

Organic Cotton Market Report



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Foreword

Over the last 20 years, Textile Exchange has been on a mission to transition the cotton production model towards one rooted in resilient agricultural systems that work with nature, not against it.

We see organic principles as essential to growing cotton in a way that brings holistically improved outcomes for climate, soil health, water, and biodiversity. This way of farming favors place-based practices over external inputs, and over time, the transition can help to safeguard the health of people and the land.

But there are no silver bullet solutions to systems change and organic cotton production comes with its challenges. For us, finding solutions means deepening the industry's understanding of where our cotton comes from, and what is happening on the ground.

That's why each year, we invest in aggregating data on certified organic cotton production by country and publishing it freely. By sharing this data, we give the industry a framework in which to identify opportunities, adversities, and irregularities by geographical context, helping us get to the root of their causes. Producing this report depends on having access to data provided voluntarily from sources across the sector. This year more than ever, these numbers are becoming increasingly difficult to obtain. We want to be fully transparent that the data shared in this report is the best available, but we can't be confident in every number.

While modeling and assumptions need to be applied to fill in certain data gaps, we believe that even estimates can help us to understand what is happening across the industry, which is why we continue to share them.

Going forward, we're calling on the industry to be more open in sharing data on organic cotton production, and we hope you will join us in our call to action to do the same.

Ultimately, it's when we start to bring transparency and collaboration into these supply chains that the system starts to shift.

For the latest production trends in the wider preferred fiber and materials landscape, please see our sister publication the <u>Preferred Fiber & Materials Market Report</u>.



Photo: Gallant International. Harvesting organic cotton in India.

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About This Report



Scope & disclaimer

Scope

The Organic Cotton Market Report provides a unique analysis of key data and emerging trends in organic and in-conversion cotton production. Each year, it shares data from the previous harvest season; in this case, 2020/21. We include the data received from every producing country to create a complete picture of global supply.

As "organic" is a legally controlled term around the world, we use the criteria set by the respective governing authority to establish what is certified "organic". In this way, Textile Exchange is agnostic in its volume reporting.

For the purpose of this report, the term "organic cotton" does not include any uncertified naturally grown cotton, nor does it make any statement regarding the integrity beyond its certification, or the numbers submitted by our data providers.

In line with other industry reports on organic agriculture, we have this year shifted the focus to reporting combined numbers for organic and in-conversion production, but continue to report these numbers individually, too.

The land area figures shared in this report refer to total land certified to an organic standard by a producer group growing organic cotton. The same piece of land could be used to grow other organic crops as part of a rotation system, a fundamental element of organic agriculture. This means that reported land area figures do not necessarily reflect solely the land area used to grow organic cotton and, as a result, may seem disproportionately high compared to the organic cotton volumes harvested. The same applies to in-conversion land that may or may not be used to grow organic cotton upon full certification.

Disclaimer

Textile Exchange has aggregated data and insights on the global production of certified organic cotton and reported it as an industry resource since 2004 and is the only organization to do so.

We believe this information is critical in facilitating growth of the sector and progressing toward Textile Exchange's 2030 Climate+ goal. The report allows companies to make informed sourcing decisions, discover new sourcing destinations, and address current supply chain challenges.

The data shared in this report is intended to be a snapshot of production and makes no claims to represent total supply.

Textile Exchange is purely an aggregator of this data. While we carry out a systematic completeness and accuracy check, we rely on external data providers for accuracy and integrity.

Where data gaps exist, we attempt to replace these values with best available estimates from historical or comparable proxies. In selected cases, where data can only be obtained from one source, triangulation and validation of data may not be possible and the data is accepted as it is. In other cases, modeling can be applied to derive an estimate.

Data submitted may change retrospectively due to corrections made by data sources.

Textile Exchange doesn't perform certification work itself, provide on-the-ground program work regarding the production of organic cotton or any other fiber in any country, or make recommendations for preferred sourcing locations.

See our *methodology* for more information.



Photo: Bowles Farming Company. Organic cotton seedling in the US.

Help us improve access to data on organic cotton

Data collection challenges

We publish the Organic Cotton Market Report as a way to inform and support the sector. Access to this data can help to pinpoint opportunities and challenges in organic cotton based on where it is grown.

Producing this report relies on data provided by external sources, and each year, that data is becoming increasingly difficult to obtain. For some crucial data points, the data simply isn't available.

The reasons behind these challenges are many, and vary from country to country, but commonly include a lack of incentive to share data, data confidentiality concerns, and unavailability of data.

These challenges come despite Textile Exchange only reporting aggregated volumes and keeping data and information on individual entities strictly confidential (unless express permission is given otherwise).

Steps taken by Textile Exchange to address data collection challenges

Textile Exchange has done what it can to overcome these challenges and to continue publishing the report, such as:

- Being more transparent about the data collection challenges, and about our varying degree of confidence in the data we report (see next page).
- Investing in additional team members and consultants to support the data collection process.
- Striving to make our intentions behind data collection and reporting clearer to reduce hesitations about data sharing and confidentiality.
- Undergoing an independent review in 2018 of the data collection processes used in compiling data for this report to provide stakeholders with an independent opinion about the quality of the reported data and the adherence to the principles of international benchmarks such as the AA1000APS and the GRI Standards.
- Inviting external organizations to join an Organic Cotton Market Report Advisory Panel to provide input into the reporting strategy.

Despite these efforts, the challenges faced in data collection continue. That's why we're calling on the industry to help us improve access to reliable and timely data on organic cotton.

Call to Action

Data sharing *should* be a basic requirement.

We can't enforce it, but together we can create demand for key stakeholders to share their data openly, helping us to understand what is happening on the ground.

Together, we must call on the industry to be more transparent in sharing aggregated data on organic cotton production.

This includes government agencies, accreditation bodies, certification bodies, suppliers, voluntary supply chain standards, and umbrella organizations for organic agriculture. Organic cotton producers are another important data source, but compiling data is a burden that shouldn't have to fall on them.

Going forward, access to more reliable and timely data will be key to accelerating the adoption of organic cotton and overcoming adversities as they arise. Let's work together to make transparent data sharing an industry best practice.

Data confidence

For a number of years, we have included a table in our <u>methodology</u> displaying our level of confidence in the data reported for each country. This year, considering the growing <u>data collection challenges</u>, we have expanded on this by introducing confidence levels for key data points.

These confidence levels have been assigned by Textile Exchange based on the following factors:

- The number of data sources available
- The existence of discrepancies between data sources
- The extent of data gaps
- The availability of certification body data
- The presence of conflicting information
- The use of modeling and assumptions

It's important to note that the confidence levels indicate the extent to which we believe the data accurately reflects certified production volumes. They do not make any statement regarding the integrity beyond certification.

We report this data, even if our confidence levels are low, because we know that insight into global production can help the industry, and the information we have collected is the best available. Even estimates give companies a better understanding of the landscape in which they are making sourcing decisions, as well as creating a clearer context in which to assess sustainability claims.

We believe that as long as the methodology we use and our confidence levels in each key data point are made clear, users of the report should be able to decide how to use it.



An important note on this year's India and global data

A major instance in this year's report where we have a low level of data confidence is for India. We want to highlight this upfront because, with India being the largest producer of organic cotton globally, the estimation that has been made for the country's 2020/21 organic cotton production has a significant impact on the global total, too.

The reason for our low level of confidence in India's 2020/21 production data is that we were only able to obtain data from India's Agricultural and Processed Food Products Export Development Authority (APEDA), but this data combines organic and in-conversion production into a single figure. In the past, Textile Exchange was able to triangulate this figure with data provided by producers and certification bodies to determine the breakdown between organic and in-conversion cotton. However, we could not obtain sufficient data from these sources to determine the breakdown for 2020/21. We therefore had to apply modeling and assumptions to arrive at an estimation. See India page for details.

In future years, our methodology will need to evolve to take into consideration the growing challenges faced in data collection-not only in India but in other countries, too.

Social context

Human rights

At Textile Exchange, our vision is an enriching global textile industry that protects people and planet by positively impacting climate, soil health, water, and biodiversity.

Whilst we are an environmentally focused organization, we recognize that the protection of communities and livelihoods goes hand-in-hand with this goal.

We also recognize that throughout global supply chains there are risks associated with labor rights, and human rights more widely, especially as the supply chain moves upstream to the source of raw materials.

As "organic" is a legally controlled term, Textile Exchange uses the criteria set by the respective governing authority to establish what is certified "organic." But as producing countries' governing authorities set their own criteria, a threshold for labor rights may not be included or comprehensively assured.

It's widely documented that while cotton can provide a vital source of income for millions of people across the world, the supply chain suffers from price instability, erratic weather patterns due to climate change, and forced and child labor.

For sourcing of all raw materials, a human rights due diligence approach is essential to proactively manage human rights risks. For further Information, please refer to the following:

- International Labor Organization Conventions and Recommendations
- United Nations Guiding Principles on Business and Human Rights
- OECD Due Diligence Guidance for Responsible Supply
 Chains in the Garment & Footwear Sector
- <u>The Responsible Sourcing Tool and its Cotton</u> Commodity Profile
- Textile Exchange Standards Transition



Photo: Agrona Tekstil. Organic cotton plants during harvest.

About Organic Cotton



Opportunities & challenges

What is organic cotton and what opportunities does it bring?

Organic cotton is grown in agricultural systems that work with nature, rather than against it. The organic way of farming combines tradition, innovation, and science to benefit the environment, promoting fair relationships and improved quality of life for all.

Organic farming systems have the potential to sustain and promote the health of soils, ecosystems, and people by relying on ecological processes, biodiversity, and cycles that are adapted to local conditions, rather than using external inputs that could have adverse effects.

Let's look at an example. Rather than using synthetic nitrogen fertilizer-which results in the release of large quantities of greenhouse gases from both its production and in-field use and can also affect soil health and water quality-organic farmers establish management systems that might involve crop rotation and green manures instead. In this way, they naturally build soil health.

With long-term investment from the marketplace, organic cotton can bring immense benefits to the fashion and textile industry-as well as our planet. This way of farming favors placebased practices over external inputs, helping to safeguard the health of people and the land.

By prioritizing long-term resilience over short-term yields, organic practices can help us to ensure a sustainable future for every stakeholder in this global supply chain, from farmers to suppliers and brands.

What are the challenges faced by farmers, and what can brands do to help?

Any systemic shift will come with challenges and organic cotton is no exception. The good news is that the industry is becoming more aware of the challenges and of what needs to be done to address them.

Despite the growing market, it's not always easy for farmers to switch to organic practices. Cotton is a cash crop, and farmers' livelihoods depend on the yields that they produce. While organic farming systems bring longterm benefits, the conversion period-often three years-is a huge burden for farmers to bear alone, and the rules of organic agriculture may feel restrictive without viable alternatives to conventional inputs.

Problems start as early as the planting season. GM seeds have a market monopoly in some countries, but they are not accepted in organic systems. Without access to non-GM seeds, the ability of many farmers to produce certified organic cotton is limited from the outset. GM contamination from neighboring fields is also a problem.

Similar dependencies come with conventional pesticides and fertilizers. Continued use of these chemicals over time reduces the quality of the land and removing these inputs can make yields vulnerable.

To move forwards, further research, farmer training, and improved access to seed will be essential. It's about finding new ways to build soil health and manage weeds and insects, such as crop rotation, residue management, green manures and compost, and biological inputs. Organic cotton programs and initiatives must also lead a mindset shift away from one-size-fits-all solutions in favor of methods based on the local and regional contexts.

Even then, farmers may see lower yields as they build back the soil and learn new practices. With high certification costs to pay, too, they need strong market signals to make sure converting to organic is worth the investment.

Best practices for organic farming mean learning from the land. The risks and rewards of this journey should be shared in full financial partnership with farmers, and longterm commitments should be made from the start.

For brands, this translates to fair pricing that takes these challenges into account and incentivizes growers to make the switch, while ensuring that price differentials reach the farmer. In a climate increasingly vulnerable to extreme weather, commitments might also include crop insurance to protect against losses from natural causes.

On the social side, organic cotton buyers must invest in traceability and due diligence to the farm level, this contributes to eliminating forced and child labor and health and safety risks to workers.

Beyond action from companies, government incentives will be essential to promote organic agriculture. This can help with volatile and uncertain cotton prices and trade restrictions, as well as improving access to organic inputs.

Breaking down the challenges farmers face requires ongoing dialogue with stakeholders from all stages of the supply chain. In short, it's about moving away from seeing organic cotton simply as a commodity and recognizing that it's the result of ongoing collaboration, collective action, and commitment.

Standards & certification

What are organic standards and why do we have them?

Unlike terms such as "natural" or "sustainable", the core principles of organic farming are legally controlled. Criteria for farmers who want to certify their cotton as organic is set by their respective governing authorities.

Many organic farmers go above and beyond this baseline. But, at the very least, every farmer selling their crops as organic must meet a set of strict rules that include requirements around soil health and the prohibition of artificial fertilizers, hazardous synthetic pesticides, and genetically modified organisms (GMOs).

Once the cotton leaves the farm, it isn't automatically covered by the same legal protections. However, private standard-setting organizations have developed voluntary standards that manage the chain of custody of the organic cotton from gin to the finished product. The most common of these finished product standards are Textile Exchange's Organic Content Standard (OCS) and the Global Organic Textile Standard (GOTS). Both standards accept organic cotton inputs from farms certified to organic standards recognized by the International Federation of Organic Agriculture Movements (IFOAM - Organics International). These include the regulations in primary cotton-producing countries like India.

Independent third-party certification plays an important role in verifying the status of organic cotton. Becoming certified by the OCS or GOTS means subscribing to a system of monitoring and certification that helps connect the dots throughout the supply network.

Find OCS-certified suppliers here, and GOTS-certified suppliers here.

Facilities certified to international voluntary standards in 2021



GOTS certified facilities 2021

Top 10 countries by number of GOTS-certified facilities in 2021 (and growth since previous year):

India: 3,000 (↑ 0%)
Turkey: 1,779 (↑ 61%)
China: 1,577 (↑ 64%)
Bangladesh: 1,526 (↓ 4%)
ltalv: 894(↑ 53%)

Germany: 817 (↑ 19%) Portugal: 608 (1 35%) Pakistan: $382(\downarrow 2\%)$ US: 166 (↓ 1%) France: 122 (1 22%)



OCS certified facilities 2021

Top 10 countries by number of OCS-certified facilities in 2021 (and growth since previous year):

Turkey : 2,639 († 45%)	Pakistan: 493 († 56%)
China: 2,544 († 52%)	Portugal : 429 (↓ 42%)
India: 1,743 (↑ 36%)	Spain: 237 († 204%)
Bangladesh: 1,302 (↓ 1%)	Germany: 213 († 109%)
South Korea: 504 (↑ 26%)	Morocco: 210 († 108%)

Standards & certification

How does organic certification work?

There are two types of certifications for organic cotton: farm-level certification and supply chain certification.

- Farm-level certification: Third-party certification bodies verify that organic farmers meet strict national organic laws and regulations. Organic farmers must keep records to show that they are meeting full organic standards 365 days of the year, and their farms are also inspected in person at least once a year. It's a big commitment for a farmer as certification also adds additional costs for them, including paying a fee to become certified. The IFOAM Family of Standards contains all standards officially endorsed as organic by the Organic Movement.
- Supply chain certification: Certifications like OCS or GOTS are designed to manage the chain of custody of organic fibers as they make their way along the supply chain, ensuring that any claims made about products containing organic content are true.

There are three key parties that play a central role in the assurance process:

- The standard-setting body: Standard-setting bodies, such as Textile Exchange and GOTS, create standards for the segregation, identification, and volume reconciliation of organically grown content at each stage of the supply chain. These standards are then enforced by certification bodies.
- Certification bodies: Third-party certification bodies certify processing facilities based on criteria like their ability to segregate organic fibers from conventional, and accurately measure volumes, issuing a scope

certificate. In addition, each time goods like yarns or fabrics are sold, the certification body issues transaction certificates based on volume. This chain of custody requires everyone along the supply chain to do their part to track the certified fibers.

• Accreditation bodies: Accreditation bodies monitor and assess the certification bodies to ensure that they are operating as intended. This assurance process allows standard-setting bodies to detect irregularities, in turn protecting the intrinsic value of the fiber and delivering confidence to consumers.

If inconsistencies in volume arise, standard-setting bodies work directly with the certification bodies and accreditation bodies to resolve them. If the issue lies with the supplier, it's up to the certification bodies to grant or withdraw certification or transaction certificates. Textile Exchange's banned list is available <u>here</u>. In the instance of wider irregularities, standard-setting bodies reserve the right to terminate licensing contracts with the certification body involved, as happened in 2020.

In-conversion in the OCS

For many years, in-conversion crops have been allowed to be certified to Textile Exchange's OCS. However, very few instances of in-conversion material have been certified.

The OCS In-Conversion Public Exemption V0.1 came into effective July 15, 2022 and replaces the previous version (released November, 2021 and expired June 30, 2022). It will remain in place until June 30, 2023. Textile Exchange encourages all supply chain participants to signal demand for in-conversion cotton with their suppliers and certification bodies, which will result in the availability of more organic cotton fiber in the future.



Photo: ©Global Organic Textile Standard. GOTS-certified manufacturing.

Integrity & traceability

What can companies do to protect integrity in the organic cotton sector?

Everyone along the organic cotton supply chain has a role to play in protecting the integrity of the industry and ensuring that governance and certification programs are working as intended. With organic cotton in high demand, it's more important than ever to strengthen the systems, processes, and controls we have in place.

Increasing the supply of organic cotton available can help to reduce pressure on the market. This can be done by sourcing and supporting <u>in-conversion cotton</u>, which comes from farmers that are in the two-to-three-year process of transitioning their land to organic. It can also be done by entering into long-term contracts with organic or in-conversion farmers, with fair pricing, to reduce uncertainty about future demand and prices.

Understanding where your cotton comes from and improving how the risks and rewards of transitioning to organic farming are shared across the supply network are some of the best things that brands can do.

Building strong foundations from the soil up is the key to ensuring resilience and integrity in a growing market. Efforts can then focus on programs to mitigate and prevent fraud further down the supply chain. This includes science-based physical and forensic verification of the fiber, in addition to site and transaction verification using tracer technologies.

What is Textile Exchange doing to improve traceability and prevent fraud?

Textile Exchange believes that integrity is critically important to the organic cotton supply chain. Challenges in integrity are not new-nor unique to organic cotton-and they are often complex and evolve over time.

We are committed, within our standards, to putting the most intensive restrictions in place to prevent fraud as well as educate stakeholders to recognize, prevent, and address it.

While our role in the production of this report is limited to aggregating available data on certified organic cotton production-without scope to verify it-Textile Exchange as an organization is committed to increasing transparency and integrity in preferred material supply chains and takes a multi-pronged approach to make this happen. Read the next page for detail.



1. Farm-to-gin reconciliation

Textile Exchange and GOTS will collect farm level data directly from farmers or farm groups and work collaboratively to reconcile farm to gin volumes.

2. Closing certified supply chain

Textile Exchange's Organic Content Standard will cease accepting Global Organic Textile Standard (GOTS) inputs from sites unless Textile Exchange receives all GOTS transaction certificate data that provides traceability back to the original farm source. Additionally, all first processors (e.g. cotton gins) that ultimately provide GOTS inputs into an OCS product down the supply chain shall also be certified to the OCS and provide information about the farms and the organic inputs. This policy change occurs in <u>ASR-106 Accepted Equivalent Standards Policy</u> and contributes to our continued efforts to strengthen integrity in organic cotton.

3. Tracking certified materials

Textile Exchange <u>Trackit</u> is a formative program for improved integrity, traceability, and efficiency of sustainable material provenance. Collecting data on the transactions of preferred materials bought and sold throughout the supply chain allows us to pinpoint with greater accuracy when and where there are mistakes or inconsistencies and address their root causes. Such information can also help participating companies better understand what's happening in their supply chain. Phase 1 of Digital Trackit (dTrackit) is on course for release in January 2023. Textile Exchange and TextileGenesis[™] completed the RCS and GRS pilot of Electronic Trackit (eTrackit) in July 2022, with release planned for the first half of 2023, subject to final approval.

4. Revising our standards

Recognizing that compliance with standards is a key foundational step to ensure any system operates with integrity, Textile Exchange has embarked on a journey to improve our <u>standards system</u>. We're harmonizing eight standards into a more unified, impact-focused system with greater checks and balances to be introduced by the end of 2023, all while harnessing data and technology to improve traceability.

5. Improving chain of custody

Through <u>Trackit</u> and our standards transition, we're moving from a disaggregated to a centralized approach to managing certification data, and are exploring ways that new technologies-such as physical tracers or isotope testing-can be used to further strengthen chain of custody verification. This will make tracing certified materials easier for brands and build integrity into supply chains.

6. Tracking uptake

By crunching the numbers on the volumes of preferred materials used every year through our Material Change Index, we can understand more about how market uptake and demand trends compare to production volumes.

7. Developing a GMO testing protocol

Textile Exchange, GOTS, and OCA joined forces

to develop the <u>ISO IWA 32:2019 protocol</u> in 2019 to create a common language among laboratories worldwide to screen for the potential presence of GM cotton along the organic cotton value chain.

8. Convening

Our Organic Cotton Round Table convenes the global organic cotton community to collaboratively facilitate the journey to organic, educate brands about organic cotton, build transparency, and create an environment for the organic sector to thrive. This includes encouraging others to invest in GMO testing, secure buying relationships, transparency, traceability, and undertaking due diligence on stakeholders within their supply networks to ensure fair wages and a sharing of risk and reward.

9. Educating

We have and will continue to share knowledge and encourage action through reports, webinars and updates. These methods seek to encourage the implementation of stringent restrictions and the uptake of standards, as well as educating stakeholders to incentivize positive behaviors that build integrity and help them to recognize, prevent and address fraud. An updated report on integrity within organic cotton will be published in late 2022.

10. Banning organizations involved in fraud

Bans are issued in cases where Textile Exchange has evidence of gross violation of requirements or of fraudulent activity by either certified or non-certified organizations.

Executive Summary | Global Production Overview



Countries producing organic cotton in 2020/211



Sub-Saharan Africa

- <u>Benin</u>
- Burkina Faso
- <u>Ethiopia</u>
- <u>Mali</u>
- <u>Tanzania</u>
- <u>Uganda</u>

Latin America & the Caribbean

- <u>Argentina</u>
- <u>Brazil</u>
- Peru

Northern America

United States

Eastern Asia

• <u>China</u>

EMENA, Central & Western Asia

- Egypt
- <u>Greece</u>
- <u>Kazakhstan</u>
- <u>Kyrgyzstan</u>
- <u>Spain</u>
- <u>Tajikistan</u>
- <u>Turkey</u>
- <u>Uzbekistan</u>

Southern & Southeastern Asia

- India
- <u>Pakistan</u>

1 Thailand and Senegal had no certified production in 2020/21 but are expected to resume. The project in Myanmar ceased organic certification in 2020/21. New projects are underway in Israel, Côte d'Ivoire, Zambia, Sudan, and Mozambique and we hope to see the first certified production of these countries in the coming years.

Global organic cotton production 2020/211

Before using this data, please read our <u>data confidence</u> page and take note of the confidence levels assigned to each key data point.

Data shared in this report–particularly global and India data–are best-available estimates based on modeling and assumptions, which must be kept in mind when using the data.

2020/21 global organic cotton production summary

Based on our estimates, the 2020/21 global harvest saw 342,265 tonnes of organic cotton fiber produced on 621,691 hectares of certified organic land, and 180,726 tonnes of in-conversion fiber produced on 293,204 hectares of land in-conversion to organic. Compared to 2019/20, this represents an estimated 37% growth in organic fiber.

With overall cotton production reported by ICAC in 2020/21 totaling 24,380,507 tonnes, this means that 1.4% of all cotton grown is estimated to have been organic.

The line-up

The total number of countries growing certified organic cotton in 2020/21 remained at 21, but there were some changes in the line-up. The projects in Thailand, Myanmar, and Senegal didn't produce any certified organic cotton in 2020/21 due to flooding, political instability, and certification issues. However, two new countries–Spain and Kazakhstan–grew organic cotton for the first time, and Argentina came back into certification.



1 Data shared on this page is estimated based on assumptions and modeling. Please keep this in mind when using the data and read our Methodology and Data Confidence sections for more information.

Global organic cotton production 2020/211

Countries fueling the growth

The biggest contributor by far to the global growth seen in 2020/21 was Turkey, followed by Kazakhstan, Tanzania, and India. Together, these four countries accounted for 94.2% of the global increase. Other significant contributors, which each saw their production totals grow by between 1,000 and 3,000 tonnes, were Tajikistan, China, and Kyrgyzstan. Please read the individual country pages later in this report to learn more about each country's production trends.

Top producers of organic cotton by volume

An estimated 97% of global organic cotton was produced by just eight countries in 2020/21:-India (38%), Turkey (24%), China (10%), Kyrgyzstan (9%), Tanzania (6%), Kazakhstan (4%), Tajikistan (4%), and the US (2%). The remaining 13 organic cotton-producing countries¹ accounted for 3%.

Top producers of in-conversion cotton by volume

In terms of in-conversion cotton, India accounted for the vast majority (86%) in 2020/21, while Tajikistan accounted for 7%, Turkey for 4%, Pakistan for 2%, Kyrgyzstan for 1%, and eight countries for the remaining 1%.

1 Includes: Uganda (0.7%); Pakistan (0.6%); Benin (0.6%); Greece (0.5%); Peru (0.2%); Burkina Faso (0.2%); Uzbekistan (0.1%); Egypt (0.1%); Brazil (0.02%); Mali (0.02%); Ethiopia (0.02%); Spain (0.01%); and Argentina (0.001%).

2 Data shared on this page is estimated based on assumptions and modeling. Please keep this in mind when using the data and read our <u>Methodology</u> and <u>Data</u> Confidence sections for more information.

3 For India, data confidence is medium for the combined organic and inconversion cotton total, but low for the individual breakdowns.

 ${\rm 4}\quad {\rm For \ Turkey, \ data \ confidence \ is \ low \ for \ in-conversion \ but \ medium \ for \ organic.}$

Countries producing the most organic cotton fiber in 2020/21

		confidence	in-conversion	Organic	In-conversion
India: 38%	Global		522,991	342,265	180,726
	India ³		283,853	130,849	153,004
	Turkey ⁴		89,818	80,830	8,988
	China		33,911	33,687	225
	Kyrgyzstan		32,401	30,945	1,456
	Tajikistan		25,501	13,648	11,852
	Tanzania		20,932	20,932	-
	Kazakhstan		14,893	14,893	-
	United States		5,878	5,821	57
Turkey: 24%	Pakistan		5,541	1,925	3,617
	Greece		2,696	1,827	869
	Uganda		2,551	2,551	-
	Benin		2,132	1,893	239
	Peru		876	694	182
China: 10%	Uzbekistan		670	465	205
	Burkina Faso		647	647	-
Kyrgyzstan: 9%	Egypt		437	437	-
	Brazil		99	70	28
— — — — —	Mali		63	63	-
Tanzania: 6%	Ethiopia		60	60	-
Kazakhstan: 4% Tajikistan: 4%	Spain		30	26	4
United States: 2% Others': 3%	Argentina		2	2	-

Data

Organic &

Organic & in-conversion cotton fiber production 2020/21 (tonnes)²

Global & regional trends in organic cotton production¹

Global trends

This is the fifth year in a row that global organic cotton production has increased. The rapid growth in demand for organic cotton has no doubt played a pivotal role in this growth, with prices reaching an all-time high.

This encourages both existing organic farmers to grow a higher proportion of cotton, and previously non-organic farmers to convert to organic production methods.

Due to these same trends, we expect to see global organic cotton production rise further in 2021/22.

Regional trends

The EMENA, Central & Western Asia region accounted for the biggest share of the global volume growth seen in 2020/21, with production rising 116%, primarily a result of considerable growth in Turkey.

Sub-Saharan Africa saw the second biggest volume growth, with production rising 44%, due primarily to growth in Tanzania.

In Eastern Asia (China) production grew 10% and in Southern and Southeastern Asia production grew an estimated 5%, while Latin America and the Caribbean saw a decline of 9% and Northern America (the US) saw a decline of 16%. Read the individual country pages to find out the reasons behind these trends.

1 Data shared on this page is estimated based on assumptions and modeling. Please keep this in mind when using the data and read our <u>Methodology</u> and <u>Data</u> <u>Confidence</u> sections for more information.

2 In-conversion cotton was grown prior to 2020/21 but only 2020/21 in-conversion data has been included in this chart.





Global organic cotton production -15 year trend

2020/21 Organic Cotton Production Sub-Saharan Africa



Sub-Saharan Africa Regional introduction

Cotton is an important agricultural export in sub-Saharan Africa, though production varies considerably between countries. Organic cotton production is often initiated by non-profit organizations or private textile companies. In Western Africa, most of the organic cotton is also Fair Trade certified. Farms tend to be 100% rain-fed and run by small-scale landholders. Farmers tend to be organized as producer associations and often dedicate around half of their land to cash crops and half to food security.

In 2020/21, organic cotton was produced by six countries in sub-Saharan Africa-three in Western Africa (Benin, Burkina Faso, and Mali) and three in Eastern Africa (Ethiopia, Tanzania, and Uganda). There are efforts to revive organic cotton production in Senegal, but quantities remain small and were not certified this season.

New projects are underway in Côte d'Ivoire, Zambia, and Mozambique, and we hope to see the first organic cotton from these countries in the coming years.

Climate change is a serious concern for organic cotton farmers in Africa, who are noticing droughts, flooding, and changes in the onset of rains happening more frequently. In Western Africa, the climate was relatively favorable this season, but Ethiopia sadly lost around half its organic cotton farmland due to flooding. Farmers are increasingly integrating adaptation and mitigation techniques into their production systems such as mulching, cultivating in level curve, instaling stone cordons or strips in grass, planting more trees, reducing clearing, and improving soil health through crop rotation and compost application. Besides climate change, other challenges faced by organic cotton farmers in Africa typically include lack of market guarantees and access to finance for production and certification. Recently, the Covid-19 pandemic brought additional challenges, particularly with regards to training, with face-to-face sessions often restricted to 15-25 participants or held remotely via WhatsApp.

Despite these challenges, we expect to see growth in organic cotton from this region over the coming years. Fluctuations in production are often a result of changes to policy or to organizational and technical capacity, and we are seeing increasing awareness and interest in organic agriculture from both governments and the market. In Benin, for example, besides the price differential, the government is further encouraging organic production by making the price of organic cotton known before planting begins, as is the case for conventional cotton. We are also seeing that ginneries are becoming more skilled and experienced in ginning organic cotton.

There is not yet a strong focus on the production and marketing of in-conversion cotton in West Africa, although this could change if an interested brand or retailer were to enter a direct partnership with a producer organization.

Discover and connect with some of this region's organic cotton growers via our Organic Cotton
 Producer Directory ►

Check out our <u>Insider Series</u> to hear updates from <u>Manuela Troxler of ecos</u> about The Organic & Fairtrade Cotton Coalition West Africa ►



Photo: Atalo Belay of Pesticide Action Network Ethiopia. A Shelle Mella Cooperative field officer in an organic cotton field.

Benin 2020/21 organic cotton production

In 2020/21, Benin grew an estimated 1,893 tonnes of organic cotton fiber on 8,199 hectares of certified organic land,¹ and 239 tonnes of in-conversion fiber on 774 hectares of land in conversion to organic.¹ Approximately 6,621 farmers were involved in this production. Compared to 2019/20, the country experienced a 38% rise in certified organic cotton fiber volume.

Benin accounted for an estimated 0.6% of global organic cotton production in 2020/21, while 0.6% of the country's overall cotton production was estimated to be organic. The country grows organic cotton of medium fiber length, with the main areas of production being Atacora, Alibori, and Borgou.

There are now three (previously two) different producer organizations in Benin, which train and advise farmers on organic farming practices.

The growth in farmer numbers was well-managed, ensuring new farmers received appropriate technical training. However, the climate during 2020/21 was marked by spells of drought, and access to cottonseed suitable for organic production was limited in some areas, making reseeding particularly important. Pest management also proved challenging this season as some pests seem to have become resistant to the biopesticides applied.

It's forecasted that certified production will experience a slight decline in 2021/22.

O Discover and connect with some of Benin's organic cotton growers via our Organic Cotton Producer Directory.



Burkina Faso 2020/21 organic cotton production

In 2020/21, Burkina Faso grew an estimated 647 tonnes of organic cotton fiber on 4,035 hectares of certified organic land.¹ Approximately 8,231 farmers were involved in this production. Compared to 2019/20, the country experienced a 13% rise in certified organic cotton fiber.

Burkina Faso accounted for an estimated 0.2% of global organic cotton production in 2020/21, while 0.33% of the country's overall cotton production was estimated to be organic. The country grows organic cotton of medium fiber length, with the main areas of production being Fada Ngouma, loba, Pô, and Tiefora.

The growth in production seen in 2020/21 can be partly attributed to a new program that is supporting organic cotton farming and processing.

Two years after its inauguration, SECOBIO-the new ginnery for organic cotton in Koudougou-is far from reaching capacity, which stands at 17,500 tonnes of seed cotton per year.

Burkina Faso continues to face serious security challenges. Many cotton farming families belong to internally displaced people and could not find land in refugee camps to continue their farming activities.

Aside from these challenges, the season was very good in terms of rainfall. However, it's forecasted that production will experience a slight decline in 2021/22.

O Discover and connect with Burkina Faso's organic cotton growers via our Organic Cotton Producer Directory.



Ethiopia 2020/21 organic cotton production



In 2020/21, Ethiopia grew an estimated 60 tonnes of organic cotton fiber on 174 hectares of certified organic land.¹ Approximately 200 farmers were involved in this production. There was no known production of cotton inconversion to organic this season.

Ethiopia accounted for an estimated 0.02% of global organic cotton production in 2020/21, while 0.1% of the country's overall cotton production was estimated to be certified organic. The country grows long staple organic cotton, with production taking place in the Rift Valley.

Compared to 2019/20, Ethiopia experienced a 60% decline in certified fiber volume in 2020/21.

It was not a good season for organic cotton farmers in Ethiopia. There was extreme unseasonal rain that caused Lake Chame to expand and flood almost half of the certified organic land area.

Another challenge that the flooding brought was that farmers couldn't transport their cotton to the ginnery, so the cooperative sold raw seed cotton instead of fiber.

Unfortunately, the 2021/22 season was also affected by severe flooding so we expect to see a further decline in Ethiopia's organic cotton production next year.

O Discover and connect with some of Ethiopia's organic cotton growers via our Organic Cotton Producer Directory.



Mali 2020/21 organic cotton production

In 2020/21, Mali grew an estimated 63 tonnes of organic cotton fiber on 1,486 hectares of certified organic land,¹ involving around 1,634 farmers.

Mali accounted for an estimated 0.02% of global organic cotton production in 2020/21, while 0.1% of the country's overall cotton production was estimated to be organic.

The country grows organic cotton of medium fiber length, with the main areas of production being Sikasso, Segou, and Kayes. Compared to 2019/20, Mali experienced a 25% decline in organic fiber volume in 2020/21.

The most significant factor in this decline was farmers being disrupted by the Malian Company for Textile Development's decision to raise the price of inputs and reduce the price of seed cotton.

This led non-organic cotton producers to strike, some of whom converted to organic and Fairtrade production to benefit from the price guarantee and Fairtrade premium. However, these new farmers did not receive appropriate training due to lack of funding for field staff, resulting in poor yields. The situation was exacerbated by the imprisonment of the President of the National Federation of Organic and Fair Trade Agriculture Farmers of Mali, as well as security concerns restricting access to some areas. Additionally, in some areas, young people have abandoned cotton production in favor of artisanal gold mining.

On a positive note, pests were generally well-managed this season and production is forecasted to grow in 2021/22.

O Discover and connect with some of Mali's organic cotton growers via our Organic Cotton Producer Directory.



Tanzania 2020/21 organic cotton production



In 2020/21, Tanzania grew an estimated 20,932 tonnes of organic cotton fiber on 235,992 hectares of certified organic land,¹ involving around 33,378 farmers.

Tanzania accounted for an estimated 6.1% of global organic cotton production in 2020/21, while an impressive 15.7% of the country's overall cotton production was estimated to be certified organic. Tanzania grows organic cotton of medium fiber length, with the main areas of production being Singida, Simiyu, and Mwanza. Compared to 2019/20, Tanzania experienced an 85% growth in certified fiber volume in 2020/21.

This growth is a result of strong demand from the international market leading to a rise in the number of farmer organizations certified to produce organic cotton, as well as a rise in the number of organic gins, from four to 10.

Smallholder farmers in Tanzania's cotton-growing areas are extremely vulnerable to external factors such as rainfall, drought, erosion, and pests. The increased severity of climate change affects production systems– and even whole ecosystems–threatening the resilience of smallholder farming communities.

However, the Tanzanian government is in support of organic production, realizing its potential to benefit the environment as well as communities, and this brings with it a lot of potential. It's therefore forecasted that production will continue to rise in 2021/22.

O Discover and connect with some of Tanzania's organic cotton growers via our Organic Cotton Producer Directory.



Uganda 2020/21 organic cotton production

Please note that data included in this report for Uganda may be incomplete. We are aware of two additional producer groups that may have recently started organic cotton production in Uganda. However, at the time of writing this report, we were unable to obtain data on their production or clarification of their certification status.

In 2020/21, Uganda grew an estimated 2,551 tonnes of organic cotton fiber on 7,940 hectares of certified organic land.^{1,2} Approximately 16,042 farmers were involved in this production.

Uganda accounted for an estimated 0.7% of global organic cotton production in 2020/21, while 5.9% of the country's overall cotton production was estimated to be certified organic.

Uganda grows organic cotton of medium fiber length, with production concentrated in northern Uganda.

Compared to 2019/20, this represents a 46% decrease in certified organic cotton fiber volume. One producer group attributed this decline to excessive rain during the harvest period causing flooding and boll rot, which led farmers to lose around half of their crops.



1 Reported land area generally includes land used to grow other organic crops.

2 Data included in this report for Uganda may be incomplete.



2020/21 Organic Cotton Production Latin America & the Caribbean



Latin America & the Caribbean *Regional introduction*

Organic cotton in Latin America was first grown in Peru in the 1980s and is now also grown in Brazil and Argentina, primarily by small-scale family farmers. Nicaragua and Paraguay produced organic cotton for some years, but these projects have since ended.

One challenge facing cotton farmers in this region is low productivity, which occurs particularly where there is a lack of specialized technical assistance. In Peru, we've witnessed a significant improvement, but Brazil's productivity is still well below its potential. The good news is that Embrapa Cotton has expanded its work to develop cotton varieties and technologies for use by family farmers which, combined with expanded technical assistance, should lead to a significant increase in productivity.

In some areas, especially in Brazil, Covid-19 restrictions hindered farmers' access to technical assistance, which affected crop productivity. Some participatory certification associations also faced difficulty in carrying out field inspections, which led to some producers not having their production certified as organic this season.

One of the other key challenges faced by organic cotton farmers in Latin America is climate change. The 2020/21 season saw many organic cotton crops suffer from lack of rainfall and insufficient water for production. However, efforts are underway to mitigate and adapt to the impacts of climate change. In Peru, for example, regenerative agricultural practices have been implemented with proven advances in soil health, water use, and biodiversity, among other gains. In Brazil, the production of cotton in agroecological consortia is already a traditional practice in many regions, with evident gains in terms of food security for farming families, recovery of degraded areas, increased biodiversity, improved soil health, and preservation of water resources. Studies have recently been initiated to evaluate this impact and, in 2021, Textile Exchange piloted the Delta Framework with organic cotton producers in Peru and Brazil to enable visibility of the organic practices developed in the region.

There is strong potential for the supply of organic cotton from Latin America to increase in the next few years.

In Brazil, there is a growing number of projects aimed at stimulating production, whether developed with the support of state governments (as in the state of Paraíba) or by non-governmental organizations funded by brands, industries, and associated institutions. In Peru, there's a significant number of hectares being converted to organic production as a result of investment from brands who recognize the quality of Peru's organic cotton. As such, in 2021/22, we expect to see an increase in production from this region, due also to improved climate conditions and a reduction in the challenges brought about by Covid-19.

Discover and connect with some of this region's organic cotton growers via our Organic Cotton
 Producer Directory ►

Check out our <u>Insider Series</u> to hear from <u>Esplar</u> about their pioneering research and support of organic agriculture in Brazil, and from Brazilian company <u>Santa Luzia</u> about their work with traditional quilombola communities ►



Photo: Silvio Moraes. Farmer Dona Maria da Glória in her newly organic cotton field, part of a project supported by the Lojas Renner Institute.

Argentina 2020/21 organic cotton production

Argentina's organic cotton production dropped out of certification in 2019/20, but came back into certification in 2020/21. The country grew an estimated two tonnes of organic cotton fiber on five hectares of certified organic land.¹ There was no known production of cotton inconversion to organic this season.

Argentina accounted for an estimated 0.001% of global organic cotton production in 2020/21, while 0.001% of the country's overall cotton production was estimated to be certified organic. Organic cotton is grown in the Chaco region of Argentina.

Further information about organic cotton production in Argentina is limited this year.



Brazil 2020/21 organic cotton production

In 2020/21, Brazil grew an estimated 70 tonnes of organic cotton fiber on 14,591 hectares of certified organic land,¹ and 28 tonnes of in-conversion fiber on 257 hectares.¹ Approximately 832 farmers were involved in organic production while 455 were involved in in-conversion cotton production. Much of this production fell under the Participatory Guarantee System (PGS).²

Brazil accounted for an estimated 0.02% of global organic cotton production in 2020/21, while 0.003% of the country's overall cotton production was estimated to be certified organic. The main areas of production are Piaui, Pernambuco, Ceará, Paraíba, Apodi, Alagoas, and Sergipe.

The demand for Brazilian organic cotton has risen as brands operating for years in this market, such as VEJA and Organic Cotton Colors, among others, increased their production, and new brands are also taking an interest.

Although the number and scale of organic cotton projects grew, overall production declined 48% as drought and irregular rainfall meant that production did not reach its full potential.

Another issue this year was the temporary disaccreditation of two OPACs³ resulting from difficulties presenting inspection records during Covid-19 lockdowns.

However, as a result of more favorable weather conditions, the easing of Covid-19 restrictions, and an increase in organic cotton farmers, it's forecasted that production will rise in 2021/22 and could set a new record for Brazil.

O Discover and connect with some of Brazil's organic cotton growers via our Organic Cotton Producer Directory.



Peru 2020/21 organic cotton production

In 2020/21, Peru grew an estimated 694 tonnes of organic cotton fiber on 1,086 hectares of certified organic land,¹ and 182 tonnes of in-conversion fiber on 359 hectares.¹ Approximately 159 farmers were involved in certified organic production while 65 were involved in in-conversion cotton production.

Peru accounted for an estimated 0.2% of global organic cotton production in 2020/21, while 3.6% of the country's overall cotton production was estimated to be certified organic. The country grows organic cotton of long and extra-long fiber lengths, with the main areas of production being lca, Lambayeque, and Pisco.

The certified organic production area increased this season but some of this area could not be planted due to the decrease in water available for cultivation.

Despite the water availability issue, the provision of quality technical assistance and the adoption of improved production practices resulted in greater productivity in the areas where cotton was grown.

Hence, Peru's total production of certified fiber declined only 3%. There was also a notable increase in land area in conversion to organic this season.

Improvement in water availability observed in recent months, and the increase in land area certified for organic cultivation, points to a significant increase in production in 2021/22.

O Discover and connect with some of Peru's organic cotton growers via our Organic Cotton Producer Directory.





2020/21 Organic Cotton Production Northern America



Northern America Regional introduction

The United States (US) was the third largest producer of cotton in the world in 2020/21. Organic cotton production was concentrated in Texas for many years, but has since expanded into New Mexico, Arizona, and California. The US grows organic cotton of all fiber lengths, and farms tend to be of a much larger scale than in most other organic cotton producing regions. Most organic cottonseed in the US is sold to organic dairies for use as feed, though several farmers catch and reuse their own cotton seed.

Upland cotton continued to lead the way this season, but not by much. Organic Pima cotton took off in 2020, primarily in Texas, while continuing as the primary cotton variety grown in New Mexico. It is also grown in Arizona and California. This growth was fueled by increasing global demand for organic Pima cotton as well as better prices.

Drought remains the primary challenge faced by US organic cotton farmers, particularly for those that are predominantly rain-fed. Drought was a particular issue in 2019 and 2020, but thankfully less so in 2021.

Another challenge is the lack of alternative methods of chemical defoliation and weed control. Most organic cotton farmers-particularly in Texas-rely on a frost to stop the boll's growth, but that option is not available to farmers in California or in many other states in the warmer "Cotton Belt." Some farms, such as Bowles Ranch in California, are researching an alternative method for defoliation given the lack of frost in their areas. The farm is also focusing extensively on building its soils through an urban/rural composting program which increases the soils' water holding capacity while sequestering carbon and reducing the need for synthetic fertilizer (on its conventional crops).

Another major obstacle facing US organic cotton is price. Given the cost of living and production, the fair cost of cotton in the US is often more than double the cost of cotton from less developed countries. There has been an uplift in demand recently as entities that have stopped sourcing from other regions are looking for alternative sourcing destinations. US organic cotton production can expand if the demand is there.

To ensure there will be enough organic cotton in the future, Textile Exchange encourages brands to work with farmers to put contracts in place months before planting time to be able to plan for future availability. Brands wishing to support the <u>conversion</u> of conventional cotton to organic should consider entering into long-term contracts with organic or in-conversion farmers, with fair pricing.

In terms of retail, organic fiber continued to be the largest and fastest-growing sector in the US organic non-food industry. According to the Organic Trade Association's 2021 Organic Industry Survey, organic fiber product sales increased 5% over 2019 to \$2.1 billion in 2020, with most of those sales in organic cotton.

Discover and connect with some of this region's organic cotton growers via our Organic Cotton
 Producer Directory ►

Check out our <u>Insider Series</u> to hear from Cannon Michael of <u>Bowles Farming Company</u> about their organic cotton production practices in California ►



Photo: Bowles Farming Company. President of Bowles Farming Company, Cannon Michael, in the field holding a cotton sheet.

United States 2020/21 organic cotton production



In 2020/21, the US grew an estimated 5,821 tonnes of organic cotton fiber on 12,035 hectares of certified organic land,¹ and 57 tonnes of in-conversion (known as transitional in the US) cotton on 118 hectares,¹ involving around 110 farmers in total.

The US accounted for an estimated 1.7% of global organic cotton in 2020/21, while 0.2% of the country's overall cotton production was estimated to be organic. Production spanned four states, with Texas accounting for the majority, followed by New Mexico, Arizona, and California.

2020/21 was a challenging year for US organic cotton, much of which was grown on Texas dryland, which depends on rains that didn't come.

One of the leading producers–75% of whose land is dryland–lost half of its production to drought. The other leading producer in Texas fared better, as 80% of its production is irrigated.

Despite an overall decrease of 16% in organic fiber in the US this season, there was an expansion of in-conversion cotton. In-conversion upland cotton was grown in Texas, while in-conversion Pima cotton was planted in the Central Valley of California, with plans to expand over three years to meet the increasing demand.

US organic cotton production is expected to increase in 2021/22 as much-needed rains resulted in a bumper crop, and a greater number of farmers took to organic cotton production, attracted by better prices.

O Discover and connect with US organic cotton growers via our Organic Cotton Producer Directory.



2020/21 Organic Cotton Production Eastern Asia


Eastern Asia Regional introduction

China is the second largest cotton producer in the world, just behind India, with cotton occupying an important position in the national economy. In recent years, exports of cotton from China have been affected, first by the introduction of a Withhold Release Order (WRO) from US Customs and Border Protection for cotton products sourced from the Xinjiang Uyghur Autonomous Region (XUAR), and more recently by the introduction of the Uyghur Forced Labor Prevention Act (UFLPA). These steps taken by the US Government were in response to extensive civil society allegations of forced labor, in the XUAR and through labor transfer programs across China.

As mentioned earlier in this report, we include the data received from every producing country to create a complete picture of global supply, as we have done for China. Textile Exchange does not perform certification work itself, nor provide on-the-ground program work regarding the production of organic cotton or any other fiber in any country, nor make recommendations for preferred sourcing locations.

Organic cotton production in China is generally financed by private companies, with technical support provided by the Cotton Institute in China or international organizations.

Chinese organic cotton farmers tend to be mid-scale landholders, and most farms are irrigated often using drip irrigation. Farmers tend to be contracted, often by textile manufacturing companies, and dedicate most of their land to growing organic cotton for market, though other crops grown in rotation with cotton for soil fertility are often sold on the local market. Adverse weather events are less of a concern in China than in other organic cotton producing regions, although crop choices are reportedly changing in response to climate change. A considerable share of organic cotton produced in China is for global supply chains, although it appears that the domestic demand from Chinese brands for locally produced organic cotton fiber is steadily increasing.

The growth seen this season in China's organic cotton production is a result of global and domestic market dynamics. In 2020/21, the overall cotton market increased significantly following the Covid-19 pandemic, and demand for organic cotton was reportedly increased by international brands, which drove up prices by 30-40%. The organic premium was about 20% for seed cotton, or RMB5,000-6,000 per tonne for cotton lint. The demand meant that many producers sold their harvest in a short space of time.

Market conditions are complex in China, organic cotton is an attractive crop to grow, but large constraints exist, including evolving US import restrictions.

Other supply constraints include rising production costs, the large investment necessary to achieve economies of scale, the preferential treatment of some local governments toward soybean and food production, the financial burden on producers and ginners of the long inventory time, high certification costs for small growers, and access to organic or non-GM seed. These challenges bring uncertainty regarding the long-term pay-off of expanding organic cotton production in China.

Nevertheless, recent signs show that producers may expect a growing demand for organic cotton in China, as new small-scale producers enter the market, and largerscale producers invest in expanded production.



China 2020/21 organic cotton production

In 2020/21, China grew an estimated 33,687 tonnes of organic cotton fiber on 15,727 hectares of certified organic land, ¹ and 225 tonnes of in-conversion fiber on 178 hectares of in-conversion land.¹Approximately 454 farmers were involved in organic cotton production and 187 in in-conversion production.

China accounted for an estimated 9.8% of global organic cotton in 2020/21, while 0.6% of the country's overall cotton was estimated to be organic. Compared to 2019/20, China experienced a 10% increase in organic cotton fiber.

China grows organic cotton of medium and long fiber lengths, and production areas include XUAR, Gansu, Hubei, and Shandong; with new projects starting in Anhui.

As demand for organic cotton grows, and the latest US import restrictions take effect, a notable change is that China's organic cotton production has become more geographically diverse with new investment in projects in the inner provinces, particularly Gansu, where a big producer who previously ceased growing organic cotton resumed its activity. There are also two new, small-scale producers in Shandong and Anhui.

Despite the small in-conversion land area in 2020/21 (144 hectares in Hubei and 33 hectares in Shandong), plans remain in place to convert huge areas of land to organic cotton in the coming years. There are reported plans to convert around 7,000 hectares in the XUAR and 3,000 hectares in Gansu in the coming years, as well as smallerscale conversion projects in Hebei, Shandong, and Anhui.



2020/21 Organic Cotton Production EMENA, Central & Western Asia



EMENA, Central & Western Asia Regional introduction

The number of countries producing organic cotton in this region has doubled in recent years and in 2020/21 included Egypt, Greece, Kazakhstan, Kyrgyzstan, Spain, Tajikistan, Turkey, and Uzbekistan. Greece and Uzbekistan joined the line-up in the last few years, while Spain and Kazakhstan produced their first organic cotton in 2020/21. Israel and Sudan will join the mix in 2021/22.

Turkey was one of the pioneers in organic globally and has been growing and manufacturing organic cotton products for nearly 40 years, due in part to the country retaining its GMO-free status and having a burgeoning domestic organic market. The country remains the largest producer of organic cotton in this region.

This region saw a significant increase in production in 2020/21 compared to the previous season. This is partly the result of a shift in consumer's purchasing behavior, perhaps accelerated by the Covid-19 pandemic, in favor of more sustainable fibers, particularly organic cotton. This, combined with higher cotton prices generally, triggered a huge increase in demand from brands and retailers.

Companies operating in this region believe that interest will continue to grow, but perhaps at a slower pace than in recent years past. Brands and retailers believe prices have reached a point that is difficult to reflect in their sale prices. Also, some are re-evaluating their material portfolios and are looking at other preferred fibers and materials that they perceive as more cost-effective than organic cotton. The key challenges facing organic cotton farmers in this region are the ever-increasing input prices, poor availability of water for irrigation due to climate change, and, in some areas, food crops being favored over cotton.

The Covid-19 pandemic also posed challenges for countries in this region, as it did in most of the world, due to restrictions and long periods of lockdown. Some governments, for example in Turkey, tried to help farmers suffering yield loss as a result of the pandemic by granting them exemptions from travel restrictions so that they could visit their fields.

Organic farmers in Israel have always had an interest in growing cotton, and have grown small quantities in the past. This is not only for financial reasons but also for the agronomic benefits that cotton can bring to the whole organic farming system. Now that the price for organic cotton is better, those that can obtain long-term contracts have decided to grow organic cotton again. Experts at the Israel Cotton Board are researching new approaches that could help farmers achieve improved yields and quality, as well as trying to make the certification process easier for the whole supply chain in Israel.

Discover and connect with some of this region's organic cotton growers via our Organic Cotton
 Producer Directory ►

Check out our Insider Series to hear from Matanya Zuntz of Israel Production & Marketing Board Ltd. about their research into seed breeding and new technologies, and from Onur Uçak of Agrona about their work with organic farmers in Turkey



Photo: Agrona Tekstil. Windmills behind organic cotton fields in Turkey.

Egypt 2020/21 organic cotton production



In 2020/21, Egypt grew an estimated 437 tonnes of organic cotton fiber on 404 hectares of certified organic land.¹ Approximately 18 farmers were involved in this production. There was no known production of cotton in-conversion to organic this season.

Egypt accounted for an estimated 0.1% of global organic cotton production in 2020/21, while 0.8% of the country's overall cotton production was estimated to be certified organic.

Egypt grows organic cotton of medium, long, and extralong fiber lengths, with the main areas of production being Belbeis, Fayoum Elbeheira, and Damietta.

Compared to 2019/20, Egypt experienced an 84% growth in certified fiber volume in 2020/21, but it's forecasted that production will decrease in 2021/22.

O Discover and connect with some of Egypt's organic cotton growers via our <u>Organic Cotton Producer Directory</u>.



Greece 2020/21 organic cotton production



In 2020/21, Greece grew an estimated 1,827 tonnes of organic cotton fiber on 2,284 hectares of certified organic land,¹ and 869 tonnes of in-conversion fiber on 1,087 hectares of land in conversion to organic.¹

Greece accounted for an estimated 0.5% of global organic cotton production in 2020/21, while 0.6% of the country's overall cotton production was estimated to be certified organic.

Greece grows organic cotton of medium fiber length, with the main areas of production being Larissa and Karditsa.

Compared to 2019/20, Greece experienced a 6% rise in certified fiber volume in 2020/21, likely driven by higher cotton prices.

However, in Greece, despite cotton being grown and certified organic at the farm level, the fiber is generally mixed with conventional cotton at the gin and sold on the conventional market. This is due to quantities rarely reaching processing minimums.

While producers are subsidized for producing organically, the country lacks a structured market for organic cotton and would need a dedicated association or cooperative to collect and process the cotton as organic.



Kazakhstan 2020/21 organic cotton production

In 2020/21, Kazakhstan grew an estimated 14,893 tonnes of organic cotton fiber on 8,865 hectares of certified organic land.¹ Approximately 273 farmers were involved in this production. There was no known production of cotton in-conversion to organic this season.

This is the first year that Kazakhstan grew certified organic cotton on land that meets organic requirements. No conversion period was required, meaning the project could scale very quickly.

Kazakhstan accounted for an estimated 4.4% of global organic cotton production in 2020/21, while 18.7% of the country's overall cotton production was estimated to be certified organic. It's forecasted that production will increase in 2021/22.

Organic cotton is thought to be grown primarily in the Maktaaral District of Kazakhstan.

The Textile Exchange team intends to visit organic cotton producers in Kazakhstan during the 2022 harvest to learn more about this country's organic cotton production. We hope to be able to report further insights next year.



Kyrgyzstan 2020/21 organic cotton production

In 2020/21, Kyrgyzstan grew an estimated 30,945 tonnes of organic cotton fiber on 21,423 hectares of certified organic land,¹ and 1,456 tonnes of in-conversion fiber on 2,883 hectares on in-conversion land.¹ Compared to 2019/20, Kyrgyzstan experienced a 5% increase in organic cotton fiber.

Kyrgyzstan grows organic cotton of medium fiber length, with the main area of production being Jalalabad.

Kyrgyzstan accounts for an estimated 9.0% of global organic cotton production in 2020/21.

The total volume of certified organic cotton produced in Kyrgyzstan far exceeded the country's total cotton volume reported by ICAC in 2020/21. We are trying our best to understand more about this discrepancy and welcome insights from the industry.²

The Textile Exchange team intends to visit organic cotton producers in Kyrgyzstan during the 2022 harvest to learn more the country's production.

O Discover and connect with some of Kyrgyzstan's organic cotton growers via our <u>Organic Cotton Producer</u> <u>Directory</u>.

1 Reported land area generally includes land used to grow other organic crops.

2 The percentage of a country's cotton that is organic is derived from the difference between Textile Exchange's reported organic cotton production for that country and the overall cotton production of that country reported by ICAC. In the case of Kyrgyzstan, there is a significant discrepancy between the two. Both ICAC and Textile Exchange rely on secondary data. We are trying our best to understand more about this discrepancy. You can learn more about Textile Exchange's data collection methodology here, and about the sources of ICAC's cotton statistics here.



Spain 2020/21 organic cotton production

In 2020/21, Spain grew an estimated 26 tonnes of organic cotton fiber on 54 hectares of certified organic land, and 4 tonnes of in-conversion fiber on 8 hectares of land in conversion to organic.

Spain is a new country on our radar, and we believe certified organic cotton was grown there for the first time in the 2020/21 season. It may be that very small amounts of certified organic cotton were grown prior to this, but no data were available.

Spain accounted for an estimated 0.01% of global organic cotton production in 2020/21, while 0.04% of the country's overall cotton production was estimated to be certified organic.

The main areas of production are within the Guadalquivir Valley of Andalusia, which is Spain's southernmost region.

From our observations of the data and trends, it appears that organic cotton is not the main focus of the farmers growing it. Most of the organic cotton is grown on cattle farms, where they are also certifying the pasture and cereals used for animal feed, which indicates that the main purpose of organic cotton on these farms is to use the seed for animal feed. The fiber, if processed, would be a by-product.

It's forecasted that production will decrease in 2021/22.

² Fiber production volumes for Spain were estimated by applying a yield average of 485kg/hectare to the known land area. The yield average is based on an estimate provided by our data sources.



Tajikistan 2020/21 organic cotton production



Tajikistan accounted for an estimated 4.0% of global organic cotton production in 2020/21, while 12.3% of the country's overall cotton production was estimated to be certified organic.

Tajikistan grows organic cotton of medium fiber length, with production areas including Sughd Oblast, Khatlon oblast, and Districts of Republican Subordination, among others.

Compared to 2019/20, Tajikistan experienced a 30% growth in certified fiber volume in 2020/21. This is due to the increasing global demand for organic cotton and increased cotton prices, making it an attractive crop to grow.

The Textile Exchange team intends to visit organic cotton producers in Tajikistan during the 2022 harvest to learn more the country's production.

O Discover and connect with some of Tajikistan's organic cotton growers via our Organic Cotton Producer Directory.



Turkey 2020/21 organic cotton production

In 2020/21, Turkey grew an estimated 80,830 tonnes of organic cotton fiber on 43,329 hectares of certified organic land,¹ and 8,988 tonnes of in-conversion fiber on 4,535 hectares of in-conversion land.^{1.2}

Turkey grows organic cotton of medium and long fiber lengths, with production taking place in the Aegean and Southeast Anatolia regions.

Turkey accounted for an estimated 23.6% of global organic cotton in 2020/21, while 12.3% of the country's overall cotton production was estimated to be certified organic. Compared to 2019/20, Turkey experienced a 233% growth in certified fiber volume in 2020/21.

The main reason for this extreme growth seen in Turkey is the growing interest from brands and retailers in Turkish organic cotton leading to more attractive prices.

Companies we spoke to do not believe prices will rise much further as this would make the fiber unfeasible to source and other preferred fibers would be selected instead.

Another factor is that the Turkish government supports organic cotton by training farmers and paying organic premiums. During Covid-19 lockdowns, farmers were granted exemptions to visit their land. The government also works to build collaborations between farmers and suppliers of organic cotton, and a pilot project is being rolled out in the Aydin region in the 2022/23 season.

O Discover and connect with some of Turkey's organic cotton growers via our Organic Cotton Producer Directory.



1 Reported land area generally includes land used to grow other organic crops.

2 In-conversion data for Turkey is incomplate and the actual total may be higher than that stated in this report.

C*

Uzbekistan 2020/21 organic cotton production

In 2020/21, Uzbekistan grew an estimated 465 tonnes of organic cotton fiber on 1,035 hectares of certified organic land,¹ and 205 tonnes of in-conversion fiber on 103 hectares of in-conversion land.¹

Uzbekistan accounted for an estimated 0.1% of global organic cotton production in 2020/21, while 0.1% of the country's overall cotton production was estimated to be certified organic. The main areas of production are Jizzakh, Samarqand, Tashkent, and Navoiy.

Despite Covid-19 restrictions and some irrigation issues, production increased 182% in 2020/21 compared to 2019/20, and we expect further growth next year.

This growth is thanks to Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Uzbekistan, which supports cotton textile clusters and farmers through its "Sustainability and Value Added in the Cotton Industry in Uzbekistan" project, and incentivizes policies for textile companies hoping to enter the European market.

In March 2022, following years of policy advocacy and campaigning from civil society, the ILO declared, "Uzbek cotton is free from systemic child labour and forced labour". Shortly after, the <u>Cotton Campaign</u> ended its call for a boycott of cotton from Uzbekistan.

The state provides financial assistance to manufacturers for certification, and training on organic production is conducted by the Department of Agriculture. Additionally, farmers are recognizing that the financial cost of organic cotton production is lower than that of conventional cotton.



2020/21 Organic Cotton Production Southern & Southeastern Asia



Southern & Southeastern Asia Regional introduction

Countries producing organic cotton in this region in 2020/21 included India and Pakistan. Thailand continues to plant small quantities of organic cotton but, unfortunately, its 2020/21 harvest was negligible due to severe drought. Myanmar, which previously grew small quantities of organic cotton, ceased certification.

India was the largest producer of cotton in the world in 2020/21 and continues to also account for the largest share of global organic cotton production. Pakistan is the seventh largest producer of cotton globally, and the tenth largest producer of organic cotton.

In this region, organic cotton farmers tend to be smallscale landholders with an average size farm of around two hectares, with most of the land under cultivation being rain-fed. Producers tend to be either organized through contract farming (often connected to a gin or mill), or independent producer associations, and in some cases receive direct support from brands, retailers, or implementing partners.

Organic cotton farmers tend to dedicate around one half to two-thirds of their land to cash crops and the remaining portion to food security. Many organic farms in India are certified to Fair Trade as well as organic standards. Almost all producer groups we spoke to are concerned about climate change and are noticing severe droughts, flooding, and changes in the onset of the monsoon. This season, harsh climatic conditions significantly impacted the yields achieved by farmers in some areas.

Besides climate change, the main challenges faced by organic cotton producers in this region are access to non-GM seed, availability of organic inputs, lack of advance commitments from buyers, and the price of cotton from this region compared to the international market. A new and major challenge facing farmers in India in 2022 will be finding certification bodies willing to certify organic cotton in light of recent integrity issues.

Over the past couple of years, there's been a surge in demand for organic cotton, leading more and more companies to invest in building future capacity. This has fueled huge expansion of organic and in-conversion cotton production in this region, both from existing organic farmers growing more cotton and existing cotton farmers converting to organic. This trend is evident in both India and Pakistan, but India's growth figures are particularly high. Data on India's production was limited this year and we only know for sure the combined total of organic and in-conversion production, which more than doubled compared to 2019/20. See overleaf for more detail.

During this season, Textile Exchange was involved in the ISEAL-funded Delta Framework and piloted 12 of the 15 sustainability indicators from the framework with over 200 cotton farms in India (as well as farms in Latin America).

Discover and connect with some of this region's organic cotton growers via our Organic Cotton Producer Directory ►

Check out our <u>Insider Series</u> to hear from <u>Jyoti</u> <u>Sharma of OCA</u> about their multi-stakeholder approach to sustainable growth of organic cotton, <u>Vikrant Giri of Gallant International</u> about their achievements in regenerative organic cotton, and <u>Hardeep Desai of CottonConnect</u> about their model for addressing climate related issues ►



Photo: OCA. In-conversion farmer in the OCA Farm Programme.

India 2020/21 organic cotton production

For India, this year, we were only able to access 2020/21 organic cotton production data from the Agricultural and Processed Food Products Export Development Authority (APEDA), which combines organic and in-conversion production into a single figure. That figure was 810,934 tonnes of seed cotton (estimated to be 283,853 tonnes of ginned fiber¹) of organic and in-conversion cotton.

In the past, Textile Exchange was able to triangulate the number provided by APEDA with data provided by producers and certification bodies but, due to growing <u>data collection challenges</u>, we weren't able to obtain sufficient data from these two sources for 2020/21.

As a result, we can't know with any certainty how much of the production total reported by APEDA is organic and how much is in-conversion. We have applied modeling and assumptions to estimate the breakdown, but this is a very rough estimate.

Please keep this in mind when using the data included on this page, as well as our global totals. In future years, our methodology will need to evolve to take into consideration the growing challenges faced in data collection.

1 Reported land area generally includes land used to grow other organic crops.

2 This is an estimate based on some/all of the following assumptions: (1) that the average ginning outturn was 35%; (2) that the average yield average was 538 kg/hectare (this is based on the three-year average of data provided to us by certification bodies in 2017/18-2019/20); (3) that 90% of the growth in production reported by APEDA between 2019/20 and 2020/21 was in-conversion and 10% was organic; (4) that all certified organic cotton production reported in 2019/20 remained active and in-certification in 2020/21; (5) that all Y3 in-conversion land reported in 2019/20 (2,522 hectares) successfully reached certification in 2020/21.





Based on our estimated breakdown, in 2020/21, India grew approximately 130,849 tonnes² of organic cotton fiber on 230,125 ha² of certified organic land.¹ A further 153,004 tonnes² of in-conversion fiber was estimated to have been produced on 269,089 ha² of land in conversion to organic.¹

The country is in strategic location for cotton production, accounting for around a quarter of all cotton produced worldwide.

India accounted for an estimated 38.2% of global organic cotton production in 2020/21, while 2.1% of the country's overall cotton production was estimated to be organic.

In terms of growth, APEDA's combined total of organic and in-conversion seed cotton more than doubled, from 335,712 tonnes in 2019/20 to 810,934 tonnes in 2020/21.

Recent feedback from local stakeholders suggests that around 90% of this growth was in in-conversion cotton production and 10% in organic cotton. This is very different to what we had forecasted when preparing last year's Organic Cotton Market Report and it is why India's estimated growth in organic cotton production in 2020/21 is 5.3%, not the 48% that we had forecast. A much higher proportion of the growth reported by APEDA is now thought to be in-conversion cotton. While this indicates that there could be a large rise in organic cotton production from India in the coming years, it may not necessarily be the case as organic cotton is a cash crop and is therefore heavily influenced by market demand and price. India grows organic cotton of all fiber lengths (short, medium, long, and extra-long). The state of Madhya Pradesh is the largest producer, followed by Odisha, Maharashtra, Gujarat, and Rajasthan.

There has been huge growth in demand for organic cotton from India over the last five years, mainly from the international market but also from some Indian brands. However, this high demand comes with its challenges and there have been instances of fraud discovered.

Please make sure to read our page on <u>integrity &</u> <u>traceability</u> to learn what brands can do to protect integrity, and the steps Textile Exchange is taking to improve traceability and prevent fraud.

An important development in India this season was the decision made by the United States Department of Agriculture National Organic Program (USDA NOP) in January 2021 to end the direct accreditation of USDA NOP with APEDA. This means that all certification bodies now need to become accredited to NOP directly with the USDA in order to certify crops as USDA NOP in India.

O Discover and connect with some of India's organic cotton growers via our <u>Organic Cotton Producer Directory</u>.



Photo: Gallant International. Harvesting organic cotton on fields in India.

Pakistan 2020/21 organic cotton production

In 2020/21, Pakistan grew an estimated 1,925 tonnes of organic cotton fiber on 3,098 hectares of certified organic land,¹ and 3,617 tonnes of in-conversion fiber on 5,824 hectares of in-conversion land.¹ Around 883 farmers were involved in this production.

Pakistan accounted for an estimated 0.6% of global organic cotton production in 2020/21, while 0.2% of the country's overall cotton production was estimated to be certified organic. Pakistan grows organic cotton of medium fiber length, with the main area of production being Balochistan.

Compared to 2019/20, Pakistan experienced a minor decrease in certified fiber volume of 5% in 2020/21, but production is forecasted to increase again in 2021/22.

Pakistan has seen a huge increase in the demand for organic and in-conversion cotton over a past few years, resulting in several new projects, some implemented with direct support from brands and retailers. There are currently three implementing partners working with organic cotton farmers to build capacity.

The success of these initiatives is a result of the continuous efforts of NGOs and suppliers, driven by the strong demand for organic cotton.

Capacity building is very important, and we urge the industry to follow suit and directly support projects on the ground in order to sustainably grow the supply of organic and in-conversion cotton.

O Discover and connect with some of Pakistan's organic cotton growers via our Organic Cotton Producer Directory.



Methodology & Disclaimer



Textile Exchange is in the unique position of being the only organization currently reporting on the global organic cotton supply and trends on an annual basis. Our priority is to ensure the accuracy and quality of our data, management systems, and reporting.

In 2018, with the sponsorship of C&A Foundation (now Laudes Foundation), Textile Exchange underwent an independent review of the data collection processes used in compiling data for this report to provide stakeholders with an independent opinion about the quality of the reported data and the adherence to the principles of international benchmarks such as the AA1000APS and the GRI Standards. Textile Exchange has since adhered to the same verified process for its organic cotton data collection. The following sections set out the abridged methodology used to collect, analyze, and cross-check the data on the production of organic cotton fiber.

Key terms and definitions

Organic cotton

Organic cotton is cotton that is produced according to the <u>IFOAM Principles of Organic Agriculture</u> and certified to the <u>IFOAM Family of Standards</u> at the farm level. At present, the main farm standards include the EU Organic Regulations in Europe (EU-Reg), USDA National Organic Program (NOP) in the US, the National Programme for Organic Production (NPOP) in India, and the China National Organic Product Standard (GB/T 19630-2011).

Participatory Guarantee Systems

Participatory Guarantee Systems (PGS) are an alternative to third-party certification and fall outside of IFOAM's family of standards. Organic cotton production reported from PGS in Thailand and Brazil are specifically mentioned. As per IFOAM - Organic International's definition, PGS are locally focused quality assurance systems that certify producers based on the active participation of stakeholders and are built on a foundation of trust, social networks, and knowledge exchange. IFOAM - Organics International has a list of recognized PGS programs.

Organic cotton is grown as part of a production system that sustains the health of soils, ecosystems, and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects, and is grown in rotation with other crops that replenish the soil. Organic cotton requires a third-party certification from an independent, accredited certification body (CB). Organic cotton growing practices may vary slightly from country to country but common to all is the avoidance of the use of toxic and persistent synthetic agrichemicals (pesticides and fertilizers) and genetically modified seeds.

Seed cotton

Seed cotton is raw cotton, including the fiber and seeds (i.e., pre-ginning cotton).

Cotton fiber / lint

Cotton fiber/lint is cotton that has gone through the ginning process to remove seeds, leaves, and casings (i.e., post-ginning).

Organic certified land / land area certified to organic

Organic cotton must be grown on land area certified as organic to the <u>IFOAM Family of Standards</u>. However, as organic cotton is grown within a rotation system to build soil fertility, depending on soil and climatic conditions, the same piece of land may also grow a variety of other crops such as ground nuts, maize, and beans. As the scope of organic certification covers the variety of crops grown, the land area recorded during a certification process is referred to as organic certified land.

In-conversion land

In-conversion land refers to land that is undergoing the required conversion period from conventional to organic as required by all organic standards. The duration of the in-conversion period is typically three years, but it can differ country-to-country, for example it is only two years in Brazil and Peru. If land has not previously had chemical pesticides applied then a one year conversion period is often accepted.

No toxic chemicals are allowed during the conversion period in order to eliminate remaining residues left in the soil from past conventional practices (if applicable). Land undergoing the first, second, and third year of this conversion period is referred to as Year 1 (Y1), Year 2 (Y2), and Year 3 (Y3) in-conversion land, respectively.

Yield

Yield refers to the amount of cotton produced (in kilograms) per hectare of land farmed. Yield is typically measured at two levels: Seed Cotton Yield (pre-ginning) and Cotton Fiber Yield (post-ginning).

Metrics (ha, kg, tonne, m, b)

This report uses the metric system for measurements and units have been abbreviated as follows. Local units are converted into international, harmonized units: hectares = hectare (1 hectare = 2.47 acres); kg = kilogram (1 kg = to 2.20 lbs. = 0.0045929637955183 US bales = 0.005882353 Indian bales); tonne = 1,000 kg; m = million (1 m = 1,000,000); b = billion (1 b = 100,000,000).

Internal Control System (ICS)

"An Internal Control System (ICS) is the part of a documented quality assurance system that allows an external certification body to delegate the periodical inspection of individual group members to an identified body or unit within the certified operator. This means that the third-party certification bodies only have to inspect the well-functioning of the system, as well as to perform a few spot-check re-inspections of individual smallholders." [IFOAM - Organics International].

Reporting boundaries, completeness, and accuracy

Reporting period

The data are collected over a 12-month cycle and are based on the International Cotton Advisory Council (ICAC) harvest year of August 1 to July 31. In 2022, data for the 2020/21 harvest year were collected (i.e., organic cotton harvested between August 1, 2020, and July 31, 2021).

For example, in the US, organic cotton is picked between October and January. This report covers the 2020/21 harvest year and therefore includes the October 2020 to January 2021 harvest.

In countries such as Tanzania, where the cotton is picked between July and August (i.e., covering two ICAC harvest years), the data are allocated to the first year (i.e., cotton picked between July and August 2021 is allocated to the 2020/21 harvest year).

Cotton-producing countries / production

In 2022, Textile Exchange's systematic collection, review and reporting of organic cotton production

covers 96% of overall cotton production volume and 58% cotton producing countries. In all, 38 of the 66 cotton producing countries have been identified as potentially relevant for organic cotton production and covered by an independently verified systematic data process. This identification process has been based on data collected, publicly available records, interviews, and correspondence with various stakeholders.

Standards (cultivation)

Textile Exchange applies a complete list of all standards accepted in accordance with the IFOAM Family of Standards. A systematic completeness check was carried out by searching for publicly available data from all certification bodies known to be certifying to any of the IFOAM Family of Standards.

In-conversion land

Textile Exchange makes all attempts to collect data on in-conversion land through its systematic data collection process. However, it should be noted that our process focuses primarily on countries and producer groups that are currently certified. Countries and producers that are not currently certified may fall outside of our reporting bandwidth.

As with organic certified land area, in-conversion land area covers a variety of crops grown. Whether the land that is in-conversion will be used to grow cotton once reaching full certification will ultimately depend on market factors such as price and demand. Conversely, in-conversion land that is scoped to produce other crops may in later years be used to grow cotton if market factors are favorable. It can also be the case that some of the organic cotton fiber reported in a given year does not stem from the certified organic land area reported for the same year. It may have been grown on certified organic land that did not list cotton as a crop that year.



Photo: Israel Production & Marketing Board Ltd. An organic cotton plant at sunset in Israel.

Data sources

Organic cotton data are collected from governmental agencies, certification bodies, organic cotton producers, gins, and initiatives/brands. Wherever possible, data from each country is collected from more than one source and validated against each other. In selected cases where data can only be obtained from one source, triangulation and validation of data may not be possible and the data is accepted as it is. In other cases where significant data gaps exist, data modeling may be required. While primacy is given to data supplied by government agencies and certification bodies, data from organic cotton producers continues to play an important function for cross-validation and to understand farm level scenarios, as certification body data is limited to a small set of indicators. Collection methods range from public database search, telephone interviews, site visits and email correspondence between January and June 2021. The table on the right provides a breakdown of data sources used for each of the 38 countries covered in the 2022 Organic Cotton Market Report alongside a confidence level on the data received based on results of triangulation.

For the 2022 Organic Cotton Market Report, the final organic cotton production data for the 21 in-production countries were based on data sourced from Government Agencies (used as a primary data source for 24% of inproduction countries), Certification Bodies (19%), Organic Cotton Producers (62%), Ginners (5%), and Others (0%). Note that, in some countries, data may be combined from more than a single source.

Country	Status	GOV	СВ	OCP	Gin	Other
Argentina	IP		Р			
Australia	NIP					Р
Bangladesh	NIP		Р			
Benin	IP		S	Р		
Brazil	IP			Р		
Burkina Faso	IP		S	Р		
China	IP	Р	S	Р		
Colombia	NIP			Р		
Egypt	IP		S	Р		
Ethiopia	IP			Р		
Greece	IP	Р	S			
Guatemala	NIP					Р
Haiti	NIP			Р		
India	IP	Р	S			
Israel	NIP			Р		
Kazahkstan	IP		Р			
Kyrgyzstan	IP		Р	Р		
Madagascar	NIP					Р
Mali	IP		S	Р		
Mexico	NIP					Р
Myanmar	NIP		Р			
Nicaragua	NIP			Р		
Pakistan	IP			Р		
Paraguay	NIP			Р		
Peru	IP		S	Р		
Senegal	NIP		Р			

Country	Status	GOV	СВ	OCP	Gin	Other
Spain	IP	Р				
South Africa	NIP					Р
Sudan	NIP		Р			
Tajikistan	IP		Р			
Tanzania	IP			Р		
Thailand	NIP			Р		
Turkey	IP	S	S	S	Р	
Turkmenistan	NIP		Р			
Uganda	IP			Р		
United States	IP	Р		S	S	
Uzbekistan	IP		S	Р		
Zambia	NIP			Р		

Table: A breakdown of data sources used for each of the 38 countriescovered by the 2022 Organic Cotton Market Report alongside a confidencelevel on the data received based on results of triangulation.

- IP In production of certified organic cotton in 2020/21
- NIP Not in production of certified organic cotton in 2020/21
- GOV Government agency
- CB Certification body
- OCP Organic cotton producer
 - P Primary data source
 - S Secondary data source

Data analysis and checks

Textile Exchange makes every attempt to obtain a single complete data set per country from Certification Body, a secondary data source from an Organic Cotton Producer, and where possible, a third data source from alternative stakeholders. The different data sets are harmonized for metric consistency, and in the case of missing data or data deviation, scenarios, or average data are used. Collecting data from multiple sources allows Textile Exchange to triangulate the information from different providers and cross-check against data reported in the past. In the case of inconsistencies, rationales for decision-making are defined in a systematic process and documented. In case of data gaps, where possible historical data and industry averages are inferred. Where data gaps cannot be filled, partial data are reported and marked as a general indication. The final aggregates are proofed by industry experts.

Data modeling for India's in-conversion and certified organic cotton production

Unlike previous years, Textile Exchange was unable to collect data from organic cotton producers and certification bodies for India's 2020/21 production. The only data available was from India's Agricultural & Processed Food Products Export Development Authority (APEDA).

APEDA only shares total seed cotton production—with no breakdown between organic and in-conversion cotton. Total reported organic and in-conversion seed cotton production doubled since 2019/20, from 335,794 tonnes to 811,008 tonnes. To estimate the breakdown between organic and inconversion cotton production volumes and land area in India for 2020/21, we applied the following assumptions:

- 1. The average ginning outturn was 35%
- 2. The average yield average was 538 kg/hectare (based on the three-year average of data provided to us by certification bodies in 2017/18-2019/20)
- 3. All certified organic cotton land reported in 2019/20 remained active and in-certification in 2020/21
- 4. All Y3 in-conversion land reported in 2019/20 successfully reached certification in 2020/21
- 5. 90% of India's growth in certified land between 2019/20 and 2020/21 was in-conversion and 10% organic.

These assumptions were derived based on input from the Organic Cotton Market Report Advisory Panel and past data reported combined with internal observations.

Data confidence levels

Textile Exchange has, for a number of years, included a table in our Methodology displaying our level of confidence in the data reported for each country. This year, in light of growing data collection challenges, we have expanded upon this by introducing confidence levels (low/medium/ high) for each key data point throughout the report. These confidence levels have been assigned by Textile Exchange based on the following factors:

- The number of data sources available
- The existence of discrepancies between data sources
- The extent of data gaps

- The availability of certification body data
- The presence of conflicting information
- The extent to which modeling and assumptions have had to be applied to arrive at the reported figure

It's important to note that the confidence levels indicate the extent to which we believe the data accurately reflects certified production volumes. They do not make any statement regarding the integrity beyond certification.

Special remarks-supply side

Production volume

A Certification Body estimates the production volume of an Organic Cotton Producer at the time of audit. Within the certification process, a variance of up to 10% is permitted between estimated production (at time of audit) and actual harvest (post-audit). As at time of data collection, Organic Cotton Producers would have realized its harvest, data collected from Organic Cotton Producers is likely to be based on actual production, whereas data reported by Certification Bodies is likely to be based on estimated production.

Production volume collected from varying data sources is reported in the Organic Cotton Market Report on an as-is basis and doesn't account for any variance between estimated and actual production.

Historical or average yields

Where land area data are provided but not production volumes, historical yields known for the specific project or locality or annual national average yields (as agreed by the government and applied by certifying bodies) have been used to calculate an estimated production volume.

Land area certified to organic

In selected cases where we do not have both land area under organic cotton and total land area certified to organic, but we do have one of these figures, one is estimated to be equal to the other.

Ginning outturn

Where only seed cotton data are available, lint production is estimated using the average or historical ginning outturn for the country.

Land in-conversion

In selected cases where we do not have both fiber production and land area figures for in-conversion cotton production, but we do have one of these figures, the yield is applied as the divisor to derive the other.

Reporting limitations

- The integrity of organic cotton is assumed addressed through the certification process and that all organic cotton production data provided by data sources are certified.
- Production data provided by data sources are accurate, true, and complete to the reporting period specified.
- The variance between estimated production captured at audit by a Certification Body and the actual harvest volume reported by Organic Cotton Producers is acceptable (per the certification process).
- Research findings are dependent on publicly available data, and it is the responsibility of Certification and Accreditation Bodies to make available all pertinent data and information.

2019/20 data revisions

Occasionally, we receive corrections from our data sources to data already published. In these cases, we include detail of any revisions made here in the Methodology.

In the 2019/20 organic cotton data published in our 2021 Organic Cotton Market Report, one revision has since been made, and that is to the certified organic land area figure for Mali. In our 2021 Organic Cotton Market Report we reported this figure as 12,563 but it has since been corrected to 4,500 hectares.

Disclaimer

Textile Exchange collects and reports production of certified organic cotton data from accreditation bodies, certification bodies, organic cotton producers as well as other stakeholders on an as-is basis. Data reported is intended as a snapshot of production and makes no representation on total supply. While Textile Exchange carries out a systematic completeness and accuracy check on its data collection process; we rely on our data providers for data accuracy and integrity. Where data gaps exist, Textile Exchange attempts to replace these values with best estimates from historical or comparable proxies. Data reported may change due to corrections or updates from data sources.

For the purpose of the Organic Cotton Market Report, organic cotton does not include any uncertified naturally grown cotton, nor does it make any statement regarding the integrity beyond its certification, and reported numbers, as reported by our data providers.



Photo: Santa Luzia Hammocks and Decoration Co. Coloured organic cotton.

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