic demand and generate a significant exportable surplus, particularly given the deterioration of the local textile industry described below.

Plant health conditions have a more direct impact on the profitability of Argentine cotton producers than on that of any other major field crop in the country. The main endemic threat remains the cotton boll weevil, Anthonomus grandis. Managing this pest involves costs associated with trap installation, monitoring, and targeted applications, and it has historically been one of the reasons why small and medium-sized producers have abandoned cotton production or reduced the area planted. Strict compliance with host-free periods and interprovincial coordination of suppression programmes are non-negotiable conditions for maintaining the viability of production.

In addition, the sector is closely monitoring pressure from whitefly and the caterpillar complex, particularly Spodoptera frugiperda. The latter has overcome resistance in several biotechnology traits used in maize. However, up to the current season, it has not caused significant losses in cotton. Regarding diseases, no symptoms requiring significant attention have been recorded across most of the country's production

area. Maintaining this favourable plant health status is an asset that the sector must safeguard with the same diligence demanded by export markets.

From a technological perspective, cotton still has a lower level of adoption of precision agriculture tools than other major field crops such as soybean, maize, sunflower, and wheat. The use of satellite imagery and drones is beginning to expand, particularly to optimize application costs and monitor spatial variability in large fields.

Mixed harvesting systems continue to coexist. These include the traditional stripper harvester, supported by a well-developed domestic agricultural machinery industry, including Dolbi/Javiyú headers, and the steadily increasing adoption of spindle picker harvesters. The opening of imports for used harvesters, authorized by the national government in recent years, has accelerated the incorporation of this type of equipment into Argentina's machinery fleet.

The most important technological milestone of the season is the commercial launch of Arandú IMICott, developed by INTA Sáenz Peña in partnership with a private seed company. Argentina has therefore become the first country in the world to develop resistance to imidazolinone-family herbicides

in cotton through mutagenesis, without genetic modification. This creates export opportunities in markets that restrict the use of genetically modified organisms.

This variety not only simplifies the control of difficult weeds, one of the main cost components in agronomic management, but, depending on the underlying genetic material, is also expected to improve ginning outturn and the quality of the fiber produced.

Domestic Demand: A Textile Industry in Critical Condition

Historically, the domestic market has absorbed between 100,000 and 120,000 tonnes of fiber per season. However, demand from local spinning mills is facing one of its most severe crises in decades.

According to data from the Argentine Federation of Textile Industries, FITA, sector activity contracted by more than 18% year-on-year by mid-2025, a decline four times greater than the average contraction recorded across industry as a whole. Installed capacity utilization fell to approximately 40%, and by December 2025, the sector had lost more than 20,700 jobs compared with 2023. This represents a 17% decline in formal employment across the textile, apparel, leather, and footwear value chains.

The causes are both structural and cyclical. The recession in mass consumption, the easing of restrictions on imports of finished textile products, including the expansion of cross-border e-commerce, for which courier shipments increased by 274% in 2025 compared with the previous year, and the appreciation of the real exchange rate have created an adverse environment for domestic production.

Northern Santa Fe, historically a leading spinning hub, has experienced plant closures and formal creditor protection proceedings involving major companies. The impact extends across the entire value chain: gins are handling lower volumes, spinning mills are operating with idle capacity, and primary producers are seeing a reduction in the volume purchased by domestic buyers.

Paradoxically, this weakness in the domestic market has increased the need to export a greater proportion of the crop, redefining the commercial strategy of the value chain.

Foreign Trade, Sustainability, and Logistics

Argentina competes actively in Southeast Asian markets. Argentine fiber is valued for its length, strength, and natural lustre. However, the country faces the challenge of consolidating its reputation systematically rather than relying on isolated positive experiences.

To maintain and expand its international market presence, the sector is undergoing a change in approach towards traceability and responsible-origin certification. Participation in protocols such as Responsible Argentine Cotton, known as ARA, which is internationally benchmarked against standards such as Better Cotton, represents one

of the initiatives that could allow exporters to reach more demanding buyers seeking fiber produced under good environmental, social, and labour practices.

However, the widespread adoption of these systems faces a specific barrier: the absence of differentiated prices that compensate producers for the cost of certification.

In terms of instrumental classification, Argentina has state-of-the-art High Volume Instrument, or HVI, laboratories. Nevertheless, the domestic market has historically depended on visual or subjective classification, which introduces variability and creates uncertainty among international buyers.

The implementation of mandatory HVI classification for 100% of production is a final step the sector should take to standardize and safeguard the reputation of Argentine origin cotton in global trading markets.

2026/27 Outlook: Determining Factors

Looking towards the short and medium term, projections for Argentine cotton point to a stabilization of planted area, with qualitative growth expected to exceed quantitative expansion. The determining factors for the coming seasons revolve around three main areas.

Macroeconomic Stability and Exchange-Rate Competitiveness

The consolidation of a competitive exchange rate and a gradual reduction in export duties could help establish cotton as an attractive financial alternative to other summer crops, particularly in marginal regions of northern Argentina.

However, reductions in export duties for competing crops such as soybean, maize, and sunflower raise the profitability threshold cotton must exceed to be selected by producers. The equation cannot be assessed in isolation. In every field, cotton competes for the same land, capital, and labour.

Investment in Irrigation Infrastructure

In the medium term, the implementation of irrigation projects in the production basins of Santiago del Estero and Santa Fe is necessary to raise minimum yield levels in the face of increasing climatic variability.

Furrow irrigation and supplementary drip or sprinkler irrigation have produced yield increases of more than 30% in pilot fields. However, investment in water infrastructure requires planning horizons that exceed the individual capacity of private producers. Participation by provincial and national governments is therefore essential.

Quality, Traceability, and Access to Premium Markets

The route towards markets offering higher unit values depends on three areas of convergence: universal HVI certification as a minimum commercial standard, the consolidation of ARA and Better Cotton protocols as credentials of verifiable sustainability, and the development of high-quality fiber niches.

Digital traceability using QR codes from the field to the garment, which is already being explored through local public-private partnerships, could become the decisive differentiating factor that allows Argentine fiber to move beyond the status of a generic commodity and establish itself as a specialized origin among the most demanding buyers.

Conclusion

Argentina's cotton market is at a strategic turning point. The 2025/26 season demonstrates that, despite climatic challenges, the contraction in domestic demand, and logistical constraints, cotton remains economically viable, technologically advanced, and export-oriented.

The reduction in planted area may appear to be a sign of decline. However, it could also reflect the maturity of a sector adjusting its scale in response to relative prices and emerging from that adjustment with a more concentrated, efficient, and export-oriented production profile.

Medium-term success will depend on the value chain's ability to institutionalize quality through HVI classification, protect its plant health status from the boll weevil and other emerging pests, consolidate sustainability certification, and gain access to financing for technological investment at internationally competitive interest rates.

Production Down, Exports Up: Brazil's Cotton Resilience

FERNANDO RATI

Cotton Brazil Manager

Brazil has firmly established itself as a cornerstone of the global cotton market, having ascended to the position of the world's largest exporter in 2024, when it accounted for approximately one-third of global shipments. This leadership is the result of sustained investments in technology, production efficiency, and a robust quality assurance program, which together have transformed the country into a reliable and competitive supplier for the world's most demanding textile mills. However, the 2025/26 season presents a complex landscape, as the sector navigates a period of strategic adjustment following the record-breaking 2024/25 crop, which reached about 4.25 million tonnes and cemented Brazil's export leadership. The current season is marked by a deliberate reduction in planted area and investment, a response to global market signals that point to oversupply, low cotton prices, and rising competition from synthetic fibers, whose prices have become more attractive due to declining oil costs.

The most significant development for the 2025/26 season is the anticipated decline in production. According to Abrapa's latest estimates, the lint crop is projected at 3.9 million tonnes, rep-

resenting a 6% decrease compared to the previous cycle. This contraction is driven by two main factors: a reduction in planted area to 2 million hectares, and average yields slightly below last season's level. The area reduction reflects a strategic decision by a highly professionalized farming sector that is adjusting to an environment of low margins and high input costs, while the yield decline is partly a consequence of weather challenges, as well as credit restrictions and high interest rates that limit investment in inputs for the remaining area.

Despite the anticipated drop in production, Brazilian cotton exports remain strong and stable in 2025/26, a testament to the country's competitive advantages and its established position in key international markets. Shipments are forecast to exceed 3.2 million tonnes, an increase of around 15% over the previous harvest, which would represent an all-time record for the Brazilian cotton sector and reinforce the country's unassailable position as the world's primary supplier of natural fiber. This robust performance is supported by a diversified client base. China remains the single largest buyer this commercial season, followed by Bangladesh, Turkey, India, Pakistan and Vietnam. The Port of Santos continues to be the dominant gateway, responsible for 91% of shipments, highlighting the efficiency of Brazil's logistics for Asian markets, and other Ports, like Salvador, are increasing their participantion on the exportatation process. The ability to maintain and even grow export volumes even as production contracts demonstrates the sector's resilience and its deep integration into global supply chains.

The Brazilian cotton sector is facing a confluence of challenges in 2026 that are shaping its outlook and requiring careful strategic responses. Perhaps the most significant structural challenge is the growing competition from synthetic fibers. The global textile market increasingly favors polyester and other man-made materials, which benefit from lower prices driven by oil costs, putting sustained pressure on cotton demand and prices and creating a situation of competition among cotton producers themselves rather than expanding the total market for natural fibers. The sector is actively working to counter this through initiatives that highlight cotton's superior sustainability, quality, and traceability, aiming to create value rather than simply compete on price. At the same time, the geopolitical environment has become more volatile, raising production and logistics costs for Brazilian farmers and squeezing already thin margins. Trade tensions, such as U.S. tariffs on textile imports, cause uncertainty and reshape global trade flows. Domestically, producers are also grappling with high interest rates and credit restrictions that limit their ability to invest.

In Brazil, cotton competes for cultivated area primarily with corn, especially in the Center-West region, where the planting decision for the second crop, known as safrinha, is highly sensitive to the price ratio between the two crops. With cotton prices at low levels relative to corn during the 2025/26 decision-making period, the agronomic and economic incentive to shift land to corn increased, contributing to the decision to reduce cotton area in the current season. This land-use dynamic is not merely a short-term adjustment but reflects a broader structural reality in Brazilian agriculture, where farmers constantly optimize their crop portfolios based on relative profitability, input costs, and market expectations. In this context, the sector's ability to maintain its competitive edge will depend not only on price signals but also on continued investments in productivity-enhancing technologies and sustainable farming practices that can improve yields and reduce per-unit costs over the long term, thereby offering a buffer against the volatility of global input markets.

Looking ahead to the next season, the global geopolitical landscape will be a determining factor in Brazilian producers' planting decisions, as it directly influences the costs of key inputs such as fertilizers and diesel. The ongoing volatility in international relations has already demonstrated its capacity to disrupt supply chains and push input prices upward. If the cost of nitrogenous fertilizers, in particular, continues to rise considerably in the coming months, it will become entirely viable and economically rational for cotton farmers to reduce their planted area for the 2026/27 cycle. This is not a speculative scenario but a pragmatic assessment based on the sector's historical responsiveness to cost pressures. Brazilian producers are highly skilled at optimizing their crop portfolios, and when input costs erode profitability to unsustainable levels, they will inevitably shift land toward alternative crops such as corn or soybeans, which may offer more attractive margins in the current price environment. Therefore, the trajectory of global fertilizer and fuel prices, heavily influenced by geopolitical developments, will be watched closely by the farming community as the planting window for the next season approaches.

A critical component of Brazil's enduring success in the global cotton market is its unwavering commitment to quality. In the 2024/25 crop season, data from the national quality program indicated high levels of conformity across all key quality parameters, with continuous improvement from season to season. The Brazilian Cotton Reference Center (CBRA), which celebrates its tenth anniversary in 2026, plays a pivotal role in standardizing these analysis laboratories, ensuring the reliability and comparability of quality data, and reinforcing Brazil's reputation as a supplier of consistently high-quality cotton that can be trusted for the most demanding textile applications. Sustainability and traceability remain at the forefront of the Brazilian sector's strategy, aligning with the growing global demand for responsibly produced fibers that can be verified throughout the supply chain.

Looking further ahead to the 2026/27 season and beyond, several factors will shape the trajectory of the Brazilian market. Early indicators point to a continuation of strategic caution, with producers awaiting clearer signals from the global market before committing to area expansion. Preliminary expectations suggest a further contraction in planted area, although the final outcome will depend heavily on price dynamics, weather conditions, and the resolution of geopolitical tensions affecting input costs. If global cotton demand remains subdued and input costs stay high, a further decrease in production is likely, whereas a recovery in prices and stabilization of input markets could encourage a modest rebound in area and investment. On the export front, Brazil is well-positioned to maintain its role as the world's leading exporter, as the country's logistical advantage for supplying Asian markets and its ability to offer large volumes of high-quality cotton are formidable competitive strengths that are unlikely to be eroded in the near term. The focus of the "Cotton Brazil" promotional program for 2026 and 2027 will be on image strengthening and expanding consumption against synthetic fibers, which will involve not only maintaining relationships with the top ten buyers but also expanding actions aimed at retailers and end consumers, particularly in Europe and the United States, where sustainability and traceability credentials are increasingly valued.

Domestic mill use in Brazil is expected to remain relatively flat or see a slight decline, reflecting the global trend of synthetic fiber substitution and competition from imported fabrics. Domestic consumption is projected to stay around the 700,000 to 730,000-tonne mark, indicating that the Brazilian market, while important, will continue to be secondary to the export orientation that has defined the sector's growth over the past decade. In conclusion, the Brazilian cotton sector is in a phase of recalibration, adjusting from its historic peak to a more sustainable and profitable level of production that reflects current market realities. Its strong export performance, unwavering commitment to quality, and proactive investments in sustainability and traceability ensure that Brazil will continue to be a major force in the global cotton market for the foreseeable future. The sector's ability to navigate the challenges of synthetic fiber competition, geopolitical volatility, and domestic cost pressures will ultimately determine the trajectory of its future success, but the foundations of technology, quality, and market diversification that have been built over the past two decades provide a solid platform for resilience and continued relevance in a rapidly evolving global textile landscape.

After the Drought:
Spain's Quality-Led Cotton Recovery

ESPALGODÓN

Spanish Cotton Interprofessional Organization

ESPALGODÓN, the Spanish Interprofessional Cotton Organization, has among its core objectives the promotion of coordination and structuring within the sector, as well as improving competitiveness and increasing the added value of cotton.

In general terms, the Interprofessional Agri-Food Organization's mission is to promote and disseminate knowledge about cotton production, as well as to carry out actions that enable greater efficiency and transparency in cotton markets, improve product quality by producing premium-quality cotton fiber obtained sustainably, and strengthen all the processes involved in the production chain.

This includes monitoring the chain from farmers to final consumers and promoting research and development programmes that drive innovation in the cotton sector and improve the incorporation of technology, both into production processes and into the competitiveness of the sectors involved.

https://espalgodon.com/

Introduction

Spain occupies a distinctive position in the European cotton sector. It is the only country in Western Europe where cotton remains economically, socially and industrially significant, and it has developed a highly specialised production model that competes not on volume, but on quality, sustainability and traceability. Although Spain's share of global cotton production is very modest, it has a differentiated profile that has earned recognition in international markets and given the country an active role in the responsible production of natural fibre.

Cotton cultivation in Spain is concentrated almost entirely in Andalusia, in the south of the country, where favourable agronomic conditions, decades of accumulated technical expertise and a professional ginning industry have enabled an efficient and integrated value chain. The sector brings together farmers, cooperatives, ginners and agricultural and representative organisations such as Espalgodón, all working jointly to strengthen the competitiveness of Spanish cotton in an increasingly demanding global market.

Recent Developments: Four Seasons Marked by Drought

The factor that has most decisively shaped the evolution of the Spanish cotton sector over the past four years has been the prolonged and severe drought in Andalusia. Since the 2022/23 season, low rainfall and the continued decline in reservoir levels have led to increasing restrictions on irrigation allocations for all crops, with direct consequences for cotton crop development, yields and farm profitability.

The 2022/23 season marked the beginning of this difficult period. Although the cultivated area remained at around 51,952 hectares, reduced water availability began to put pressure on yields, which fell to 2,377 kg/ha, with production of 123,488 tonnes of seed cotton. The true scale of the crisis became evident in the 2023/24 season, one of the most difficult in decades. Severe drought and exceptionally high temperatures during critical stages of crop development caused yields to collapse to a historic low of 950 kg/ha, with total production falling to 49,098 tonnes.

Despite these extraordinary circumstances, the sector demonstrated remarkable resilience. The high level of professionalism among farmers, the technical capacity of the ginning industry and collaboration between professional organisations and public authorities made it possible to maintain the production structure and preserve the presence of Spanish cotton in international markets throughout the crisis period.

The 2024/25 and 2025/26 seasons brought a gradual recovery, supported by improved rainfall and the progressive replenishment of water reserves. In the 2025/26 season, production reached 112,552 tonnes of seed cotton, with yields of 2,407 kg/ha, confirming the sector's capacity to rebound when irrigation conditions are favourable.

Season	Area (ha)	Production (t seed cotton)	Yield (kg/ha)	Context
2022/23	51,952	123,488	2,377	Onset of drought
2023/24	51,640	49,098	950	Maximum impact
2024/25	51,002	103,925	2,038	Recovery
2025/26	46,767	112,552	2,407	Consolidation
2026/27*	Similar to previous year	Higher production expected	Expected improvement	Under way

Table 1. Recent development of cotton cultivation in Spain. (*) Forecast.

Production, Supply and Structural Characteristics

Cotton remains a strategic irrigated crop in several districts of Andalusia, particularly in the provinces of Seville and Cádiz, which account for most of the cultivated area. The crop plays a central role in the local agricultural economy, generating income and employment across the entire value chain, from the field to the gin.

The Spanish sector is characterised by a high degree of vertical integration between production and processing. A network of ginning facilities enables the rapid transformation of harvested cotton into fibre, ensuring consistent quality and reliable supply for both domestic and international buyers. This integration is one of the sector's main operational strengths.

Although domestic demand for cotton fibre is limited, reflecting the relatively small size of Spain's national textile industry, the ginning sector has successfully oriented its commercial activity towards international markets. Most Spanish fibre is exported, supplying spinning mills in Europe, the Mediterranean region and Asia. Key destinations include Pakistan, Bangladesh, Türkiye and Portugal, markets that value Spanish cotton for its quality, consistency and traceable supply chain.

From a supply perspective, the 2026/27 season is developing under more favourable conditions. Abundant rainfall during the 2025/26 hydrological year has significantly replenished water reserves in Andalusia, securing irrigation supplies for the current and forthcoming seasons. Initial estimates point to an area similar to that planted in 2025/26, together with improved yields that could place total production above the levels recorded in the previous two seasons.

Demand, Trade and International Market Conditions

Spain operates as an exporter of cotton fibre. The sector's export orientation means that conditions in international markets are critical determinants of its performance.

Recent seasons have been marked by significant price volatility in international cotton markets, alongside a sustained increase in production costs. Higher prices for energy, fertilisers, crop protection products and labour have placed considerable pressure on farm margins, narrowing profitability even in years with satisfactory yields. Although cotton prices have shown some recovery from their recent lows, pressure on farm income remains a structural challenge for producers.

In this context, the competitiveness of Spanish cotton increasingly depends on factors other than price. Traceability, fibre quality, reliability of supply and compliance with

sustainability standards have become key differentiators in a global market where textile manufacturers and brands are under growing pressure to demonstrate responsible sourcing. Spanish cotton is well positioned to respond to these demands, and the sector continues to develop its commercial proposition in this direction.

For the 2026/27 season, an improvement in producer prices is expected, although the net benefit for farm profitability will remain constrained by production costs that continue to be high. Looking ahead to 2027/28, market prospects will depend largely on the evolution of global cotton supply and demand, conditions in the main consuming countries and the trajectory of the broader macroeconomic environment.

Sustainability: A Strategic Competitive Advantage

Sustainability has become one of the defining pillars of the Spanish cotton sector's competitive identity. Far from being merely a regulatory obligation, it is now regarded as a strategic asset that differentiates Spanish cotton in international markets and supports the long-term viability of the sector.

Integrated Production

One of the Spanish cotton sector's most solid and distinctive contributions to sustainable agriculture is its pioneering role in Integrated Production. Andalusia was the first autonomous community in Spain, and one of the first regions in Europe, to develop integrated pest management systems for cotton cultivation through the Agrupaciones de Tratamiento Integrado en Agricultura (ATRIAs), which laid the foundations for what is now known as Integrated Production.

The system is organised through the Agrupaciones de Producción Integrada (APIs), entities that bring farmers together and collectively commit to complying with Andalusia's Specific Regulation for Integrated Cotton Production, approved by Order of the Regional Ministry of Agriculture of the Government of Andalusia. This regulation precisely defines mandatory and prohibited practices in soil management, fertilisation, the use of crop protection products, irrigation and crop management, with the aim of minimising environmental impact and ensuring the quality and safety of the final product.

A key element of the system is continuous technical assistance: each API has a qualified technical adviser who supports farmers throughout the entire season. This adviser monitors pests and diseases through regular field sampling, establishes intervention thresholds and determines the optimal timing and most appropriate treatment in

each case, always prioritising biological and cultural methods over chemical options. Thanks to this model, the use of insecticides and other crop protection products is significantly reduced, with consequent benefits for the environment, beneficial fauna and farmers' health.

Verification of compliance with these requirements is entrusted to an independent certification body accredited under the regulations of the Government of Andalusia, which audits the participating farms each year. Only farms that pass this external audit receive Andalusia's Integrated Production Guarantee Mark, an official label certifying the origin and production conditions of the cotton and reinforcing the sector's credibility in international markets. This dual mechanism — permanent technical advice combined with independent certification — makes Integrated Production in Spanish cotton one of the strongest quality and sustainability assurance systems in the sector.

Better Cotton

The Spanish sector's commitment to internationally recognised sustainability standards is also reflected in its active participation in Better Cotton, the world's largest initiative for more sustainable cotton production. Engagement with Better Cotton reflects the sector's commitment to continuous improvement in environmental, social and economic performance. Compliance with this standard strengthens the confidence of textile manufacturers and global brands seeking responsibly produced raw materials.

EUCOTTON and the Identity of European Cotton

The sector also participates in EUCOTTON, an initiative developed jointly by the cotton sectors of Spain and Greece. EUCOTTON aims to promote the identity of European cotton as a superior-quality, sustainable and fully traceable fibre, produced under the most demanding social and environmental standards.

Initiative / Approach	Contribution to Competitiveness
Integrated Production	Pioneering Andalusian system; API technical adviser throughout the season; annual certification by an accredited independent body
Better Cotton	International sustainability standard; continuous improvement in water, soil, biodiversity and social conditions
Water-use efficiency	Greater resilience to climate variability; precision irrigation techniques
Traceability	Full supply-chain transparency; growing requirement from international textile brands
EUCOTTON	Joint promotion with Greece of European cotton identity; differentiation through quality and sustainability
Ginning industry	Homogeneous, high-quality fibre tailored to market requirements

Table 2. Sustainability and competitiveness attributes of Spanish cotton.

Outlook for the 2026/27 and 2027/28 Seasons

The short-term outlook for the Spanish cotton sector is more positive than at any point since the start of the drought cycle in 2022. The recovery of water reserves in Andalusian reservoirs provides a solid basis for the 2026/27 season, with irrigation water availability expected to be adequate across all main producing areas. Under these conditions, the sector anticipates a slight increase in planted area and, more significantly, a substantial improvement in yields, with total production potentially exceeding that of the previous two seasons.

Looking ahead to the 2027/28 season, no changes are expected in the sector's structural approach. The strategy of competing on quality, sustainability and traceability, rather than volume, will remain at the centre of Espalgodón's vision for the development of Spanish cotton.

Conclusion

The prolonged drought from 2022 to 2024 tested the value chain; however, the sector came through this period with its production structure intact, its commercial relationships preserved and its commitment to quality and sustainability reinforced.

As water availability normalises and production recovers, Spain is entering a more favourable new phase. The foundations of competitiveness — Integrated Production, Better Cotton, EUCOTTON, a professionalised ginning industry and a strongly export-oriented commercial strategy — are well established.

Spain does not aspire to become a major volume producer in the global cotton market. Its objective is different: to be recognised as a producer of high-quality, fully traceable and sustainably produced fibre, capable of meeting the most rigorous requirements of textile manufacturers and international brands. In a global market that increasingly rewards transparency, sustainability and reliability of supply, the Spanish cotton sector is well positioned to consolidate and expand its distinctive place in the world of cotton.

On the Rebound:
US Cotton's Push to Rebuild Demand

JON DEVINE

Chief Economist, Cotton Incorporated

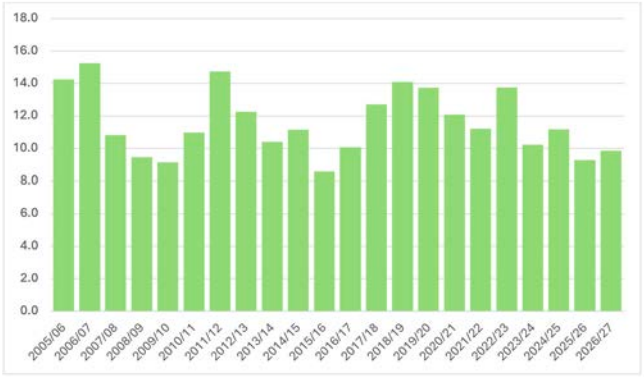
Production on the Rebound

After several challenging seasons, the US cotton industry appears poised for a rebound. Acreage appears to have stablized, the weather looks to be more favorable, and further innovations to help build demand are being explored.

US cotton producers are responsive to changes in relative crop prices, and the recent period of lower cotton prices led to some reduction in planted acres. For production, the effects of lower acreage were compounded by challenging growing conditions.

In West Texas, the largest growing region in the country, there have been sucessive years of drought. With the majorty of the acres in that area dryland, meaning that cotton is grown without irrigation, output is highly dependent on rainfall. A transition from repeated La Nina climatic conditions, which are associated with drier weather in West Texas, and into what could

Figure 1. US Cotton Acreage Planted (in million hectares)

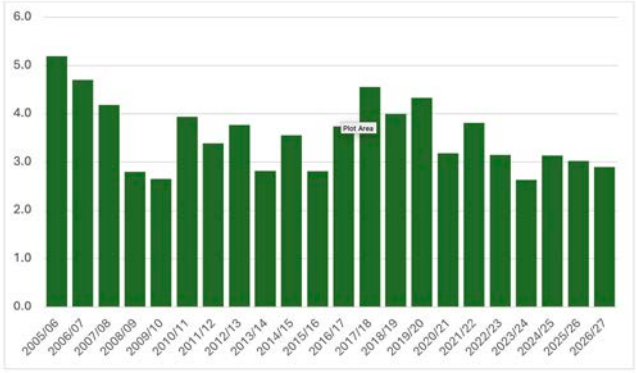


be a strong El Nino situation may mean more moisture and could unlock higher national production.

Planted acreage also appears to have stabilized. The combination of weak prices and higher input costs pulled acres down from their recent peak in 2022/23. In 2025/26, plantings reached their lowest level since 2015/16.

For 2026/27, the latest figures from the USDA (June Acreage report) suggest a slight rebound (+6%). The latest production forecast from the USDA (released before the June Acreage report) suggests production could be lower year-over-year (-4%). However, the higher acreage number, along with more favorable growing conditions could be expected to lead to increased output.

Figure 2. US Cotton Production (in million tons)



Focus on Demand-Building

From the demand side, the U.S. continues to innovate. Cotton Incorporated supports demand through research, technical services, consumer and market insights designed to increase the demand and profitability of cotton. Efforts encompass agricultural and sustainability advances through to product innovation that expands cotton's performance and competitiveness across a wide range of textile applications.

Cotton Incorporated has also been active in correcting misinformation and highlighting cotton's sustainability advantages over polyster. The recent release of the most comprehensive data-driven Life Cycle Assessment (LCA) of U.S. cotton fiber production conducted to date. The LCA study focused exclusively on U.S. cotton fiber production. Its findings help inform internal research priorities, support external stakeholders across the cotton value chain and provide updated life cycle inventory (LCI) data for use in sustainability tools and databases. To learn more: LCA of U.S. Cotton Fiber Production

Since 2010, Cotton Incorporated has been conducting biodegradation research demonstrating that cotton fibers biodegrade in natural environments and do not contribute to

persistent microplastic pollution[1]. The organization's ongoing research and educational resources continue to inform industry understanding of microfiber pollution, plastic leakage and environmental performance of textile fibers.

Building on this research, Cotton Incorporated has developed a comprehensive education and marketing program highlighting the environmental differences between natural and synthetic fibers. Through trade shows, industry advertising, consumer outreach, influencer partnerships, the organizations shares science-based information on microfiber pollution and the role natural fibers like cotton can play in reducing persistent microplastic pollution.

Looking Ahead

While production fluctuates from year to year, long-term demand is built through research, innovation and market development. Continued advancement in research, product and makret development helps strenghten cotton's competitivness in the global fiber market.

1 1 Li, L., Frey, M. W., & Browning, K. J. (2010). Biodegradability Study on Cotton and Polyester Fabrics. Journal of Engineered Fibers and Fabrics, 5(4), 42–53. https://doi.org/10.1177/155892501000500406

Smarter Fiber, Stronger Future: Greece's Cotton Outlook

PRODROMOS OUSOULTZOGLOU

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Introduction

Cotton is one of Greece's most strategically important agricultural commodities. Although its share of global production is relatively small, the country occupies a unique position within the international cotton market, acting as an important supplier of high-quality lint to textile industries in Turkey, Egypt, Pakistan, Bangladesh, Indonesia and other Mediterranean and Asian markets.

Greece is by far the largest cotton producer in the European Union, accounting for approximately 80% of EU cotton area and output, while supporting tens of thousands of growers and generating substantial export revenues. The cotton sector occupies a unique position in Greek agriculture due to its strong integration into global markets. Unlike many other agricultural commodities, most domestic cotton production is destined for export rather than domestic consumption. As a result, developments in global textile demand, international cotton prices and regional trade flows have a severe impact on Greek producers and exporters.

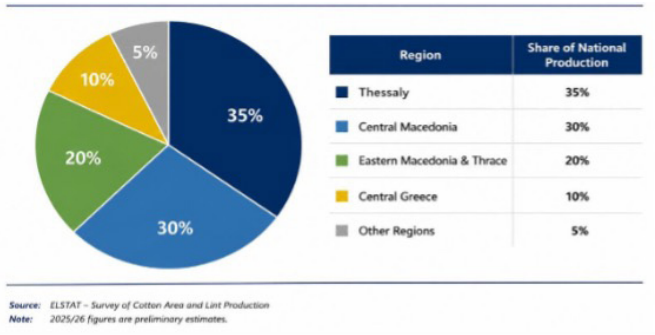
During the past five years, the Greek cotton sector has faced considerable challenges arising from volatile international prices, rising production costs, climate-related risks and changing global demand patterns. At the same time, increasing emphasis on sustainability, traceability and fiber quality has created new opportunities for Greek cotton producers and exporters. This period was characterized by significant fluctuations in cultivated area and production. Nevertheless, Greece has maintained its position as a reliable supplier of premium-quality cotton, supported by modern ginning facilities, strong export infrastructure and increasing adoption of sustainable production practices.

The outlook for Greece's cotton market in the current season is shaped by several competing forces. On one side, farmers and ginners are dealing with challenging margins, higher input expenses and uncertain demand from international spinning markets. On the other, Greece benefits from established production expertise, favorable Mediterranean growing conditions, recognized fiber quality and access to major textile markets in Europe, Asia and the Mediterranean region.

Looking ahead to the near future, the Greek cotton industry is expected to remain export-oriented. Future growth will depend more on improving competitiveness through quality differentiation, improved farming practices, stronger links with global textile supply chains and benefits associated with European Union production standards. The outlook is cautiously optimistic, although significant risks remain.

Structure of the Greek Cotton Sector

Main Cotton-Producing Regions of Greece



The sector consists of:

- Approximately 40,000 cotton-producing farmers
- More than 50 modern ginning facilities
- A highly export-oriented marketing structure
- Strong integration with international merchants and textile manufacturers

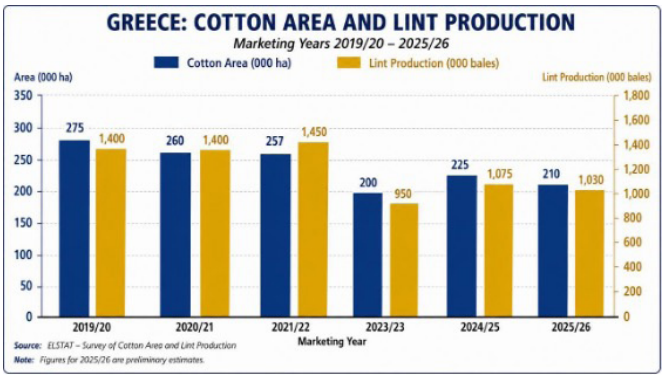
Established in 1975, the Hellenic Cotton Association of Ginners and Exporters (HCA) play a significant role in Greece's cotton sector. Acting as a decision policy maker body, the HCA promotes sustainability, quality and liability of Greek cotton exports. The establishment of Inter-professional Organization of Greek Cotton and of European Cotton Alliance was an HCA's initiative.

The Greek ginning industry has become increasingly focused on quality differentiation. Programs promoting certified sustainable cotton, improved traceability and lower environmental footprints are gaining importance as European and international buyers demand greater transparency throughout the supply chain.

Current Season Overview

Greek cotton production has declined from earlier peaks as farmers have adjusted planting decisions in response to profitability challenges. The country's cotton sector reached particularly strong output levels around the end of the last decade, but recent seasons have been marked by reduced planted area. Greek harvested area and output have fallen from the record levels seen in 2019/20, when production reached around 1.675 million bales, with recent forecasts closer to around 1 million bales.

For the 2025/26 marketing year, Greek cotton production was approximately 1.02 million bales, reflecting a small decline from the previous season, while for 2026/27 production is expected to be around 960.000 bales. The reduction is primarily attributable to lower planted area rather than significant yield deterioration.



The contraction reflects several factors:

- higher costs for fuel, fertilizer, crop protection and irrigation
- lower cotton prices during periods of weak global demand
- competition from alternative crops such as corn and sunflower
- uncertainty over future farm profitability

Weather and Agronomic Conditions

Weather remains a major factor affecting Greece's cotton performance. Cotton production requires careful management of heat, water availability and harvest timing. Mediterranean conditions provide advantages during the growing season, but increasing climate variability has created additional risks.

Drought conditions, heat stress and irregular rainfall patterns can influence both yield and fiber characteristics. Irrigation remains essential in many producing regions, making water management one of the sector's most important long-term challenges.
Greek growers have increasingly focused on improving efficiency through precision agriculture, optimized input management and improved varieties. Cotton cultivation in Greece is carried out in accordance with the EU Common Agricultural Policy, one of the world's most stringent agricultural and environmental policy frameworks which is fully aligned with the objectives of the European Green Deal. Against this backdrop, new genomic techniques are expected to enhance yields, reduce production costs and provide a competitive advantage to the sector.

Demand Outlook

Historically, Greece maintained a robust textile and spinning sector, generating significant domestic demand for cotton fiber. However, the relocation of textile production to lower-cost manufacturing locations led to a decline in domestic spinning capacity, reducing local cotton consumption to a fraction of its historical level.

Nowadays, while a number of specialized textile manufacturers continue to operate, domestic processing capacity remains insufficient to absorb a meaningful share of national production.

As a result, changes in domestic demand have relatively little influence on overall market balances.

Nevertheless, niche opportunities are emerging in:

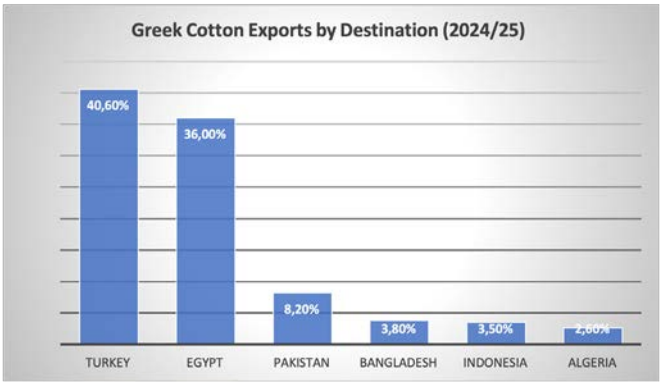
- Premium textiles
- Sustainable apparel
- Traceable European cotton products
- Regional Mediterranean supply chains

Growing consumer interest in sustainable and locally sourced fibers may create opportunities for expanding domestic value addition in the coming years.

Export Performance and Trade Position

Exports remain the strongest part of Greece's cotton sector. Greece is one of the leading cotton exporters globally, despite its relatively small size compared with major producers such as Brazil, the United States, India and China.

Recent trade data indicate that Turkey remains the largest destination for Greek cotton, followed by Egypt, Pakistan, Bangladesh and other textile-producing countries.



Several structural factors support Greek export competitiveness:

1. Geographic proximity to major textile manufacturing hubs
2. High fiber quality and consistency
3. Modern ginning infrastructure
4. Efficient port access
5. Membership in the European Union
6. Long-standing commercial relationships

Turkey remains particularly important because of its large spinning industry and logistical advantages. Egypt has also emerged as an increasingly significant market, due to growing spinning capacity and demand for quality imported cotton. Both spinning countries have developed great commercial

relationships with the Greek ginning industry. As a result, every year, Mediterranean Cotton Roads, a great trade event, takes place in a Mediterranean country, aiming to promote cotton-trade relations among the Mediterranean Basin counties. An event that, without a doubt, is the most important event, of the wider area, concerning the cotton sector, with so many companies and leaders participating, from all around the globe.

Global Cotton Market Conditions

Greece's cotton outlook cannot be separated from the wider global market. The international cotton market has recently faced a combination of large supplies, cautious demand and changing trade patterns.

The trade outlook will depend on several factors:

- global mill demand
- competition from Brazil, the United States and other exporters
- exchange-rate movements
- shipping costs
- consumer demand for cotton-based textiles

Major producing countries continue to shape global price trends. Brazil has strengthened its position as a leading exporter, while the United States remains a key supplier. Meanwhile, demand growth has been uneven, reflecting the gradual recovery of textile markets.

Price Environment and Farm Economics

The biggest challenge facing Greek cotton farmers is profitability. Input costs—including fertilizers, energy, irrigation and labor—have increased significantly since 2021 (high inflation rates), reducing profit margins.
When international prices weaken, producers face immediate pressure because many costs are fixed before planting.

Conversely, global cotton associations and traders have united to promote the advantages of natural fibers over synthetic alternatives through the "Make the Label Count" (MTLC) initiative. We believe that consumers and policymakers will increasingly recognize the benefits of natural fibers, supporting cotton demand. At the same time, the EU Cotton initiative presents a significant opportunity for Greek and Spanish producers and exporters by positioning EU cotton as a distinct product complying with EU envi-

ronmental standards. Together, these developments support cotton prices and strengthen optimism among Greek cotton growers.

Sustainability and Quality Differentiation

One of the most important opportunities for Greek cotton is sustainability. Brands and textile companies are increasingly interested in traceable, responsibly produced fabrics. This creates an opportunity for EU producers to position cotton not only as a commodity but as a higher-value agricultural product.

Cotton produced within the EU has the following characteristics:

a. Non-GMO by law (GMO seeds are forbidden in the EU),

a. Fully traceable from the farm till the bale

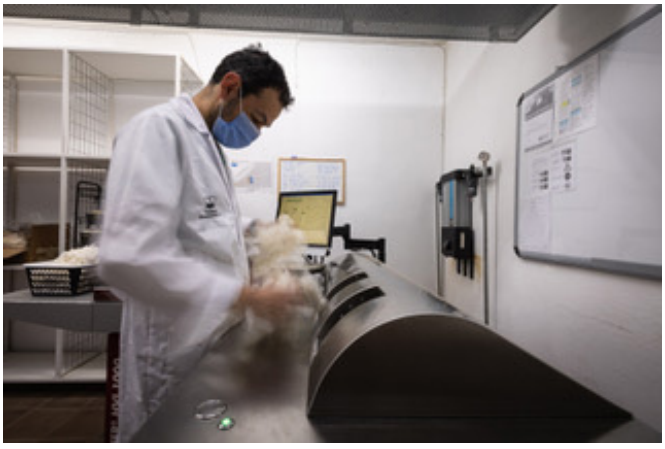
a. High responsible production methods

a. In compliance with the EU social policy

a. In compliance with the EU common agricultural policy

b.

European Union regulations require farmers to comply with stringent agricultural protocols, permitting only a limited range of crop protection products and defoliants. Child labor, the employment of pregnant women in hazardous tasks and uninsured labor are strictly prohibited. In addition, considerable emphasis is placed on reducing carbon and water footprints, with numerous initiatives promoting sustainable practices. As a result, EU cotton is produced under standards that closely resemble organic production, without requiring significant changes to existing practices adopted by Greek farmers.



Moreover, quality differentiation is likely to become increasingly important as competition intensifies from large-volume exporters. Greek cotton's reputation for superior fiber quality provides a basis for competing beyond price alone. Its high and uniform spinnability, combined with the absence of contamination due to fully mechanized harvesting and handling, constitutes a significant competitive advantage.

In addition, shorter transportation distances to the textile manufacturers can reduce supply chain emissions and improve traceability.

In this frame, the Greek and Spanish cotton associations have founded the European Cotton Alliance, and together with the whole European cotton family, are driving forces to promote the important competitive advantages of the cotton produced within the European Union, to the European and worldwide consumers.

Outlook for 2027/28

For 2027/28, we wait for a small expansion of the Greece's planted area, based on better cotton prices compared to competitive crops. But a return to record production levels appears unlikely, unless profitability im-

proves significantly. Instead, the industry is likely to focus on maintaining a good quality production with stronger emphasis on value, efficiency, premium characteristics and market positioning.

Cultivated area is expected to stabilize somewhere between 210.000 and 240.000 hectares. Production could return to approximately 1.1–1.3 million bales.

International prices are expected to receive moderate support from declining global stocks and slower production growth. However, demand from textile manufacturers will remain the key determinant of market direction.

Exports are expected to remain strong, with Turkey and Egypt remaining as primary destinations. Additional opportunities may emerge in sustainable textile supply chains which are looking for product's differentiation.

Risks:

- Prolonged drought conditions
- Further increases in production costs
- Global economic slowdown
- Competition from synthetic fibers
- Geopolitical disruptions affecting trade flows

Opportunities:

- Sustainability certification
- Digital agriculture
- Improved irrigation efficiency
- Carbon footprint reduction
- Higher demand
- Expansion of traceable European cotton programs

Conclusion

The Greek cotton sector remains one of the country's most important agricultural industries, a strategic component of the European agricultural self-sufficiency and an important participant in the global cotton market.

Despite facing significant challenges from climate change, market volatility and rising production costs, Greece continues to benefit from strong export orientation, high-quality production and reputation, experienced growers (3rd and 4th generation), industry's resilience and access to premium international markets.

Greece is well positioned to maintain its role as the European Union's leading cotton producer and a reliable supplier to global textile markets.

The future of the industry will likely depend on its ability to shift from volume-based competition toward differentiation through quality, sustainability and reliability. For Greek cotton, success may be defined less by higher production volumes and more by producing "smarter" fiber that aligns with the evolving needs of regional textile markets.

Uneven Recovery:
Pakistan's Cotton Sector Under Pressure

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Pakistan's cotton sector continues to face significant structural and market challenges despite encouraging developments in some production regions. The current sowing season presents a mixed picture, with substantial regional disparities in cotton acreage.

Preliminary estimates indicate that cotton area in Punjab, the country's largest cotton-producing province, has declined by approximately 16 percent compared to the previous year. In contrast, Sindh has recorded a remarkable increase of nearly 30 percent in cotton area, continuing a trend observed over the past several years.

The persistent decline in cotton acreage in Punjab reflects the diminishing profitability of the crop relative to competing alternatives. Cotton farmers increasingly prefer crops such as sugarcane, maize, and rice, which offer comparatively better financial returns and lower market uncertainty. Rising production costs, coupled with stagnant or uncertain farm-gate prices, have reduced the attractiveness of cotton cultivation. Consequently, regions with adequate irrigation facilities are witnessing a gradual shift away from cotton towards more profitable cropping systems.

Against this backdrop, Sindh and Balochistan are emerging as the most promising cotton-producing regions. The substantial increase in sowing area in Sindh, combined with favourable yield potential, provides optimism for the current season. If weather conditions remain supportive, Pakistan's cotton production could recover to around 9 million bales. Although this would represent a significant improvement over the previous two seasons, it would still remain below the country's annual cotton requirement of approximately 12 million bales.

Pakistan produced only around 7 million bales during each of the last two seasons, forcing the textile industry to rely heavily on imported cotton to bridge the supply gap. Cotton imports have therefore become an essential component of the country's fibre supply chain. At present, sowing activities have been completed across the major cotton-growing regions, while arrivals of the new crop have already commenced in Sindh and selected areas of Punjab. Within the next few weeks, market arrivals are expected to increase substantially, providing a clearer indication of the crop's production potential.

Pakistan operates a largely open cotton market where prices are determined primarily through demand and supply forces. There are currently no significant market protection mechanisms or support prices available to cotton growers. Consequently, as the flow of new crop arrivals increases, downward pressure on domestic cotton prices may emerge. This situation is further influenced by developments in the international cotton market, where prices have shown a generally softer trend in recent months. Lower international prices have made imported cotton increasingly attractive for Pakistan's textile mills, often providing a competitively priced alternative to locally produced cotton.

The availability of imported cotton at favourable prices can reduce buying interest in the domestic market, particularly during periods of abundant local supplies. This market reality places additional pressure on farmgate cotton prices and contributes to the uncertainty faced by growers. Since the Government of Pakistan has moved away from support price mechanisms for major crops, including cotton, market prices are expected to remain fully dependent on prevailing domestic and international market conditions.

Another major factor affecting cotton profitability is the substantial increase in input costs over the past five years. The prices of seed, fertilizers, pesticides, fuel, labour, and irrigation have risen considerably, increasing the overall cost of production. As a result, many farmers perceive cotton cultivation as a high-risk enterprise, particularly when yield outcomes remain uncertain due to weather variability and pest pressures. The combination of rising costs and uncertain returns has become one of the principal drivers behind the continued decline in cotton acreage in several regions.

Climate change represents an additional and increasingly serious challenge for Pakistan's cotton sector. Weather patterns in major cotton-growing areas, particularly in Punjab, have become more erratic and unpredictable. Rainfall events are increasingly occurring outside their normal patterns and often coincide with sensitive crop growth stages, causing damage rather than benefiting crop development. Temperature extremes, shift-

ing pest dynamics, and water availability concerns are further complicating cotton production decisions.

The Pakistan Central Cotton Committee (PCCC) is playing a pivotal role in strengthening research and development in Pakistan's cotton sector. Through its nationwide research network, PCCC continues to develop and evaluate improved cotton varieties that address the evolving challenges faced by cotton growers.

Among its recent achievements, the cotton variety Bt. CRIS-682 has gained widespread acceptance among farmers in Sindh due to its strong field performance and has secured a significant share of the province's cotton area.

At present, the varietal development and evaluation trials being conducted by PCCC are focused on developing high-yielding, climate-resilient cotton varieties with enhanced tolerance to high temperatures and other abiotic stresses. These efforts are aimed at mitigating the adverse impacts of climate change, which has become one of the most significant challenges affecting Pakistan's cotton sector.

The Government of Pakistan is currently undertaking comprehensive reforms to strengthen the institutional framework of the Pakistan Central Cotton Committee (PCCC), with the objective of enhancing its role as the country's premier research and development organization for the cotton sector. The restructuring initiative is aimed at improving governance, increasing operational efficiency, and enabling PCCC to respond more effectively to emerging challenges.

In parallel, the Government is also revising the financial framework of PCCC to establish a more sustainable and reliable funding mechanism for cotton research and development. These reforms are intended to ensure that critical research activities are not constrained by financial limitations and that the organization has the necessary resources to develop improved cotton varieties, innovative production technologies, and science-based solutions for the long-term sustainability and competitiveness of Pakistan's cotton sector.

Despite these challenges, stakeholders remain cautiously optimistic about the current season. The expansion of cotton area in Sindh and the possibility of improved production offer hope for a partial recovery in domestic output. Nevertheless, sustaining cotton production over the longer term will require measures aimed at improving farm profitability, enhancing climate resilience, reducing production costs, and strengthening farmer confidence in cotton as a viable commercial crop. Achieving these objectives will be critical for reducing dependence on imports and ensuring a stable supply of cotton for Pakistan's textile industry.

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