



COTTON

Review of the World Situation

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A Rare Period of Stability in an Up-and-Down Year

Updates for the Final Month of the 2021/22 Season

In the final month of the 2021/22 season, production and consumption remain virtually unchanged from the previous issue of Cotton This Month (CTM), although Australia is reporting a minor increase in production for both the 2021/22 and 2022/23 seasons. These changes amount to an additional 119,000 tonnes for 2021/22 and 41,000 tonnes for 2022/23. Consumption remains unchanged at 26.15 million tonnes and production is being reported at 25.91 million tonnes, which still puts consumption ahead of production by 240,000 tonnes, despite the additional 119,000 tonnes from Australia. Once the 2021/22 season officially closes, the ICAC will start reconciling the global trade flow. It typically takes several months to completely close out the trade balance and obtain country-wide import/export numbers. However, this process has historically been completed by the final quarter of the closing year with only minor changes to numbers beyond this timeframe.

Global Food Crisis Could Affect Cotton Production

The conflict in Eastern Europe is now in its fifth month and shows no sign of ending anytime soon. The human suffering is horrific, both in terms of human life lost and the displacement of Ukrainians from their homes and land. Ukraine has been called the breadbasket of Europe and a disruption to its food production spells trouble for the world.

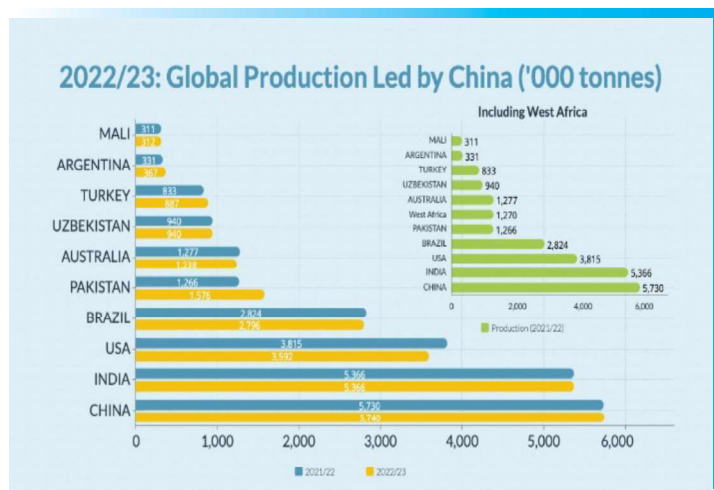
The ICAC's charge is to report on global events that could potentially impact the global cotton markets. We have reported on the drastic increase in fuel and energy costs that have a direct impact on fertiliser price and availability. The higher prices for inputs impact all crop production, including cotton. However, there is another potential crisis brewing behind the scenes and is now starting to come into focus as the conflict continues.

On 24 June 2022, the Secretary-General of the United Nations warned of a 'Unprecedented global hunger crisis, with 276 million facing food insecurity'. He goes on to say that 'There is a real risk that multiple famines will be declared in 2022'. Economic and Food Security experts are also concerned and are forecasting that 2023 could be even worse.

We are facing the perfect set of circumstances to precipitate a food crisis the likes of which we have not seen since 2007-08. The global pandemic, a once-in-a-100-year event, was followed by the conflict in Eastern Europe, which was followed by increasing inflationary pressures not seen in decades. Added to that mix are the frequent and increasing extreme weather events we've seen in recent years. Any of these events individually have the potential to create a crisis but the cumulative impact of all these events together is hard to imagine and likely will be difficult to overcome.

Historically, Africa has been particularly vulnerable to food crises. In 2020, about 21% of Africans suffered from hunger - a total of 282 million individuals. In 2019-20, as a result of the pandemic, 46 million additional people fell into food crisis. No other region on the planet presents a higher share of the population suffering from food insecurity.

According to an International Monetary Fund (IMF) study, food represents, on average, 17% of a household's total expenditure in most advanced economies, while in sub-Saharan Africa the figure is 40%. This is a burdensome number to start with and when inflationary pressures increase the price of food, the situation becomes catastrophic. The current problem is compounded by the inability of Ukraine to export wheat out of its port(s) and across the Black Sea. This decline in the global supply of wheat has caused prices to skyrocket, increasing concerns about global food shortages and extremely elevated prices worldwide.



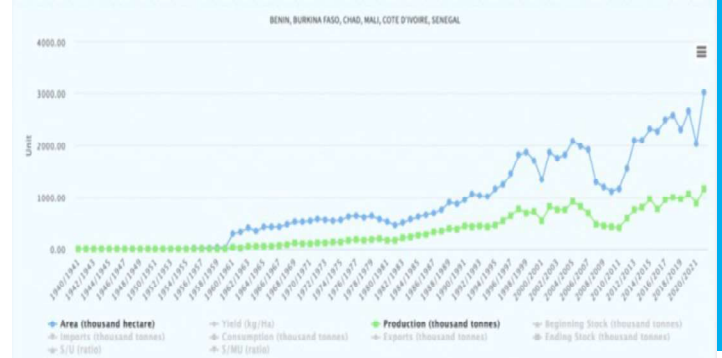
What the Past Tells Us

To provide some context, in 2007-08, a global food crisis impacted 578 million in the Asia Pacific region; 239 million in sub-Saharan Africa; 53 million in Latin America and the Caribbean; 37 million in North; and 19 million in developed countries. As was mentioned earlier in this report, Africa suffers more severe consequences from food crises than any other area. The most obvious symptom of a global food crisis is out-of-control pricing for essential food commodities.

During this period of crisis, we saw export bans, food riots, panic buying, and emergency price controls. African governments had their hands full trying to manage the situation. The FAO had warned that Mozambique, Uganda, Mali, Niger and Somalia were extremely vulnerable to instability because of rising prices, along with Kyrgyzstan and Tajikistan in Asia and Haiti, Guatemala, Bolivia and Honduras in Latin America. Food riots broke out in Burkina Faso (Bobo-Dioulasso), and on 20 February 2008, rioters protesting against the 65% rise in the price of some foodstuffs burned government buildings and looted stores. Days later, in Cameroon, a taxi drivers' strike over fuel prices became a massive protest against soaring food prices, leaving approximately 20 people dead and hundreds arrested. In March 2008, riot police in Senegal used tear gas and physical force on protesters. Hunger brings out extreme desperation in people and complicates the functioning of individual households and governments alike.

This pending food crisis has the potential to be a large disruptor of Africa's cotton industry. During the 2007-08 hunger crisis, the ICAC observed reductions in area under cotton and a decrease in lint production in Africa, especially the C4(+2) (Benin, Burkina Faso, Chad, Mali, Cote D'Ivoire and Senegal) countries. Effects from these reductions persisted through the 2011/12 season.

C4(+2) Countries Area and Production

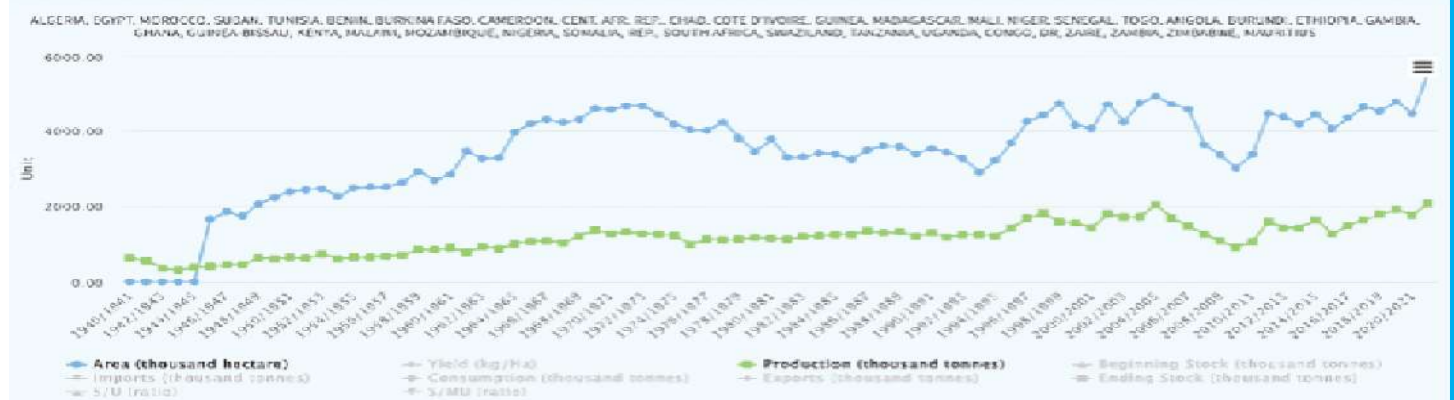


While we did see decreases in other cotton-growing areas during this time as well, none were as significant as the decline in Africa. Most of Africa is dry land that depends on sufficient rain-fall to grow the crops, so drought might have been a minor factor in some areas.

However, when we look at the data during this time period, we see that drought alone cannot explain the drastic decreases in both area and production seen in the C4(+2) countries. Admittedly, there are likely other factors at play. The world is a complicated place and trying to pin down a single reason as the sole event driving a decline in cotton production is foolish.

The world entered a global recession during this same time frame and this most certainly played a role in the crisis, as did the disparity between world cotton prices and farmgate prices in Africa.

African Area and Production



Summary of Drought Events for 1900-2022 In C4(+2) Countries

Region/Countries	Drought years	# Of events	# Of people killed	# Of people affected	Economic damage (USD x 103)	Economic damage (USD x 103, CPI adjusted)
African Continent		348	867131	502961493	7173593	12399141
Benin	1969, 1980	2	0	2215000	651	2141
Burkina Faso	1910, 1940, 1966, 1969, 1976, 1980, 1988, 1990, 1995, 1998, 2001, 2011	14	0	15313290	0	0
Chad	1910, 1940, 1966, 1969, 1980, 1993, 1997, 2001, 2008, 2012, 2017	11	3000	9742800	83000	613098
Mali	1910, 1940, 1966, 1976, 1980, 1991, 2001, 2005, 2008, 2010, 2011, 2020	12	0	13727000	0	0
Cote D'Ivoire	1980	0	0	0	0	0
Senegal	1910, 1940, 1966, 1969, 1976, 1979, 1980, 2002, 2011, 2014, 2018	11	0	9358702	374800	1980961

Data from EM-Dat database, The [Centre for Research on the Epidemiology of Disasters \(CRED\)](#)

However, it seems very likely that the global food crisis of 2007-08 did have a large impact on cotton production in Africa. We are on the precipice of another global food crisis today and it will undoubtedly have an impact on cotton production globally and in Africa more severely.

However, as bad as the situation seems, there is always cause for hope. Africa has made gains in developing The African Continental Free Trade Area (AfCFTA) which went into effect on 30 May 2019. This agreement has the potential to facilitate easier movement of commodities across borders including the elimination of tariffs on most goods and services. This agreement was not in place during the last food crisis and will help to reduce the severity of the effects of a global food crisis. In addition, the ICAC has been actively engaged in education and training efforts in several African countries. One component of the training is the concept of regenerative agriculture, which seeks to increase soil health through natural methods rather than using synthetic pesticides and fertilisers. While this is a long-term project, the positive effects of increased soil health will be realised quickly and the benefits to cotton and other crops should be seen within a few seasons.

Another benefit of regenerative agriculture is the emphasis on crop rotation and intercropping. Those practices enable farmers to take full advantage of the improved soil health while growing cereal grains and other food crops. It's a win-win for farmers because it provides a cash crop to be sold on the international market and gen-

erates food for countries that desperately need greater supplies of cereal grains and other foodstuffs. The farmers benefit from increased income and the government benefits from increased exports and a higher gross domestic product (GDP). What's not to like?

Given the high price of fuel and synthetic fertilisers and the impacts of climate change, regenerative farming techniques will become an essential strategy for all of agriculture in the future and the ICAC is excited to continue its training efforts in Africa and across the globe.

If the UN is correct and we enter a global food crisis we can expect hard times ahead. The ICAC will continue to monitor the situation and report on the impact global events will have on cotton markets.



Brazilian Responsible Cotton (ABR) Programme Shows that Sustainability is Part of Brazilian Cotton's DNA

Júlio Busato

President of Abrapa

Many years ago — 17 seasons ago, to be exact — Brazil began the challenging journey of achieving responsible and sustainable cotton production. Based on a regional initiative, the Brazilian Cotton Growers Association (Abrapa) set up the Brazilian Responsible Cotton (ABR) programme in all cotton growing states. We knew then that we had discovered our vocation to export and to meet the demands of the consumer market. We also saw how necessary it is to show Brazil's good farming practices.

So began the mission to take on this challenge! Brazilian farmers not only answered Abrapa's call, they also provided rapid results proving that we were right to invest in a model based on a process of continuous improvement. In 10 years, the Brazilian production of certified cotton has more than doubled. For the 2021 crop, it reached 84% of the total national production, the highest rate in the programme's history. This is an irrefutable sign that, for the Brazilian cotton grower, sustainability and responsibility are intrinsic characteristics of production.

Membership of the ABR programme grows season after season. This gives us the confidence to guarantee to the world that increasingly larger quantities of cotton, which is grown with social and environmental responsibility using good farming practices, will be delivered to the market by Brazil.



In practice, the ABR programme consists of verifying that each participating farm complies with a list of 183 items. These indicators are divided into eight overall criteria, which are in line with Brazilian legislation in different sectors (labour, environmental, land and health)

and with good farming and environmental management practices.

Some of these criteria must be fully complied with in each and every one of its items. This is the case with the prohibition of child labour on farms, and slave-like labour of any kind. We can safely say that ABR cotton has no connection with any illegal or irresponsible labour practices.

Other criteria that have zero tolerance include proving that farm workers are free to unionise and eliminating any type of discrimination.

The other criteria (labour relations, health and safety at work, environmental management and environmental performance and agricultural practices) must always achieve a score that confirms the presence of continuous improvement in the processes, season after season.

But that's not all. Our indicator matrix also includes the principals and criteria adopted by BCI, with whom we have an institutional partnership. BCI conducts the Better Cotton worldwide licensing service, which we use in Abrapa as a benchmark.

In addition to filling in documents to prove compliance with the verified items, the ABR farms are visited and audited on an annual basis. Every season, the process of preparing for certification is assisted by the technical teams of the state cotton growers' associations. In the current season, farms from eight Brazilian states — Mato Grosso, Mato Grosso do Sul, Bahia, Goiás, Minas Gerais, São Paulo, Piauí and Maranhão — are part of the programme.

Third-party certifiers inspect and audit each participating farm individually, to ensure transparency and credibility in the programme. We require this procedure to be carried out by independent and internationally recognised companies.

For the 2022 season, ABNT, Genesis and Bureau Veritas are responsible for this stage of the programme, which is carried out through individual audits, season by season.

For us at Abrapa, the biggest sign of the success of the ABR programme is the high level of take-up by the producers. After all, we represent 99% of all cotton produced in the country and 100% of the exports. We know that many similar programmes face difficulties in mobilising,

raising awareness and implementing the practical aspects of the precepts of sustainable production.

In 2021, when Brazil produced more than 2.3 million tonnes of cotton, the volume of certified cotton corresponded to 84% of the total national production. Comparing with 2020, there has been a growth of 12% in socio-environmental certification. These numbers show that Brazil has established itself as the world's largest supplier of better cotton, in addition to being the fourth-largest cotton producer in the world and the second-largest exporter. In absolute numbers, the ABR farms cover a total planted area of 1.08 million hectares.



However, the impacts of the ABR programme are not limited to the quantitative supply of certified cotton. Participants of the programme see other practical benefits such as increased efficiency and a higher quality end-product. Official statistics show that ABR farms achieved an average yield that is 6% higher than the overall Brazilian average in 2021.

The positive results of ABR have enabled us to take another step forwards and extend the programme to the ginning plants. In Brazil, cotton ginning plants are often located on the farm. This has facilitated the programme's expansion into the ginning stage, and we call this programme, 'Brazilian Responsible Cotton in the Cotton Ginning Plants (ABR-UBA)'.

In total, Brazil has 266 active cotton ginning plants. Of this total, 37% were part of ABR-UBA in 2021 and 22% have obtained certification. Again, the focus is on continuous improvement in the production process and our aim is to gradually grow the level of participation year after year.

All this effort by the producers would be of little value if it did not result in a higher quality product which is clearly visible to the buyers. Therefore, in addition to focusing on the sustainability of cotton production, we have invested in the traceability of Brazilian cotton in order to monitor and provide information about the cotton's origin, its quality indicators and its performance in terms of socio-environmental certification, all of which is easily accessible by importers.

These data can be easily accessed by cell phone or at the Abrapa portal, with full transparency resulting in clear

indications of a growth in the quality levels. In the 2021 harvest, 95% of our cotton met the requirements of the international market, with 56.6% of this total classified in the premium micronaire range.

We are aware of the rapid changes taking place so we are always looking to the future to ensure that we can continue to offer to the world high levels of quality, contamination-free, responsible cotton. Looking ahead, we have set a goal of gradually reducing the use of active ingredients that present a potential risk, especially to humans. We are committed to promoting and developing scientific research that can offer farmers management options that are suitable to our tropical climate, but which, at the same time, have lower risks and greater efficiency.

This goal is shared by all the cotton growers. In order to gradually reduce and eliminate the use of more aggressive products, there are items in the ABR programme that measure the levels of adherence to the strategy of limiting pesticide use. We know this is not enough. We are focused on identifying pest and disease control alternatives and there are now a growing number of success stories of cotton growers who have adopted on-farm biological control as an efficient measure.

As the ABR programme comes of age, it represents a ground-breaking call which Brazilian cotton growers are collectively getting behind in order to move towards the increasingly sustainable, responsible and efficient production of cotton.

Historical percentage of Brazilian cotton production certified by ABR and BCI

Year	Percentage
2013	58%
2014	65%
2015	67%
2016	81%
2017	78%
2018	79%
2019	78%
2020	75%
2021	84%

Source: Abrapa, state associations and BCI (Dec/2021)

Brazil in the global cotton market

- 4th largest producer
- 2nd largest exporter
- 1st largest BCI cotton supplier

Source: Abrapa (Jun/2022)



How China's Cotton Industry Go Sustainable?

Wang Jianhong

Vice President of the China Cotton Association

As the top cotton consumer and the second-largest cotton producer in the world, there is no need to debate whether the cotton industry in China should be more sustainable. The only real question is, 'How do we make that happen?'

The China Cotton Association (CCA) offered an option: The Cotton China Sustainable Development Program (CCSD). Initiated in June 2021 — in cooperation with China Cotton Textile Association (CCTA), China Home Textile Association (CHTA) and China National Garment Association (CNGA), and China Chamber of Commerce for Import and Export of Textiles (CCCT) — CCSD aims to promote sustainable cotton production and consumption in China.

With three supportive systems focussing on Sustainable Production, Traceable Supply Chain Management and Sustainable Brand Promotion, CCSD endeavours to implement four concepts throughout the industry chain:

1. Environmentally friendly,
2. High quality,
3. Dignity of labour, and
4. Whole process traceability.



Cotton field under CCSD program



The launching ceremony of CCSD on 17th June, 2021

Let's start with sustainable cotton production. Modified on production regulations of the previous year, the Cotton China Sustainable Production Standard — drafted by experts on sustainable agriculture and published by CCA on 1 April 2022 — is the first standard for sustainable cotton production in China. It focusses mainly on reasonable controls and the effective use of farm chemicals; the protection of water sources; soil and biodiversity; reduction in greenhouse gas emissions; and improved well-being for workers.

Without proper implementation, however, the standard is merely a piece of paper so CCSD set three strategies to avoid this:

1. To complete supporting documents including a management manual for farmers, a unified management regulation providing guidance for small-scale farmers unity, and implementation rules for the third-party verification.
2. To set up farmer training programs. The first training session on sustainable production standard was successfully held in May and two additional sessions are scheduled for June.

3. To provide third-party verification. The third-party verification will be required for all cotton farms that join CCSD. In other words, 100% of cotton produced under the CCSD program will be certified for sustainability by an independent party.

There were 37,849 hectares, with lint output of 82,000 tons last year, grown under CCSD in its first year, with plans to double that number in the coming season. The programme got additional good news when two farms that focus on long-staple cotton production joined, and we hope this will help to spur additional long-staple cotton production in China.



Recycling of packaging of chemicals used for CCSD cotton field

As for the traceable supply chain management, the task is how to trace the product throughout the entire supply chain until it reaches consumers, which is the challenge faced all industries, not just cotton. To provide traceability and improve the transparency of supply chain, CCSD offered the solution of mass balance management. As used in tracing other raw materials such as steel, mass balance of quantity is introduced to track and calculate items in the complex cotton and textile production system. Non-CCSD cotton is allowed to replace CCSD cotton in this process. The CCSD traceable information platform (CCSD TIP) ensures the records of production and purchases are traceable and reliable. Therefore, we could count specifically and accurately how much certified CCSD cotton or its replacement is used to make a given number of tee shirts, for example, as a result.

Last but not least, Sustainable Brand Promotion is key to the programme's success. CCSD seeks to become a sustainable brand in China. By improving the sustainability of cotton production and subsequent activities, CCSD will link cotton growers, gins, textiles, brands and consumers to create a positive cycle of sustainable cotton production and consumption. Currently, 30 companies have joined CCSD covering the entire supply chain. CCSD asks

that all brands join the program to use 100% sustainable cotton (including CCSD cotton) in their supply chains by 2035, which will contribute to China's 2035 target of reducing carbon dioxide emissions.

We have noticed that the environmental awareness of Chinese consumers is growing — and more importantly, the younger generation is willing to pay more for sustainability. More than 70% of young people in China say they actively pay attention to green consumption attributes, according to the '2021 China Youth Green Behavior Report' released by DT Finance. Accenture's '2022 China Consumer Insights' also found that 43% of respondents are willing to pay a premium for environmentally friendly products, and the higher the income level, the stronger the willingness to pay for environmentally friendly features.

The cotton and textile industry in China had humble beginnings but has shown vibrant growth, and it will eventually overcome challenges and become sustainable. The same wish I make for CCSD, I also wish for the whole world that we live in, thus creating a better one for us all.



A solar-powered insect trap for analysing insects variety and quantity, in order to make reasonable and controlled chemical choices accordingly.



Cotton made in Africa

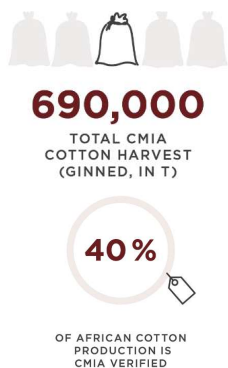
Tina Stridde

Managing Director AbTF

Cotton made in Africa (CmiA) is a globally active initiative creating a valuable and measurable impact for small-scale cotton farmers and their communities in Sub-Saharan Africa while promoting nature protection and a social-ly as well as ecologically responsible global textile value chain. Founded in 2005 by the German entrepreneur and philanthropist Prof Dr Michael Otto, it now offers two internationally recognised sustainability standards for African cotton—CmiA and CmiA Organic—and unites the cotton and textile industry from field to fashion by accelerating the use of sustainably verified cotton from Africa. To achieve its goals, CmiA works in concert with a strong international network of retailers and suppliers, cotton companies across Sub-Saharan Africa and agricultural and environmental experts as well as governmental organisations, NGOs and other key stakeholders. As a performance-based initiative, CmiA harnesses market forces and collects licensing fees from an ever-growing international alliance of retailers and brands using the CmiA and CmiA Organic labels. The resulting income is invested in the African project countries.

Tackling Global Challenges with Innovations and in Concert with Partners

Improving small-scale farmers' living and working conditions while protecting nature are key priorities for Cotton made in Africa. Cotton plays a decisive role in fighting poverty and promoting biodiversity in Africa. In 2021, CmiA partnered with about one million small-scale farmers and worked with a total of 20 cotton companies, producing some 690,000 tonnes of ginned cotton verified under either the CmiA or CmiA Organic standards. In comparison to the previous year, CmiA cotton production grew by 10%, meaning that more than 40% of African cotton is CmiA-verified. With new cotton companies coming on board in 2022, CmiA is expanding its network of partners in the African cotton sector and is now active in 11 countries south of the Sahara.



To continuously measure the progress and impact of its work and adapt its training and support scheme to the evolving set of challenges farmers need to overcome in their daily work, CmiA regularly undertakes studies carried out by independent research organisations as well as its own monitoring, evaluation and learning missions. Results show that small-scale farmers who participate in the CmiA programme, their families and the environment benefit in multiple ways as training, verifications and additional CmiA community projects that go beyond sustainable cotton production deliver more economic and social stability for the farming communities.

When it comes to social and economic benefits for farmers, a recent impact study shows that an average farming family in Côte d'Ivoire earned 18% higher incomes from CmiA cotton sales in the 2020/21 season than in 2015, whereas CmiA small-scale farmers in Zambia who participated in at least three training modules obtained 23% greater yields than those without any training in the season of 2019/20.¹ Due to the fact that CmiA cotton cultivation is exclusively rainfed, and thanks to other standard criteria, its ecological footprint is extremely favourable.²

Despite these positive outcomes, the climate crisis and the consequences of climate change pose pressing challenges for small-scale cotton farmers in Africa. They already suffer from symptomatic effects of climate change like droughts, soil erosion or torrential rain. These problems are compounded by reduced soil fertility and shrinking biodiversity. Cotton made in Africa takes these challenges very seriously and acts decisively to support African small-scale farmers and their families, who are among the most vulnerable to the impacts of climate change, enabling them to adapt to changing weather patterns and prioritising innovative measures to strengthen small-scale farmers' resilience.

One important project for offsetting carbon emissions during cotton production is the new CmiA Carbon Neutral Initiative. Set up in close co-operation with the renowned climate protection organisation atmosfair, the initiative now offers CO₂-neutral cotton that meets Cotton made in Africa's standards by combining CO₂ reduction with CO₂ compensation, which directly benefits the CmiA farming communities. Already, 3,318 tonnes of CO₂-neutral CmiA cotton were offset and certified

¹ Source: Syspons, CmiA Impact Study. Case Study: Research on impacts of the CmiA initiative on livelihoods of small-holder farmers in sub-Saharan Africa. June 2021 (available for download at: <https://cottonmadeinafrica.org/wp-content/uploads/CmiA-Impact-Study-2021.pdf>).

² Source: Sphera™, Cotton made in Africa. Life Cycle Assessment of Cotton made in Africa. March 2021 (available for download at: https://cottonmadeinafrica.org/wp-content/uploads/CmiA_LCA-Study_2021.pdf).

through the Gold Standard.

Healthy soil is another fundamental building block for ensuring the future of numerous small-scale farming families in Africa. By offering long-term assurance of good harvests, healthy soil provides secure livelihoods for people in rural Africa.

However, according to the United Nations' Food and Agriculture Organization (FAO), one third of the world's soils are degraded.³ Measures for sustainable soil management are firmly entrenched in Cotton made in Africa's standards. Small-scale farmers are offered regular training in sustainable soil management, which encompasses issues like crop rotation, zero tillage, integrated pest management and the preservation of biodiversity. To provide additional support for sustainable soil management, Cotton made in Africa launched CAR-iSMa, a co-operative project with a total budget of around EUR 2.8 million. The project's primary objective is to improve soil management through sustainable production methods in order to better the livelihoods of small-scale farming families, reduce the effects of climate change for this target group and strengthen their resilience.

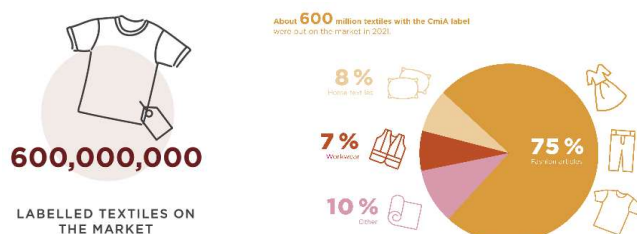
Another key issue for CmiA when it comes to sustainable raw materials is the need for retailers and brands to respond to increasing regulatory and consumer demands for transparency throughout the textile production process without falling into the greenwashing trap. Although studies show that more than 80% of consumers value sustainability and want to know how and where their products were produced,⁴ a mere 15% of retailers and other supply chain members can fully trace the materials used in their products according to a recent KPMG survey.⁵ This means it is vitally important for brands and retailers to create more transparency in their value chains in order to build trust with consumers and ensure their companies' credibility and reputation for integrity.

Within its product portfolio, CmiA offers two different levels of traceability: the CmiA Hard Identity Preserved System (HIP), which allows products to be tracked throughout the entire production process, from gin to final product; and the CmiA mass balance approach, where traceability is provided up to the spinning mill level.

As part of its efforts to support its partners with concrete solutions for tracking cotton throughout the production process, CmiA is actively expanding its digital tracking scheme, SCOT. This allows partners to further increase the traceability of CmiA cotton processed according to the mass balance system in globally interconnected supply chains. In 2021, well over 70,000 orders were placed through SCOT, encompassing several million CmiA products and more than 2,000 companies from all parts of the textile chain.

Record Demand and Uptake of CmiA and CmiA Organic Cotton

Despite the challenges posed by the ongoing coronavirus pandemic, international demand for cotton verified by CmiA and CmiA Organic climbed to record highs in 2021. This success was due to new and existing retail partners who continued to pursue their sustainability goals throughout the global value chain with focus and commitment. About million textiles bearing CmiA labels were brought to market in 2021, more than twice the figure for the previous year.



In addition to doubling demand, CmiA gained new international partners and now encompasses some of the world's biggest retail and fashion chains, including Bestseller, Lidl, LPP and the Otto Group. This means that the partner network of retailers and brands that buy CmiA cotton grew by about 30% between 2018 and 2021, while the 2021 uptake of CmiA cotton shows a 185% gain compared to 2020.

Following this continuous growth in demand and uptake, CmiA has also significantly expanded its partner network within the textile value chain over the past few years. In 2021, its global network of registered suppliers grew to encompass 1,220 ready-made garment producers, 560 fabric producers, and 240 spinning mills that process CmiA-verified cotton for the world market. CmiA-labelled end products were produced in 51 textile markets, primarily for the fashion and home textile sectors.



Thanks to this growing demand and uptake of CmiA and CmiA Organic cotton, the initiative is able to further protect scarce natural resources and support small-scale farmers and their families.

³ Source: Global Symposium on Soil Erosion. Key Messages by Food and Agricultural Organization of the United Nations (FAO), available at: <https://www.fao.org/about/meetings/soil-erosion-symposium/key-messages/en/>.

⁴ Source: 2021 Consumer Report by Initiative Digitale Handelskommunikation (IDH), reported in German at: <https://www.horizont.net/marketing/nachrichten/idh-konsumenten-report-81-prozent-der-deutschen-wollen-dass-handel-und-marken-nachhaltiger-werden-195250>.

⁵ Source: Moving the needle. Threading a sustainable future for apparel by KPMG, available at: <https://assets.kpmg/content/dam/kpmg/cn/pdf/en/2021/11/moving-the-needle.pdf>.



CottonConnect

Alison Ward

CEO of CottonConnect

Founded in 2011, CottonConnect is on a mission to re-imagine the future of supply chains. Headquartered in London and with teams in India, Pakistan, China, Bangladesh, Turkey and Egypt, it helps global brands source more fairly and sustainably by creating more robust, resilient and successful raw material supply chains.

By improving the sustainability of the world's textile supply chains, producers and raw material farmers are able to work more responsibly and enjoy better livelihoods. This in turn helps brands to access more sustainable cotton and other natural fibres to create transparent, traceable and resilient supply chains that will continue to deliver the best raw materials, now and in the future.

The Mission at CottonConnect

It's more important than ever before that we understand impact the cotton supply chain has on the people and the environment. At CottonConnect, our goal is to find solutions that create more resilient, robust and sustainable supply chains for key raw materials.

We are already seeing the impact of climate change on the smallholder farmers we work with. For example, extreme heat, erratic monsoons and pest attacks all affect the most vulnerable people, and we often see that women in cotton communities are most impacted.

Because of our work on the ground and in the fields, we understand the effect climate change is having on farmers and their families. This is why our programmes and work are centred on supporting people — creating climate resilient farming communities who can respond to the challenges being faced by their farms and livelihoods, and critically, we engage brands and retailers in this dialogue.

Our 2020-2025 strategy, implemented via three pillars of activity, is designed to deliver what the cotton and raw materials industry needs now, and in the future. Our three focus areas are:

1. Resilience and growth — for our people and communities,
2. Reforming and rethinking — for brands and supply chains, and

3. Reimagine — inspiring and innovating services and adopting a dynamic approach.

Our local agronomist teams provide farmers with the training, education and tools they need to improve their productivity, income and profitability. By doing this, we're transforming the lives of farmers and the communities connected to farming, by providing training in areas such as human rights, gender equality and how to run successful businesses.

My goal is that as a result of our work, farmers are able to stand taller and prouder with more confidence in the future. By taking a holistic approach at the farm level, we can help build thriving communities.



What about for Brands – CottonConnect's Customers?

The solutions we provide must also be commercially based. We have developed a traceable supply chain which allows us to connect the all of the sectors, from farmers and ginners to weavers and garment producers. For brands, this provides more transparent and robust supply chains which gives more confidence but also

brings more accountability.

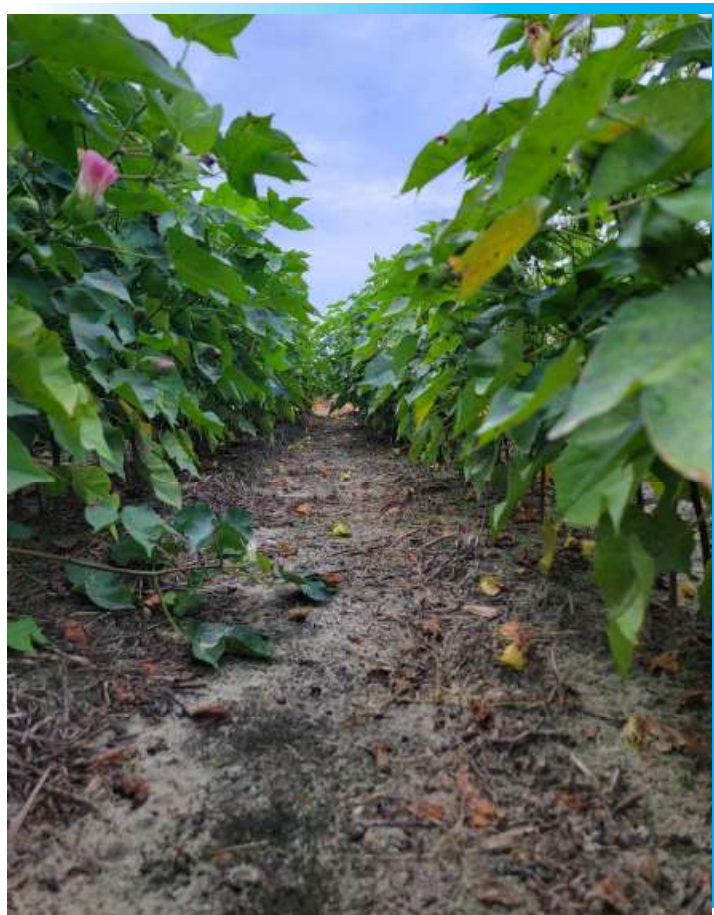
We encourage our brand partners to meet the farmers who supply their cotton face-to-face, as this gives them a deep appreciation and understanding of what it takes to produce cotton. We also set up supply chain meetings for farmers, ginner, spinners and the brands themselves. We believe that by fostering this type of interaction and engagement we can develop open and honest commercial relationships that truly benefit everyone.

By creating relationships built on a genuine understanding of the pressures and challenges faced by everybody at all stages of the supply chain, we can move toward a model of shared value.

Tracing Raw Materials Back to the Farm

Our relationships with all links in the chain, from ginner and spinners to garment producers, means we are able to trace garments back from Tier 1 suppliers all the way to the farm. This gives brands the confidence to know where their raw materials have come from and how they were produced.

We have developed a bespoke, bottom-up proprietary traceability software tool called TraceBale™ which provides visibility on the difficult-to-track last mile to the farmer transactions. This verifies farm production against ginner procurement. Our TraceBale ID data is being integrated into existing yarn ID systems by brands to provide a full view of the cotton supply chain.



Why Is CottonConnect Needed Right Now?

Cotton is really big business, accounting for almost a quarter of all global textile production, and the industry supports hundreds of millions of livelihoods. But right now, only a small proportion of the world's cotton is classed as sustainable. And that's not good enough.

Farming communities have it tough right now. They face a raft of social and environmental pressures, brought about not least by climate change. In addition, brands and retailers are under increasing pressure to deliver the more ethically sourced products that consumers want.

Finding new ways of doing things and reimagining how supply chains function is vital if we are to secure a sustainable, traceable and transparent supply of raw materials.

New ways of working include Organic Regenerative farming and our REEL Regenerative Code, which supports farmers transitioning to a more holistic system designed to increase soil health, encourage biodiversity, diversify income, reduce greenhouse gas (GHG) emissions and sequester CO₂.

It involves the use of regenerative practices such as cover crops, crop rotation, reduced tillage, agro-forestry and reintroducing livestock to crop fields to reduce the need for fertiliser. Regarding agro-forestry, we are supporting women who develop seedling nurseries as a microenterprise. In terms of animal welfare, regenerative agriculture provides increased support for animal husbandry skills.

The Impact after 12 Years

We're proud that whether it is supporting brands and retailers, garment producers or cotton and raw material farmers, we continue to deliver outcomes that benefit everybody. Overall, our work helps to reduce supply chain risk, boost security of supply, increase farmer productivity, improve livelihoods and help brands develop stronger relationships with their supply chain.

The equivalent of 280 million sustainable cotton garments have hit the shelves of global retailers thanks to the amount of sustainable cotton produced and linked to supply chains because of CottonConnect.

We have worked with more than 560,000 farmers and thanks to our programmes, they have the skills, training and knowledge to produce the cotton that more and more brands and retailers want to buy, boosting their livelihoods and wellbeing at the same time.

Where Is CottonConnect Making an Impact?

We've transformed the lives of millions of people in cotton-farming communities across India, Bangladesh, Pakistan, China and Egypt.

We've achieved this through our training and programmes that help farmers to be more productive and profitable and communities to improve worker protection, gender

rights and people's business skills.

To support women in cotton, we are working hard to see many more women farmers in our programmes, giving them the skills, training and expertise to become more successful. But this goes hand-in-hand with giving them the tools and confidence to have more control of their rights, finances and decisions.

More than 164,000 women have taken part in our Women in Cotton programmes, giving them training and education in everything from health and rights to running their own businesses.

And more than 25,600 farmers have benefited from our Farmer Business School programmes, giving them training in financial literacy and management and introducing them to new technology, microfinance and credit.

Training Farmers to Be More Sustainable

We have specialist teams of agronomists on the ground who know exactly how to produce cotton and other fibres in the most sustainable and responsible way. They have plenty of local knowledge and they help to build the skills, capacity and understanding of thousands of farmers by giving them the training and tools they know will succeed in boosting incomes, profitability and productivity.

In the last 10 years, our agronomic programmes have boosted profits by 36%, increased yields by 11%, cut water use by 13% and reduced pesticide use by 26%.

Our REEL Cotton Programme is a specially designed three-year agricultural training course that promotes sustainable cotton farming practices. We also have an organic training programme that focuses on good agricultural practices and biodiversity. We're also an implementation partner for the Better Cotton Initiative (BCI).

The Importance of REEL

We developed the CottonConnect REEL Codes of Conduct to make sure agricultural training programmes follow best practice and create the right outcomes, not only for farmers and their communities, but for the planet.

We have three REEL Codes of Conduct: REEL Cotton, REEL Regenerative Cotton and REEL Linen. They define specific criteria for sustainable raw material production and the REEL Cotton programmes are third-party verified by FLOCERT, which gives farmers taking part the confidence that they are delivering traceable and sustainably produced materials.

In addition, to assist brands in becoming more transparent, our TraceBale software helps them collect and manage their supplier data; however our market knowledge and ability to process data and present it in a way that is useful to brands and their customers is key.

What Does the Future Hold?

We're absolutely focused on delivering what the cotton and raw materials industry needs now and in the future. There are a number of areas that we believe will impact our industry and where we see our focus in the future:

1. We look forward to seeing the important differences that working regeneratively will make and through our Organic and REEL Regenerative Codes, we aim to be instrumental in those changes.
2. We will continue to support the empowerment of women in decision making and making informed choices for themselves and their families.
3. We want to promote a shared vision and approach to delivering support to our farmers and partners in a 'joined up' way, working with clients, government agencies and other groups.
4. We want to use technology to its maximum effect — not just for front-end efficiencies, but also further downstream in the supply chain, where some of the biggest benefits are waiting to be unlocked.

Creating a future world where success and profitability are enjoyed by everyone, not just a few, is incredibly important to us. We want to see a future in which value is shared more equally.





Traceable and Transparent: The e3 Sustainable Cotton Programme by BASF



BASF's e3® Sustainable Cotton programme was born in 2013 to meet the needs of two audiences: cotton farmers, whose interests were piqued by on-farm sustainable practices, and consumers, who enthusiastically embraced the food industry's farm-to-table movement and wondered why their textile brands and favourite retailers weren't being as transparent regarding their supply chains.

Consumers began asking tough questions about where their clothes were coming from, how they were made and how this affected the environment — and they weren't always happy with the answers they were given.

As retailers scrambled to address these consumer concerns, they found a huge disconnect in every part of their supply chain and, essentially, not enough data to provide

the transparency that consumers demanded.

This is what allowed the e3 Cotton programme to take off. BASF's unique position in the supply chain enabled brands to deliver on these demands with a sustainable cotton programme that is truly ingrained at the farmer level. The programme tracks environmental outcomes back to each farmer's individual cotton field — and even to each bale of cotton.

How e3 Sustainable Cotton Works: A Focus on Sustainability

The e3 Cotton programme stands for socially equitable, environmentally responsible and economically viable. These three statements are not only part of its name — they're ingrained in the e3 Cotton programme mission to create a better world by redefining the cotton fibre value chain.

The programme enrolled more than 900 US farmers during the 2020/21 growing season, an increase of 25% over the previous year. Those farmers committed 100% of their eligible cotton acres to the programme. Last year, that resulted in the production of more than 1.2 million bales.

Farmers commit to tracking eight on-farm sustainability measures using a third-party digital platform. The platform tracks the following data:

- 1) Irrigation water use and water quality,
- 2) Pesticide management and usage,
- 3) Soil conservation and fertility management,
- 4) Greenhouse gas emissions,
- 5) Energy use and conservation,
- 6) Worker health and safety,
- 7) Identity preservation, and
- 8) Soil carbon.

These sustainability measures help farmers reduce soil erosion, save water and lower cotton's carbon footprint, while providing retailers with the information they need to answer the questions consumers continue to ask.



e3 Cotton Delivers on Data

The e3 Cotton programme enrolls only US farmers who plant BASF FiberMax® or Stoneville® cotton. Once the seed has been purchased, every step of the supply chain is traced. From seed, field, bale, yarn, and material, the e3 programme tracks each stop on cottonseed's journey.

And while the programme has many partnerships located in the USA, the purpose and mission of e3 cotton resonates around the globe. The programme collaborates with brands, retailers and mills across continents to deliver the data that consumers want and need to know.

The e3 Difference

In addition to delivering the data that consumers and downstream partners need and rely on, the e3 Cotton programme isn't possible without the farmer and ensuring the sustainability measures practiced by the farmer are economically viable.

The programme provides a \$2.50 premium for each bale enrolled. And in 2021, BASF launched the e3 Sustainable Cotton Grower Fund. Cotton fibre value chain partners

can contribute a monetary amount at their discretion to the fund. At the end of each year, 100% of those funds are distributed equally to farmers in the programme.

'Our farmers say that being a good steward of their land is always a top priority for them', said Rachel Walters, BASF Regional Grower and Channel Marketing Manager, Seeds. 'The e3 Sustainable Cotton programme gives them the tools they need to take good care of their land, while giving them an economic boost for their hard work and dedication'.

Growing cotton under the e3 Sustainable Cotton label means that products ranging from home goods to apparel were made according to the highest sustainable production standards while meeting the demands of today's industry. Simply put, e3 Cotton has the sustainable growing practices, high-quality fibre performance, transparent production tracing and hard data to back up the claims.

For more information on the e3 Cotton programme, visit e3cotton.us.



Australia's myBMP Programme - A Shining Light for World Cotton

Adam Kay

CEO, Cotton Australia



For 25 years, the Australian cotton industry has successfully implemented its best practices program, myBMP. Since its inception, the program has been the go-to source for our growers to enhance their operations and help their businesses remain strong. It is also a program that has attracted acclaim domestically and internationally for setting a high standard for sustainable and efficient cotton production.

myBMP uses practical tools to ensure growers are implementing world's best practice to produce economically, socially and environmentally sustainable cotton. Comprising three levels, the certification standards of the myBMP program are among the most rigorous in the world, with growers assessed by an independent environmental auditor.

Level 1 certification focuses on identified legal requirements — what growers must do.

Level 2 comprises industry identified best practices — what growers should do.

The third and final level centres on innovation, new technology and cutting-edge practices.

All levels are updated annually in line with state and Australian legislative requirements and new research findings. For a grower to achieve full certification, farms must meet all Level 1 and Level 2 standards of the myBMP program.

With more than 400 certification standards across the whole program, as well as independent auditing, the robustness of the program stacks up and generates deep confidence in the supply chain that the cotton produced on myBMP farms is the very best. We have countless examples of brands and supply chain partners choosing Australian cotton because of their confidence in myBMP's stringency in demanding the best cotton from our farmers.

myBMP is a program that has expanded over time, as more and more growers in the industry 'cottoned-on' to the value it delivers. In 2013, about 7% of Australian cotton bales were produced on certified myBMP farms. By 2021, the number of bales shipped from myBMP certified farms substantially increased to about 25%. The number of bales produced continues to rise as more farms move through the programme to full certification.

myBMP has seen widespread adoption across the Australian cotton industry, with about 80% of our growers registered in the programme, and about 25% of growers reaching full certification. These statistics are positive for our industry, but we are always striving to improve. Boosting certification numbers is important because the Australian cotton industry is well positioned to take advantage of demand for sustainably produced cotton through our focus on best practices and sustainability.

The other key figure of note is that in 2022, Australia's cotton industry will grow about 1.3 million bales of certified myBMP cotton, up from just 270,000 bales in 2016, and the number of certified farms tripled between 2016 and 2022.

While myBMP is beneficial for the industry generally, how does it benefit farmers at a local level?

Some of the myBMP program's benefits include:

- Developing safer farm workplaces and healthier natural environments,
- Reducing input costs,
- Helping farm businesses to be better run, and
- Improving community health.

The myBMP program also assists cotton growers with responsible pesticide use, controlling weeds and diseases, maximising water use efficiency, improving soil health and protecting and retaining native animals and vegetation.

As our industry progresses on its sustainability journey and works towards setting targets for the coming years, the role of myBMP will be even more important for our growers in order for our industry to achieve its ambitious goals. By providing growers access to the latest technical data and research, finding solutions to challenges and providing practical tools to help growers operate at maximum efficiency, we have confidence this will assist the industry to cumulatively move towards achieving our sustainability targets.



Recognition of and demand for myBMP-certified cotton continues to grow. We are proud of how myBMP has been officially recognised by a number of international standards, including the Better Cotton Initiative, Cotton-LEADs, the Partnership for Sustainable Textiles and the International Trade Centre Sustainability Map.

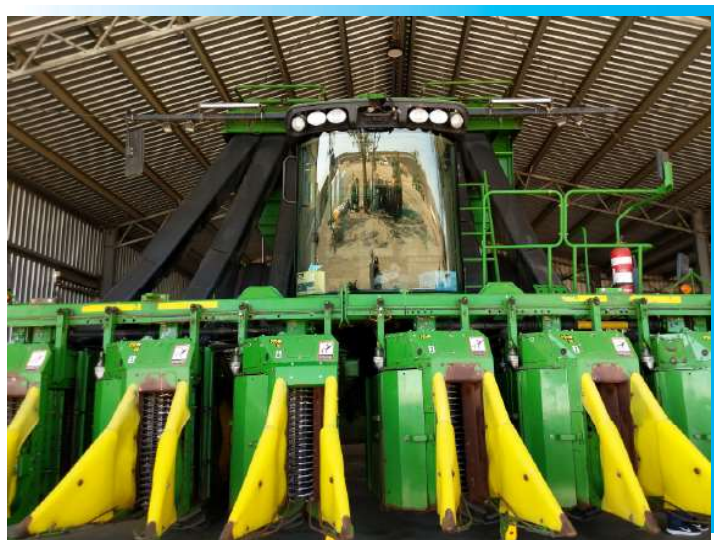
This international recognition has been particularly important for our industry in spreading the word about our sustainability and best practice credentials. In 2014,

Cotton Australia signed a landmark agreement with the Better Cotton Initiative on behalf of Australia's cotton industry, in which cotton grown on myBMP-certified farms could be sold internationally as 'Better Cotton'. Many Australian cotton growers have negotiated a premium for their Better Cotton Claim Units, representing a significant opportunity to leverage the sustainability investments made on farm. In 2019, more than 20% of Australia's cotton production was Better Cotton, while in the 2020/21 season, 545,702 bales — 86% of the cotton available — was traded as Better Cotton.

This has translated into meaningful outcomes for our growers and the broader industry. Some of the world's leading brands and retailers are increasingly demanding raw materials be produced using more sustainable methods. Many of these brands are already sourcing 100% Better Cotton, while others have committed to significant targets for Better Cotton use in their products over the next five years.

Having a best practices program is one thing, but its success will only be as strong as the implementation process and support provided to farmers, who are often time-poor. With best practices being of such high importance, Cotton Australia, as the Australian cotton industry's peak body, ensures farmers receive all the support they need to succeed in myBMP by employing staff dedicated to the programme, and a team of managers who work one-on-one with growers to support them through the process. This tailored, personal approach is key to ensuring growers understand what each myBMP certification standard means for them in real terms and enhances a successful outcome being achieved. I encourage other nations looking at our best practices programme's success to similarly consider the importance of an effective implementation process suitable to their farmers.

By continuously improving our practices into the future, I believe the Australian industry will succeed in further enhancing its sustainability credentials. To do this, the role of myBMP and the value of operating with best practice cannot be understated. I look forward to further championing myBMP within our industry and internationally, as the results it has yielded to date speak for itself.





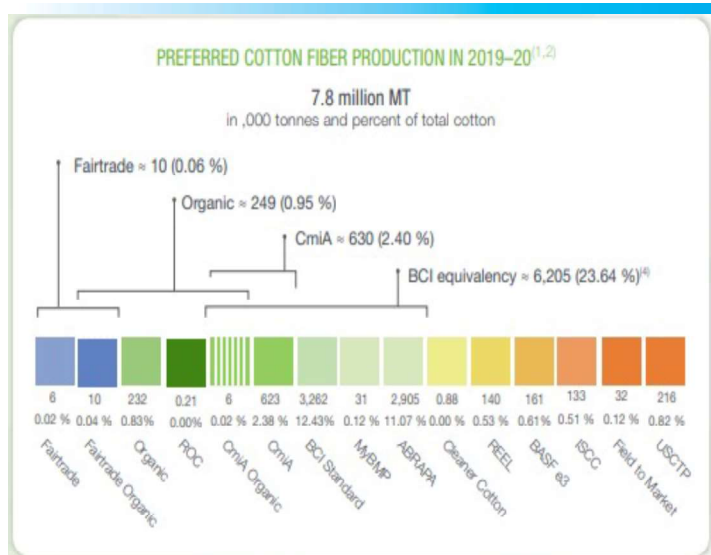
Textile Exchange - Leveraging Cotton as a Solution toward Climate+ Textile Exchange staff

Companies are expanding their sustainability initiatives to deliver on climate, carbon and biodiversity commitments by increasingly turning to organic and other preferred cotton. There was particularly strong demand in 2021, with companies searching worldwide for cotton grown to these standards that address environmental, and often social, criteria.

Overall, cotton production has remained relatively stable over the last few years with a production volume of 26.2 million tonnes in 2020 (the 2019/20 ICAC season), the market share of preferred cotton increased from 24% in 2018/19 to 30% in 2019/20. This growth equals an increase in global production volume of preferred cotton from 6.4 million tonnes in 2018/19 to 7.8 million tonnes in 2019/20. (New data will be available this summer.)

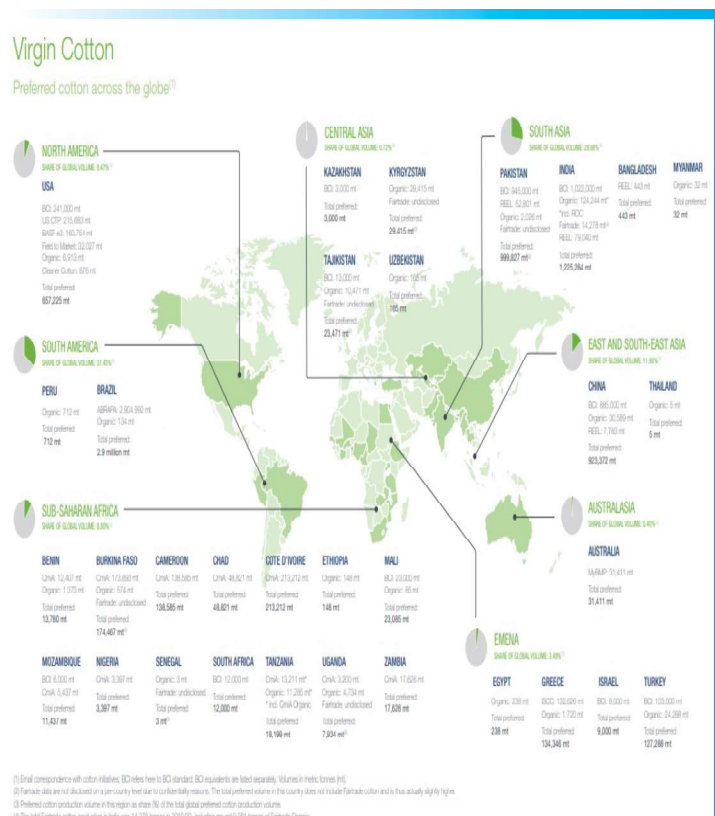
What is preferred cotton? To date, Textile Exchange defines preferred fibres as a list of recognised standards (see Figure 1) that exist within a continuum, seeing regenerative and organic cotton production systems as the 'gold standard'. We recognise that continuous improvement across all systems is critical to reach Climate+ goals and targets.

Figure 1: Preferred Cotton Fibre Production in 2019-2020



Source: Textile Exchange, Preferred Fibers and Materials Report 2021

Figure 2: Preferred cotton production around the world 2019/20



Source: Textile Exchange, Preferred Fibers and Materials Report 2021

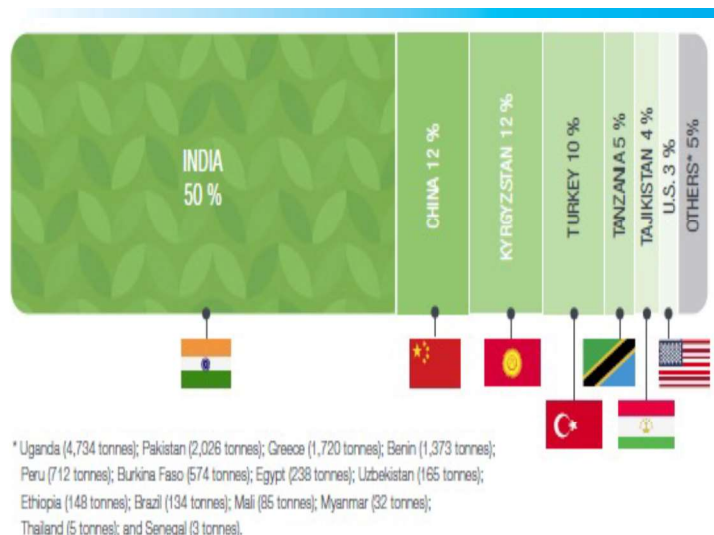
Preferred cotton production is led by Brazil, followed by India, Pakistan, China and the USA, grown by more than 2.9 million farmers on more than 7.8 million hectares of land in 32 countries in 2019.

Spotlight on organic cotton

Despite the Covid-19 scourge, 2019/20 witnessed the largest volume of organic cotton fibre harvested globally to date. And while the tried-and-true players — India, China, Kyrgyzstan, and Turkey — continued to lead the way, countries in East Africa (Tanzania and Uganda) were the biggest contributors to the year's global growth.

The 2019/20 harvest year saw 229,280 farmers grow 249,153 tonnes of organic cotton fibre on 588,425 hectares of certified organic land in 21 countries. Compared to the previous year, this represented a 3% rise in farmer numbers, a 4% growth in fibre volume, a 41% increase in land area, and two additional organic cotton producing countries.

Figure 3: Global Organic Cotton Producing Nations 2019/20



Source: Textile Exchange Organic Cotton Market Report 2021

Why 'Preferred Cotton?'

Why should the industry move toward preferred and regenerative practices? A main reason is the use of billions of pounds of synthetic pesticides and fertilizers used on cotton – inputs that are antithetical to our **Climate+ Strategy, a holistic approach to driving industry action. This strategy intends to guide the fashion and textile industry to achieving a 45% reduction in the greenhouse gas (GHG) emissions that come from producing fibres and raw materials by 2030.** This is known as 'Tier 4' of the supply chain, and it accounts for 24% of the industry's GHG impacts related to it. However, we call it Climate+ because it goes beyond accounting for GHG emissions; instead, it is an interconnected approach that swaps siloed solutions for the interdependent impact areas of soil health, water and biodiversity.

In the US — the only country to track and publicly record the use of such inputs — almost 68 million pounds of pesticide active ingredients and two billion pounds of fertilisers were used on US cotton in 2019. **Fertiliser production and use represent some of the largest sources of GHG emissions in agriculture.** The increasing cost of fertilisers is also a concern coupled with other increases in production costs for cotton.

A closer examination of the continued use of pesticides, which are inherently toxic and can pose a variety of concerns including cancer, endocrine or hormone disruption,

acute toxicity to humans and wildlife as well as surface and ground water contamination and aerial drift is needed. Expanded practices of integrated pest management systems with a focus on biological controls is needed. The use of genetically modified cotton seeds, with the associated use of fertilisers and pesticides, continues to be a growing concern with many farmers seeking other solutions to the increased costs of seeds and inputs. In some countries, more than 90% of their cotton production is genetically modified (GM). For example, 98% of U.S. cotton was GM in 2019.

What is Textile Exchange doing to expand Preferred Cotton production?

In 2017, Textile Exchange launched the [2025 Sustainable Cotton Challenge](#), with the goal being that more than 50% of the world's cotton in 2025 is converted to the more sustainable growing methods outlined above. The market share of preferred cotton increased from 13% in 2015/16 to 30% in 2019/20, This indicates the industry is on a good track, however, because significant increase in the uptake of preferred cotton is required to meet the 2025 goal.

Textile Exchange's aim is also to drive continuous improvement across all of the programmes. A focus will be the dissemination of best practices for soils and implementing regenerative practices, which put carbon back into the soil to mitigate the climate crisis.

To that end, in January 2022, we released the [Regenerative Agricultural Landscape Analysis](#) urging a 'direction of travel' transition to regenerative agricultural practices such as crop rotation, green manures and cover cropping, given the fundamental benefits to the long-term health of the sector.



In the report, Textile Exchange takes the view that over the long term, regenerative agriculture systems should phase out reliance on synthetic pesticides and fertilisers. These synthetic inputs have known negative impacts on soil health, biodiversity and human health — outcomes antithetical to the values of regenerative agriculture. Similarly, regenerative systems should move away from reliance on genetically modified seeds wherever possible, and toward locally controlled and adapted seed stocks.

While acknowledging the right of farmers to transition to regenerative practices in a way that works for their individual farm operations, Textile Exchange believes that any project that chooses to allow continued use of pesticides during the transition to regenerative practices should only do so in a transparent, place-based, time-limited approach that lays out a clear pathway to transitioning away from synthetic inputs.

Traceability and Transparency

Along with the expansion of preferred cotton adoption comes the responsibility to ensure integrity in the supply chain. Textile Exchange takes this very seriously. The ability to map the materials value chain is not only critical for due diligence but core to tracking progress toward the [Textile Exchange Climate+](#) strategic direction as well as the [United Nations Sustainable Development Goals](#). While the majority of the top 100 apparel brands have sustainable material targets in place, according to a 2019 [UNECE study](#), only about 34% of companies track and trace their value chains— and only half of those have visibility only up to their immediate suppliers.

Textile Exchange's Trackit is our response to this call to action — a formative programme for improved integrity, traceability and efficiency of sustainable material provenance. Textile Exchange's eight standards cover [third-party certification](#) at site and transaction level. As different certification bodies operate in different regions, traceability is disaggregated across certification bodies which makes value chain mapping a challenge. Our digital and electronic Trackit programs are being developed to address these challenges and support the traceability needs for Textile Exchange standards.

In addition, Textile Exchange in May signed onto the UNECE '[Sustainability Pledge](#)' which provides traceability and transparency solutions for tracking any garment or item of footwear from raw components to point of purchase. Armed with such information, consumers, regulators and companies themselves can check claims about sustainability and ethical production.

Next steps

It is urgent that the cotton sector adopt practices that protect and restore our planet's resources.

Climate change is already here; there are already cotton producing regions where farmers are struggling to

produce cotton, either due to the scarcity of water or the change in rain patterns with longer dry periods. It is no longer about producing more. Textile Exchange believes we need to move to a place where better practices protect what we already have. Without immediate action to address production, we are rapidly heading toward an unsustainable ecosystem.

To shift from chemically intensive agricultural practices to preferred production systems requires further acceleration of market support as well as continuous improvement in terms of the beneficial impacts of all cotton grown. It also needs the commitment, action and collaboration of multiple stakeholders.

To support more rapid adoption of best practices, Textile Exchange is revising its standards to not only include general production and labelling criteria, but also criteria that will drive progress toward our Climate+ goals. This 'unified standard' will address all four areas of our strategy. Pilot programs are in place for summer 2022.

The '+' in 'Climate+' is an acknowledgment that Textile Exchange cannot achieve these goals alone. Only through strong partnerships can we accelerate the adoption of preferred fibres, close the innovation gap and enable a reformed approach to growth. Meeting our goals will require a combination of deep emissions cuts, nature-based mitigation options, adaptation strategies and financial investments to back all these critical shifts.

Textile Exchange is actively working with our 790+ members toward setting a direction of travel toward organic and regenerative practices, driving investments in traceability and impact to deliver to the Climate+ goals. This will be the focus of our [annual conference](#) in Colorado Springs, Colorado, from 14-18 November. There, we will host our [organic and sustainable cotton roundtables](#), bringing together stakeholders pre-competitively to figure out ways to make progress. Join us!

For additional information, please contact Rui Fontoura, Fiber & Materials Strategy Lead: Cotton & Crops Rui@TextileExchange.org



Textile Exchange



Trust US Cotton Protocol - Setting a New Standard in Sustainable Cotton Production

Janice Walters



U.S. COTTON
TRUST PROTOCOL®

In the past decade, there has been an increasingly urgent understanding of the impact of human behaviour on the planet, with governments, intergovernmental organisations, corporations, the third-party sector, consumers and individuals all facing a collective responsibility to act.

According to the United Nations Economic Commission for Europe, the fashion and textiles industry produces nearly 20% of global wastewater and emits approximately 10% of global carbon emissions.

Growing awareness of this impact amongst consumers has raised concerns around the sustainability profile of products and now increasingly influences consumer spending. In fact, recent research found that two-thirds of consumers would pay more for sustainably produced goods while three out of four said they place a higher value on sustainability than on brand name¹.

The US Cotton Trust Protocol

Launched in 2020, the US Cotton Trust Protocol is an industry-wide initiative designed to set a new standard in sustainable cotton production where full transparency is a reality and continuous improvement to reduce their environmental footprint is the central goal.

It is the only system that provides quantifiable, verifiable goals and measurement and drives continuous improvement in six key sustainability metrics: land use, soil carbon, water management, soil loss, greenhouse gas emissions and energy efficiency. It is also the world's first sustainable cotton fibre to offer article-level supply chain transparency to all members.

Its core values focus on US cotton's legacy of authenticity, innovation and excellence, environmental stewardship, caring of people, and personal and corporate integrity with a Theory of Change that is grounded in science-based measurement and feedback.

Programme Origins

The programme was specifically motivated by an appreciation of two key trends:

1. An awareness of the hard work and commitment of many US cotton growers to the highest environmental and labour standards, and
2. An understanding of the growing expectation of brands and retailers to not only provide goods that have highly transparent supply chains and a robust sustainability profile, but to also provide the evidence.

The Trust Protocol sets out to bring these stakeholders together to:

- Share the work of U.S. cotton growers,
- Show the world their capability, and
- Aid them to build on their success to support the US cotton industry to become a world leader in more sustainable cotton.

The programme is overseen by a multi-stakeholder Board of Directors comprised of brands and retailers, civil society and independent sustainability experts as well as growers, ginnerers, merchants, wholesalers and co-operatives, mills and cottonseed handlers.

Measurable, Verifiable Data and Worker Well-being



¹ First Insight: The Sustainability Disconnect Between Consumers & Retail Executives; 2022

Since 1985, the US cotton industry has made significant strides in reducing its environmental impact, decreasing water use, soil loss, greenhouse gas emissions and energy use while increasing soil carbon and land use.

The Trust Protocol's environmental metrics are aligned with the 2025 National Goals for Continuous Improvement which added a sixth metric — soil carbon, a key indicator of soil health — and designed to measure a specific environmental outcome, providing meaningful feedback to the grower each year.

Through the pursuit of more sustainable cotton production and continuous improvement, growers can improve the agronomics and profitability of their farm. For example: Improving soil health equates to better soil structure and nutrient availability; reducing nitrogen inputs lowers greenhouse gas emissions.

The Trust Protocol is integrated with the Fieldprint Platform from Field to Market® which grower members can use to compare their results anonymously to those in their state, and even nation-wide, to help identify opportunities for improvement and implement required changes to drive efficiencies.

The programme's 2020/21 aggregate pilot data received from 300 grower members in 16 states and 147 counties found improvements were made against all six key sustainability metrics.

Worker health and safety are also top priorities for the US cotton industry and the Trust Protocol contains robust criteria for labour practices supported by a grower questionnaire on worker rights and well-being.

Areas of focus include fair labour and child labour as well as safety and hygiene. If any individual registers for the Trust Protocol but does not adhere to the worker well-being principles, they are denied membership.

While labour and safety practices in the US cotton industry are regulated by multiple federal

and state agencies, the programme ensures compliance through third-party verification

processes. This enables growers to monitor success, ensures the grower questionnaire remains applicable, allows growers to understand any gaps between self-declaration and actual data, and provides brands and retailers the assurances needed to confidently source US cotton.

Article-level Supply Chain Transparency



Following the strong foundation at the farm level, the programme wanted to maintain the highest level of integrity in the supply chain stage.

The Trust Protocol collaborated with TextileGenesis to create the Protocol Consumption Management Solution (PCMS), making the Trust Protocol the world's first sustainable cotton fibre to offer its members article-level transparency across the supply chain. It is a system that harnesses blockchain technology to record and verify the movement of US cotton along the entire supply chain, beginning at the gin.

After the cotton is received from a Trust Protocol grower's farm and as this fibre is ginned, the programme captures each bale's unique Permanent Bale Identification number and gin weight, verifying it against a USDA master list for authenticity and duplication. Once verified, one Protocol Cotton Consumption Unit is created for each kilogram of Trust Protocol Cotton.

As the cotton moves through the process, the PCMS creates a transparency map that provides the authenticated origin of US cotton, along with the names and locations of the Trust Protocol mill and manufacturer members that were involved in all parts of the production process, into the finished products that are shipped to the brand or retailer.

The Protocol Cotton Consumption Units are then claimable by brand and retail members in volumes equivalent to consumption of Trust Protocol Cotton in their finished products.

Unlike any other solution on the market today, the PCMS offers article-specific, double verification of every transaction by ensuring availability of Protocol-eligible materials and by verifying invoices and shipping documents. The unbroken chain of custody and related document trail captured in the PCMS assures supply chain transactions, so brands and retailers know exactly where their products have been.



Growth and Results

The programme is aligned with the UN Sustainable Development Goals, and since its launch 18 months ago, has been recognized by Textile Exchange and Forum for the Future. It is part of the Sustainable Apparel Coalition, Cotton 2025 Sustainable Cotton Challenge, Cotton 2040 and Cotton Up initiatives. It has also been recognised and published in the ITC Standards Map.

The programme has welcomed more than 700 global brand, retailer, mill and manufacturer members such as Levi Strauss, J.Crew, Gap, as well as apparel manufacturer Gildan. Regions and countries represented include Pakistan, Bangladesh, India, China, Latin America, Thailand, Indonesia, Vietnam, Turkey, Korea, Japan, Taiwan, the United States and Western Europe.

Additionally, it was recently announced that grower participation for the 2021/22 crop doubled since the programme's pilot last year, now representing roughly 1.1 million acres of US cotton.

The initiative will also maintain a focus on innovation, working to understand the latest technologies and techniques to further environmental goals — with people and personal and corporate integrity remaining at the forefront.

Recent changes are encouraging — the growing appreciation of the urgency of our collective environmental challenges, the enthusiasm of people from all walks of life to play their part in leading more sustainable lives, and the commitment of industry to lead change.

The Trust Protocol will keep pursuing its ambitious agenda and looks forward to the work and collaboration that lies ahead.

Learn more at TrustUSCotton.org



Mission, Vision and a Look Ahead

The Trust Protocol remains steadfast in its mission to bring quantifiable, verifiable goals and measurement to the key sustainability metrics of US cotton production with a vision where full transparency is a reality and continuous improvement to reduce environmental impact is the central goal.

Crucial to programme success will be continuing to support growers as they work towards the US cotton industry's 2025 National Goals and measure progress to ensure actions will lead to an improved environmental footprint.



Responsible Cotton Cultivation in Argentina

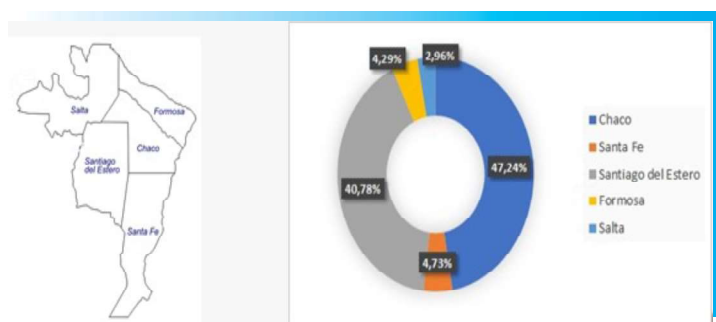
Miguel Kolar

AAPA Technical Consultant

The Argentinian Association of Cotton Producers (AAPA) launched ARGENTINE RESPONSIBLE COTTON (ARA, <http://www.algodonresponsable.com.ar/>), in a strategic alliance with the Argentinian No-till Farmers Association (APRESID), the first national body to certify responsible practices in the production of cotton cultivation.

The programme began with the vision of demonstrating to society that Argentinian cotton producers develop our activity within the legal framework, complying with all the requirements of national and international standards.

AAPA has partners in the five top cotton-producing provinces in Argentina: Chaco, Santiago del Estero, Santa Fe, Salta and Formosa. We currently have 123 active members, with producers planting between 500 and 15,000 hectares (ha) of cotton each. AAPA members generally manage the largest area, accounting for more than 25% of Argentina's cotton area, which is 480,000 ha annually.



Cotton Area by Province

By implementing the ARA seal, certified companies introduce a system of continuous improvement designed to make the entire company efficient under a systemic and integrated approach, aiming to obtain management indicators for environmental, social and production factors. To earn the seal, producers must have a traceability system for all activities carried out when producing cotton and a record of the inputs used in the processes.

However, only medium and large companies are required to provide this level of information. Therefore, when the ARA seal was launched in 2021, only seven companies

were in position to be certified by the audit, and only two of them — the largest ones — obtained the certification for 15,000 ha of ARA cotton. The others are working on the improvements proposed by the auditors in the hope that all companies involved in the first audit will achieve certification this year.

AAPA is currently working to get 20% of our partners, who would account for 70,000 to 80,000 ha (15% of Argentina's area), can be audited for the ARA seal. At the same time, we continue to work with smallholders, planting between 100 to 1,000 ha, so they begin to record and trace their tasks and thus have the necessary information for an ARA audit.

The seal guarantees responsibility in all sectors in which we interact when producing cotton, with particular emphasis on social, environmental, and productive aspects. The following indicators are taken into account:

1) Social Indicators

General Requirements: general, fiscal and tax information of the company that certifies and of companies that provide auditing services such as field geolocation.

Sustainable Labour Practices: Argentina adheres to the norms of the International Labor Organization (ILO). It requires companies to promote social justice and dignified work; adequate housing, clothing and pay, and fair working conditions, avoiding discrimination, prohibiting child labour and training staff on health and safety issues.

Link with the Community: The producer must establish a communication channel with the community to address any complaints or concerns.

2) Environmental Indicators

Responsible Use and Conservation of Water Resources: The production carried out on the land to be certified should not affect existing water resources. Therefore, the recommendation is to monitor the quality of the water table and permanent surface water (rivers, streams, lakes, lagoons, etc.). Permanent surface water must be identified and accounted for in the plan set-up. Furthermore, the suggestion is to conduct a risk

assessment analysis of the activities that could impact water courses and/or groundwater.

Sustainable Environmental Practices: Companies must comply with the Forest Law 26.331, which has been controlling the deforestation of native forests since 2009, and the General Environment Law 25.675, which promotes the preservation of natural resources, ensuring biological diversity and preventing the harmful effects that anthropic activities could have on the environment to facilitate ecological, economic and social development sustainability. The producer cannot burn residues; they must be stored in tanks that only certified companies can remove, recycle and/or neutralise residues to avoid contamination of the environment. It also promotes the use of biological corridors in the fields so the native fauna can move around. Hunting animals is prohibited.

3) Production Indicators

Efficient and Responsible Management of Plant Health Products: The producer should develop a documented procedure for applying plant health products that include all safety aspects and all criteria for an efficient application. It must consist of the calibration and regulation of the machinery and application process (consider climatic conditions, speed of movement and application criteria according to the type of product).

Integrated Management of Weeds, Diseases, Insects and Other Pests: The producer should have a protocol for the control of any pest that affects the crop, making sure to implement a strategy that safeguards human and environmental health, using integrated management practices for chemical (plant health) and cultural control (sowing date, row distance and no-till system, among others) that provide a favourable environment for the proliferation of a specific pest, thus preventing excessive use of inputs.

Non-removal and Presence of Cover: The producer must ensure that soil management does not cause erosion or other harmful effects. Management practices that negatively impact the biological and ecological sustainability of the soil system (any tillage) should be avoided to maintain or improve its coverage and quality, as well as to increase yields and land-use intensity. For this, it is necessary to measure the percentage of soil stubble cover before planting and develop a crop rotation plan for intercropping grasses and broadleaves, soil analysis, nutrient balance and a fertilisation strategy to maintain soil productivity.

Fibre Quality: The recommendation is to have a protocol to determine the optimal time for defoliation; regulation and maintenance of the harvester; harvest humidity; transportation of cotton to the gin; and control of ginning to avoid any damage that may occur to the fibre due to poor machinery or processes and non-ideal conditions.

ARA aligns with the most recognised international standards such as the Better Cotton Initiative (BCI), with which we constantly interact for approvals and

certifications. It also requires that the production system use practices that preserve the soil health, such as no-till farming. In this system, we plant without removing the soil from the stubble left by the previous crop, avoiding wind and rain erosion. In short, the idea is to treat the land the way it naturally evolves.



No-till Cotton

We are aware of the environmental impact of agricultural production in general, but at this point, Argentina is one of the most responsible countries. About 92% of the farm surface is under no-till farming. Inputs are rationally used and there has been massive adoption of selective herbicide application equipment — a technology that detects weeds in the area through sensors — so herbicides are only applied where they are needed, reducing the use of inputs by more than 80% versus a traditional applications.



Selective Herbicide Application

This quality seal will allow Argentina to position its production worldwide, at a time when there is growing pressure from consumers and the general public.

Argentinian Responsible Cotton's mission is to integrate the entire cotton textile value chain, and to achieve that, companies in the industrial sector must share the same values that we have: responsible and sustainable cotton production.

It is the second year that we are in the market with this seal and we have already got the attention of spinning and apparel companies.

Our great challenge is to continue adding producers and companies to this program, which is gaining momentum in the Argentinian market, and offer more ARA fibre to the world in the coming years. This way, consumers can choose cotton fibre garments produced with a minimal inputs and great care for the environment, thanks to Argentinian Responsible Cotton.



Supply and Distribution of Cotton

	2017/18	2018/19	2019/20	2020/21 est.	2021/22 proj.	2022/23 proj.
	million metric tonnes					
Beginning stocks						
World Total	18.88	19.43	19.34	22.12	20.61	20.37
China	10.35	9.03	8.88	9.02	9.30	8.99
USA	0.60	0.82	0.83	1.23	0.26	0.52
Production						
World Total	27.00	25.98	26.27	24.37	25.91	26.21
China	5.89	6.04	5.80	5.91	5.73	5.74
India	6.35	5.66	6.20	6.02	5.37	5.37
USA	4.56	4.00	4.34	3.18	3.81	3.59
Brazil	2.01	2.78	3.00	2.36	2.82	2.80
Pakistan	1.80	1.67	1.46	0.96	1.27	1.58
Uzbekistan	0.96	0.64	0.53	1.03	0.94	0.94
Others	5.44	5.20	4.94	4.92	5.97	6.20
Consumption						
World Total	26.35	26.01	23.05	25.66	26.14	26.08
China	8.50	8.25	7.23	8.40	8.31	8.24
India	5.42	5.40	4.45	5.70	5.59	5.73
Pakistan	2.35	2.36	2.34	2.15	2.45	2.40
Europe and Turkey	1.73	1.82	1.60	1.70	1.74	1.77
Bangladesh	1.66	1.58	1.50	1.64	1.73	1.73
Vietnam	1.51	1.51	1.45	1.52	1.68	1.60
Brazil	0.68	0.73	0.57	0.69	0.70	0.66
USA	0.70	0.63	0.47	0.52	0.56	0.51
Others	3.80	3.73	3.44	3.35	3.39	3.43
Exports						
World Total	9.14	9.28	9.21	10.62	10.09	10.04
USA	3.64	3.37	3.47	3.63	3.00	3.18
Brazil	0.91	1.31	1.95	2.40	2.21	1.96
CFA Zone	1.06	1.16	1.07	1.19	1.19	1.34
Australia	0.85	0.79	0.30	0.34	0.81	1.17
India	1.13	0.76	0.70	1.33	1.10	0.62
Uzbekistan	0.22	0.16	0.10	0.01	0.01	0.01
Imports						
World Total	9.04	9.22	8.77	10.40	10.09	10.04
China	1.32	2.10	1.60	2.80	2.30	2.29
Bangladesh	1.67	1.54	1.50	1.69	1.72	1.75
Vietnam	1.52	1.51	1.41	1.55	1.70	1.66
Turkey	0.96	0.79	1.02	1.16	1.17	1.20
Indonesia	0.77	0.66	0.55	0.50	0.54	0.54
Trade Imbalance †	-0.10	-0.06	-0.44	-0.22	0.00	0.00
Stocks Adjustment ‡	0.00	0.00	-0.01	0.00	0.00	0.00
Ending Stocks						
World Total	19.43	19.34	22.12	20.61	20.37	20.51
China	9.03	8.88	9.02	9.30	8.99	8.75
USA	0.82	0.83	1.23	0.26	0.52	0.42
Ending Stocks/Mill Use (%)						
World less China *	58.29	58.86	82.72	65.46	63.82	65.88
China **	106.27	107.69	124.82	110.77	108.17	106.24
Cotlook A-Index***	87.98	84.35	71.33	84.96		

Note:

Seasons begin on August 1

† The inclusion of linters and waste, changes in weight during transit, differences in reporting periods and measurement error account for differences between world imports and exports.

‡ Difference between calculated stocks and actual; amounts for forward seasons are anticipated.

* World-less-China's ending stocks divided by world-less-China's mill use, multiplied by 100.

** China's ending stocks divided by China's mill use, multiplied by 100.

*** US cents per pound. Average price for a given season, August 1 to July 31 or average-to-date.



2020/21 Supply and Use of Cotton by Country

	Area	Yield	Production	Begin Stocks	Imports	Consumption	Exports	End Stocks	S/U*	S/MU**
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
CANADA	0.00	0.0	0.00	0.08	0.37	0.19	0.01	0.25	1.27	1.31
CUBA	4.05	271.1	1.10	0.64	2.20	3.30	0.00	0.64	0.19	0.19
DOM. REP.	0.00	0.0	0.00	0.46	0.97	0.97	0.00	0.46	0.47	0.47
MEXICO	144.70	1,584.0	229.20	138.15	202.00	297.00	106.30	166.05	0.41	0.56
USA	3,347.00	950.4	3,180.95	1,227.67	0.24	522.54	3,625.62	260.70	0.06	0.50
North America	3,502.21	974.4	3,412.55	1,367.35	206.25	825.10	3,732.05	429.00	0.09	0.52
EL SALVADOR	0.00	0.0	0.00	6.75	36.06	27.34	0.24	15.24	0.55	0.56
GUATEMALA	0.00	0.0	0.00	6.37	26.82	27.37	0.00	5.82	0.21	0.21
HONDURAS	0.10	318.3	0.03	0.27	0.00	0.00	0.00	0.30	0.00	0.00
NICARAGUA	0.48	550.3	0.27	0.07	0.00	0.27	0.01	0.06	0.20	0.21
Central America	0.74	515.1	0.38	13.48	68.17	60.25	0.36	21.43	0.35	0.36
ARGENTINA	410.00	845.1	346.50	683.65	0.00	110.00	122.58	797.57	3.43	7.25
BOLIVIA	4.31	640.7	2.76	1.83	0.09	3.45	0.00	1.23	0.36	0.36
BRAZIL	1,370.60	1,718.7	2,355.70	2,827.11	2.69	690.00	2,398.00	2,097.50	0.68	3.04
CHILE	0.00	0.0	0.00	0.02	0.31	0.05	0.00	0.28	5.96	5.96
COLOMBIA	18.45	846.7	15.62	9.61	15.21	27.00	0.00	13.44	0.50	0.50
ECUADOR	1.23	439.6	0.54	2.76	8.15	9.13	0.00	2.32	0.25	0.25
PARAGUAY	9.90	419.9	4.16	1.33	1.66	1.91	4.97	0.26	0.04	0.14
PERU	23.40	818.7	19.16	24.60	43.15	60.86	0.47	25.57	0.42	0.42
URUGUAY	0.00	0.0	0.00	0.00	0.00	0.01	0.00	0.00	0.17	0.17
VENEZUELA	14.18	391.8	5.56	3.12	4.63	10.19	0.00	3.12	0.31	0.31
South America	1,852.08	1,484.8	2,750.00	3,554.03	75.89	912.60	2,526.03	2,941.30	0.86	3.22
ALGERIA	0.00	0.0	0.00	0.06	0.85	0.85	0.00	0.06	0.07	0.07
EGYPT	76.80	770.2	59.15	33.79	101.79	104.86	71.32	18.55	0.11	0.18
MOROCCO	1.00	1,000.2	1.00	2.31	8.75	5.59	0.00	6.47	1.16	1.16
SUDAN	180.00	722.3	130.02	48.98	0.00	18.03	104.23	56.74	0.46	3.15
TUNISIA	0.00	0.0	0.00	2.76	12.35	12.35	0.00	2.76	0.22	0.22
Northern Africa	257.80	737.7	190.17	87.89	123.74	141.68	175.56	84.57	0.27	0.60
BENIN	614.30	515.3	316.55	152.99	0.00	1.56	316.98	151.00	0.47	96.80
BURKINA FASO	556.47	386.4	215.00	137.98	0.00	5.00	210.00	137.98	0.64	27.60
CAMEROON	224.82	653.9	147.00	60.80	0.00	1.90	141.05	64.85	0.45	34.13
CENT. AFR. REP.	34.06	252.1	8.59	3.86	0.00	0.00	8.59	3.86	0.45	0.00
CHAD	233.61	216.3	50.53	31.72	0.00	1.02	46.00	35.23	0.75	34.57
COTE D'IVOIRE	448.87	529.6	237.71	129.89	0.02	2.04	256.65	108.93	0.42	53.39
GUINEA	12.63	286.9	3.62	1.61	0.00	0.00	3.60	1.63	0.45	0.00
MADAGASCAR	20.20	0.0	0.00	3.23	0.00	0.00	2.30	0.93	0.00	0.00
MALI	164.83	379.8	62.61	100.59	0.00	2.00	148.68	12.52	0.08	6.26
NIGER	4.77	470.4	2.24	0.24	0.00	0.96	1.28	0.24	0.11	0.25
SENEGAL	17.55	447.9	7.86	1.91	0.00	0.00	9.70	0.07	0.01	0.00
TOGO	100.05	272.6	27.27	37.84	0.00	0.00	52.83	12.27	0.23	0.00
Francophone Africa	2,432.17	443.6	1,078.99	662.64	0.02	14.48	1,197.66	529.52	0.44	36.58
ANGOLA	2.84	307.6	0.87	0.29	0.00	0.61	0.26	0.29	0.34	0.48
ETHIOPIA	82.33	741.2	61.03	24.40	0.06	54.99	0.00	30.49	0.55	0.55
GHANA	14.83	375.4	5.57	12.05	1.30	1.30	5.57	12.05	1.75	9.24
KENYA	40.00	100.0	4.00	5.43	0.96	8.00	0.20	2.19	0.27	0.27
MALAWI	83.83	248.9	20.87	16.32	0.00	3.00	22.57	11.61	0.45	3.87
MOZAMBIQUE	133.65	165.5	22.12	17.70	0.00	1.30	27.07	11.45	0.40	8.81
NIGERIA	264.00	341.6	90.18	14.60	0.87	29.74	35.75	40.16	0.61	1.35
SOUTH AFRICA	16.31	932.0	15.20	48.92	12.70	17.18	23.11	36.54	0.91	2.13
TANZANIA	622.00	213.8	133.00	40.42	0.00	45.00	65.00	63.42	0.58	1.41
UGANDA	101.00	425.7	43.00	31.99	0.00	4.30	38.70	31.99	0.74	7.44
CONGO, DR	0.00	0.0	0.00	2.18	7.17	7.17	0.00	2.18	0.30	0.30
ZAMBIA	135.80	189.7	25.77	34.70	0.05	1.79	13.21	45.50	3.03	25.42
ZIMBABWE	239.62	229.6	55.03	34.02	0.00	2.81	52.21	34.02	0.62	12.10
Southern Africa	1,756.97	273.7	480.86	287.80	42.18	198.33	285.44	327.08	0.68	1.65
KAZAKHSTAN	125.80	634.4	79.81	17.90	0.48	13.22	52.42	32.54	0.50	2.46
KYRGYZSTAN	14.10	855.4	12.06	5.19	3.00	0.96	14.10	5.19	0.34	5.41
TAJIKISTAN	196.46	537.8	110.93	45.02	0.00	14.82	96.12	45.02	0.41	3.04
TURKMENISTAN	555.90	519.4	288.71	97.60	0.00	142.81	120.89	122.60	0.46	0.86
UZBEKISTAN	1,034.00	994.2	1,028.00	308.05	0.00	796.13	11.87	528.05	0.65	0.66
Central Asia	1,926.26	788.8	1,519.51	473.76	3.48	967.93	295.40	733.41	2.36	0.76
ARMENIA	0.00	0.0	0.00	0.08	0.22	0.22	0.00	0.08	0.00	0.00
AUSTRIA	0.00	0.0	0.00	0.63	3.74	2.87	0.02	1.48	0.51	0.52



2020/21 Supply and Use of Cotton by Country (continued)

	Area	Yield	Production	Begin Stocks	Imports	Consumption	Exports	End Stocks	S/U*	S/MU**
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
AZERBAIJAN	100.00	677.2	67.72	50.60	0.00	29.48	38.24	50.60	0.75	1.72
BELARUS	0.00	0.0	0.00	3.51	7.14	7.34	0.20	3.11	0.41	0.42
BELGIUM	0.00	0.0	0.00	0.75	6.26	4.33	1.07	1.60	0.30	0.37
BULGARIA	0.79	323.7	0.26	2.21	2.57	2.21	0.01	2.83	1.28	1.28
CZECH REP.	0.00	0.0	0.00	0.34	1.16	1.02	0.00	0.48	0.47	0.47
DENMARK	0.00	0.0	0.00	0.00	0.05	0.04	0.02	0.00	0.00	0.05
ESTONIA	0.00	0.0	0.00	0.00	2.64	2.64	0.11	0.00	0.00	0.00
FINLAND	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANCE	0.00	0.0	0.00	1.80	8.88	7.89	0.81	1.98	0.23	0.25
GERMANY	0.00	0.0	0.00	4.73	15.29	14.67	2.29	3.06	0.18	0.21
GREECE	286.24	1,121.2	320.93	172.66	5.01	16.08	354.96	127.56	0.34	7.93
HUNGARY	0.00	0.0	0.00	0.02	0.33	0.00	0.38	0.00	0.00	0.00
IRELAND	0.00	0.0	0.00	0.02	0.07	0.15	0.00	0.00	0.03	0.03
ITALY	0.00	0.0	0.00	6.16	29.34	25.59	1.83	8.08	0.29	0.32
LATVIA	0.00	0.0	0.00	0.01	2.22	0.20	0.26	1.76	3.80	8.82
LITHUANIA	0.00	0.0	0.00	0.10	0.00	0.00	0.00	0.10	0.00	0.00
MOLDOVA	0.00	0.0	0.00	0.74	2.18	2.18	0.00	0.74	0.34	0.34
NETHERLANDS	0.00	0.0	0.00	0.45	1.79	2.59	0.07	0.00	0.00	0.00
NORWAY	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POLAND	0.00	0.0	0.00	0.49	3.63	3.77	0.12	0.23	0.06	0.06
PORTUGAL	0.00	0.0	0.00	6.46	33.76	30.50	0.91	8.81	0.28	0.29
ROMANIA	0.00	0.0	0.00	0.04	0.18	0.18	0.03	0.00	0.00	0.00
RUSSIA	0.02	1,759.0	0.04	10.43	26.59	19.43	0.56	17.05	0.85	0.88
SLOVAK REP.	0.00	0.0	0.00	0.27	0.11	0.00	0.00	0.38	0.00	0.00
SPAIN	61.64	1,040.9	64.16	30.21	4.15	2.78	80.13	31.61	0.47	11.37
SWEDEN	0.00	0.0	0.00	0.01	0.01	0.01	0.00	0.00	0.18	0.23
SWITZERLAND	0.00	0.0	0.00	0.16	0.37	0.46	0.09	0.00	0.00	0.01
UKRAINE	0.00	0.0	0.00	0.44	0.70	1.64	0.00	0.00	0.00	0.00
UNITED KINGDOM	0.00	0.0	0.00	0.04	0.20	0.06	0.06	0.12	1.02	2.05
FORMER YUGOSLAVIA	0.00	0.0	0.00	6.01	7.00	6.81	1.00	5.20	0.66	0.76
Europe	448.69	1,009.8	453.10	299.30	165.36	184.94	483.18	266.80	0.40	1.44
Including EU-27	348.67	1,105.2	385.35	227.39	128.09	123.53	431.49	189.90	0.34	1.54
CHINA	3,170.00	1,864.3	5,910.00	9,024.71	2,800.08	8,400.00	30.00	9,304.79	1.10	1.11
HONG KONG	0.00	0.0	0.00	29.68	0.69	0.39	0.47	29.51	34.08	75.09
AUSTRALIA	297.00	2,047.1	608.00	0.07	0.00	1.59	340.41	266.07	0.78	167.48
INDONESIA	4.54	621.1	2.82	95.45	502.27	503.78	1.31	95.45	0.19	0.19
JAPAN	0.00	0.0	0.00	6.62	32.78	39.00	0.21	0.19	0.00	0.00
KOREA, D.R.	0.00	0.0	0.00	1.18	4.59	5.00	0.00	0.77	0.15	0.15
KOREA, REP.	0.00	0.0	0.00	53.94	121.01	137.64	0.54	36.77	0.27	0.27
MALAYSIA	0.00	0.0	0.00	13.27	136.98	81.50	55.48	13.27	0.10	0.16
PHILIPPINES	0.01	573.2	0.01	3.15	8.48	6.72	0.02	4.89	0.73	0.73
SINGAPORE	0.00	0.0	0.00	0.33	0.06	0.00	0.04	0.34	7.92	0.00
TAIWAN	0.00	0.0	0.00	40.38	56.71	85.10	5.13	7.10	0.08	0.08
THAILAND	1.00	1,500.0	1.50	51.06	130.16	152.50	0.16	30.06	0.20	0.20
VIETNAM	1.00	720.0	1.50	165.44	1,552.31	1,518.21	0.00	201.03	0.13	0.13
Eastern Asia	303.55	2,022.1	613.83	430.88	2,545.35	2,531.04	403.31	655.96	0.22	0.26
AFGHANISTAN	36.40	386.7	14.08	2.86	0.00	4.22	9.85	2.86	0.20	0.68
BANGLADESH	45.90	772.1	35.44	457.71	1,694.54	1,635.06	0.00	552.63	0.34	0.34
INDIA	13,007.00	462.7	6,018.87	3,429.93	183.70	5,698.25	1,326.76	2,607.49	0.37	0.46
MYANMAR	239.09	633.8	151.54	88.17	17.34	162.89	16.00	78.17	0.44	0.48
PAKISTAN	2,000.00	480.2	960.36	665.61	1,212.36	2,153.85	9.76	674.72	0.31	0.31
SRI LANKA	0.00	0.0	0.00	0.20	0.17	0.80	0.00	0.00	0.01	0.01
Southern Asia	15,331.30	468.5	7,182.43	4,645.10	3,108.37	9,657.46	778.08	3,916.50	0.36	0.41
IRAN	98.00	816.3	80.00	49.03	85.76	150.00	0.02	64.76	0.43	0.43
IRAQ	8.64	361.9	3.13	1.91	4.92	8.05	0.00	1.91	0.24	0.24
ISRAEL	4.43	1,693.0	7.50	2.27	0.00	0.00	8.20	1.57	0.19	0.00
SYRIA	24.58	972.9	23.91	8.63	0.00	14.95	8.40	9.19	0.39	0.61
TURKEY	359.20	1,827.0	656.25	1,170.68	1,160.00	1,577.18	127.28	1,282.47	0.75	0.81
Sub total	498.09	1,550.0	772.06	1,235.39	1,260.54	1,762.27	143.90	1,361.83	0.71	0.77
WORLD TOTAL	31,497.68	773.7	24,370.51	22,115.41	10,401.13	25,663.74	10,619.47	20,605.44	0.80	0.80

Note:

Subtotals and total include countries not shown..

* Ending stocks divided by consumption plus exports.

** Ending stocks divided by consumption.



2021/22 Supply and Use of Cotton by Country

	Area	Yield	Production	Begin Stocks	Imports	Consumption	Exports	End Stocks	S/U*	S/MU**
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
CANADA	0.00	0.0	0.00	0.25	0.17	0.17	0.01	0.24	1.36	1.41
CUBA	4.05	272.4	1.10	0.64	2.20	3.30	0.00	0.64	0.19	0.19
DOM. REP.	0.00	0.0	0.00	0.46	0.97	0.97	0.00	0.46	0.47	0.47
MEXICO	145.42	1,591.9	231.49	166.05	177.75	302.94	106.30	166.05	0.41	0.55
USA	4,156.12	917.8	3,814.53	260.70	0.24	555.20	3,000.60	519.68	0.15	0.94
North America	4,312.06	938.9	4,048.44	429.00	181.43	863.68	3,107.03	688.16	0.17	0.80
EL SALVADOR	0.00	0.0	0.00	15.24	27.48	27.48	0.24	15.00	0.54	0.55
GUATEMALA	0.00	0.0	0.00	5.82	27.51	27.51	0.00	5.82	0.21	0.21
HONDURAS	0.10	319.9	0.03	0.30	0.00	0.00	0.00	0.33	0.00	0.00
NICARAGUA	0.48	550.3	0.27	0.07	0.00	0.27	0.01	0.06	0.20	0.21
Central America	0.58	508.8	0.29	21.43	55.00	55.25	0.26	21.22	0.38	0.38
ARGENTINA	478.12	693.3	331.48	797.57	0.00	110.55	121.58	896.92	3.86	8.11
BOLIVIA	4.31	647.1	2.79	1.23	0.09	3.45	0.00	0.65	0.19	0.19
BRAZIL	1,600.40	1,764.8	2,824.30	2,097.50	2.69	700.00	2,210.29	2,014.20	0.69	2.88
CHILE	0.00	0.0	0.00	0.28	0.31	0.05	0.00	0.55	11.51	11.51
COLOMBIA	18.45	855.1	15.78	13.44	11.22	27.00	0.00	13.44	0.50	0.50
ECUADOR	1.23	443.9	0.55	2.32	8.15	9.13	0.00	1.88	0.21	0.21
PARAGUAY	9.90	424.1	4.20	0.26	1.66	0.91	4.97	0.23	0.04	0.26
PERU	23.40	826.9	19.35	25.57	43.15	60.25	0.47	27.35	0.45	0.45
URUGUAY	0.00	0.0	0.00	0.00	0.00	0.01	0.00	0.01	1.38	1.38
VENEZUELA	14.18	395.7	5.61	3.12	4.63	10.09	0.00	3.28	0.33	0.33
South America	2,150.00	1,490.3	3,204.05	2,941.30	71.90	921.44	2,337.32	2,958.52	0.91	3.21
ALGERIA	0.00	0.0	0.00	0.06	0.85	0.85	0.00	0.06	0.07	0.07
EGYPT	84.00	833.3	70.00	18.55	88.76	102.76	56.00	18.55	0.12	0.18
MOROCCO	1.00	1,010.2	1.01	6.47	5.31	5.42	0.00	7.37	1.36	1.36
SUDAN	180.00	729.6	131.32	56.74	0.00	18.03	127.47	42.55	0.29	2.36
TUNISIA	0.00	0.0	0.00	2.76	2.35	2.00	0.00	3.11	1.55	1.55
Northern Africa	265.00	763.5	202.33	84.57	97.27	129.06	183.47	71.64	0.23	0.56
BENIN	638.95	479.5	306.40	151.00	0.00	2.00	290.00	165.40	0.57	82.70
BURKINA FASO	595.87	348.5	207.66	137.98	0.00	5.44	200.00	140.20	0.68	25.77
CAMEROON	231.07	569.5	131.61	64.85	0.00	1.90	131.50	63.06	0.47	33.19
CENT. AFR. REP.	32.70	254.6	8.33	3.86	0.00	0.00	8.44	3.75	0.44	0.00
CHAD	292.54	183.1	53.57	35.23	0.00	1.02	60.00	27.78	0.46	27.26
COTE D'IVOIRE	475.35	454.1	215.85	108.93	0.02	3.06	212.79	108.94	0.50	35.60
GUINEA	12.63	288.4	3.64	1.63	0.00	0.00	3.63	1.64	0.45	0.00
MADAGASCAR	19.59	0.0	0.00	0.93	0.00	0.00	0.00	0.93	0.00	0.00
MALI	720.09	431.7	310.85	12.52	0.00	2.00	259.20	62.17	0.24	31.08
NIGER	4.77	472.8	2.25	0.24	0.00	0.96	1.30	0.24	0.11	0.25
SENEGAL	18.57	469.0	8.71	0.07	0.00	0.00	4.86	3.92	0.81	0.00
TOGO	193.00	109.8	21.19	12.27	0.00	0.00	20.00	13.46	0.67	0.00
Francophone Africa	3,235.14	392.6	1,270.05	529.52	0.02	16.38	1,191.73	591.49	0.49	36.12
ANGOLA	2.84	310.6	0.88	0.29	0.00	0.61	0.27	0.29	0.33	0.48
ETHIOPIA	83.16	745.0	61.95	30.49	0.06	55.54	0.00	36.96	0.67	0.67
GHANA	15.28	377.3	5.76	12.05	1.30	1.30	5.76	12.05	1.71	9.24
KENYA	42.00	100.5	4.22	2.19	2.82	8.04	0.00	1.19	0.15	0.15
MALAWI	86.34	250.2	21.60	11.61	0.00	3.00	18.60	11.61	0.54	3.87
MOZAMBIQUE	137.66	166.3	22.90	11.45	0.00	1.30	21.60	11.45	0.50	8.81
NIGERIA	271.92	343.3	93.35	40.16	0.87	29.74	64.48	40.16	0.43	1.35
SOUTH AFRICA	14.00	936.7	13.12	36.54	12.70	17.18	8.64	36.54	1.42	2.13
TANZANIA	641.00	220.2	141.00	63.42	0.00	45.00	96.00	63.42	0.45	1.41
UGANDA	104.03	427.9	44.51	31.99	0.00	4.30	40.21	31.99	0.72	7.44
CONGO, DR	0.00	0.0	0.00	2.18	7.17	7.17	0.00	2.18	0.30	0.30
ZAMBIA	139.87	191.6	26.80	45.50	0.05	1.79	26.03	44.54	1.60	24.88
ZIMBABWE	246.81	231.9	57.24	34.02	0.00	2.81	53.80	34.65	0.61	12.32
Southern Africa	1,806.29	275.6	497.72	327.08	44.04	198.92	337.71	332.21	0.62	1.67
KAZAKHSTAN	125.80	637.6	80.20	32.54	0.48	13.22	52.42	47.59	0.73	3.60
KYRGYZSTAN	14.10	859.7	12.12	5.19	3.00	0.96	14.10	5.25	0.35	5.47
TAJIKISTAN	202.36	540.4	109.36	45.02	0.00	14.82	96.12	43.46	0.39	2.93
TURKMENISTAN	572.58	522.0	298.85	122.60	0.00	144.24	154.61	122.60	0.41	0.85
UZBEKISTAN	945.00	994.2	939.52	528.05	0.00	835.93	13.59	618.05	0.73	0.74
Central Asia	1,859.83	774.3	1,440.06	733.41	3.48	1,009.17	330.83	836.94	2.60	0.83
ARMENIA	0.00	0.0	0.00	0.08	0.22	0.22	0.00	0.08	0.00	0.00
AUSTRIA	0.00	0.0	0.00	1.48	2.62	2.76	0.02	1.32	0.48	0.48



021/22 Supply and Use of Cotton by Country (continued)

	Area	Yield	Production	Begin Stocks	Imports	Consumption	Exports	End Stocks	S/U*	S/MU**
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
AZERBAIJAN	100.00	680.6	68.06	50.60	0.00	29.78	38.28	50.60	0.74	1.70
BELARUS	0.00	0.0	0.00	3.11	7.14	7.34	0.20	2.70	0.36	0.37
BELGIUM	0.00	0.0	0.00	1.60	5.40	4.33	1.06	1.60	0.30	0.37
BULGARIA	0.79	325.3	0.26	2.83	2.57	2.21	0.01	3.44	1.55	1.56
CZECH REP.	0.00	0.0	0.00	0.48	1.16	1.02	0.00	0.61	0.60	0.60
DENMARK	0.00	0.0	0.00	0.00	0.05	0.04	0.02	0.02	0.00	0.60
ESTONIA	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FINLAND	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANCE	0.00	0.0	0.00	1.98	8.70	7.89	0.81	1.98	0.23	0.25
GERMANY	0.00	0.0	0.00	3.06	16.96	14.67	2.29	3.06	0.18	0.21
GREECE	271.93	1,121.2	304.88	127.56	5.01	16.08	298.81	122.56	0.39	7.62
HUNGARY	0.00	0.0	0.00	0.00	0.33	0.00	0.38	0.03	0.00	0.00
IRELAND	0.00	0.0	0.00	0.00	0.07	0.15	0.00	0.06	0.43	0.43
ITALY	0.00	0.0	0.00	8.08	27.42	25.59	1.83	8.08	0.29	0.32
LATVIA	0.00	0.0	0.00	1.76	2.22	0.20	0.26	3.52	7.57	17.60
LITHUANIA	0.00	0.0	0.00	0.10	0.00	0.00	0.00	0.10	0.00	0.00
MOLDOVA	0.00	0.0	0.00	0.74	2.18	2.18	0.00	0.74	0.34	0.34
NETHERLANDS	0.00	0.0	0.00	0.00	1.79	1.59	0.07	0.13	0.08	0.08
NORWAY	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POLAND	0.00	0.0	0.00	0.23	3.63	3.77	0.12	0.00	0.00	0.00
PORTUGAL	0.00	0.0	0.00	8.81	33.76	30.50	0.91	11.16	0.36	0.37
ROMANIA	0.00	0.0	0.00	0.00	0.18	0.18	0.03	0.30	1.42	1.69
RUSSIA	0.02	1,767.8	0.04	17.05	26.59	19.43	0.56	23.67	1.18	1.22
SLOVAK REP.	0.00	0.0	0.00	0.38	0.11	0.00	0.00	0.50	0.00	0.00
SPAIN	63.49	1,046.1	66.42	31.61	4.15	2.78	80.13	29.27	0.40	10.53
SWEDEN	0.00	0.0	0.00	0.00	0.01	0.01	0.00	0.00	0.13	0.16
SWITZERLAND	0.00	0.0	0.00	0.00	0.37	0.46	0.09	0.03	0.05	0.06
UKRAINE	0.00	0.0	0.00	0.00	0.70	0.64	0.00	0.06	0.09	0.09
UNITED KINGDOM	0.00	0.0	0.00	0.12	0.12	0.06	0.06	0.12	1.01	2.03
FORMER YUGOSLAVIA	0.00	0.0	0.00	5.20	7.00	6.81	1.00	4.38	0.56	0.64
Europe	436.23	1,007.9	439.65	266.80	160.23	180.48	426.96	270.06	0.44	1.50
Including EU-27	336.21	1,105.1	371.56	189.90	145.28	118.32	431.49	187.27	0.38	1.58
CHINA	3,028.00	1,892.3	5,730.00	9,304.79	2,304.24	8,315.00	30.00	8,994.03	1.08	1.08
HONG KONG	0.00	0.0	0.00	29.51	0.69	0.39	0.47	29.34	33.88	74.65
AUSTRALIA	635.00	2,011.0	1,277.00	266.07	0.00	1.59	815.00	726.48	0.89	457.29
INDONESIA	4.09	621.1	2.54	95.45	539.31	513.85	1.31	122.13	0.24	0.24
JAPAN	0.00	0.0	0.00	0.19	43.22	38.61	0.21	4.59	0.12	0.12
KOREA, D.R.	0.00	0.0	0.00	0.77	4.59	5.00	0.00	0.37	0.07	0.07
KOREA, REP.	0.00	0.0	0.00	36.77	138.33	138.33	0.54	36.23	0.26	0.26
MALAYSIA	0.00	0.0	0.00	13.27	139.72	84.24	55.48	13.27	0.09	0.16
PHILIPPINES	0.01	576.1	0.01	4.89	6.88	6.89	0.02	4.87	0.71	0.71
SINGAPORE	0.00	0.0	0.00	0.34	0.06	0.00	0.04	0.36	8.27	0.00
TAIWAN	0.00	0.0	0.00	7.10	80.84	80.84	5.13	1.97	0.02	0.02
THAILAND	1.00	1,507.5	1.51	30.06	131.47	155.55	0.16	7.33	0.05	0.05
VIETNAM	1.00	723.6	1.51	201.03	1,700.59	1,680.59	0.00	222.54	0.13	0.13
Eastern Asia	641.10	2,000.6	1,282.56	655.96	2,785.02	2,705.50	877.90	1,140.14	0.32	0.42
AFGHANISTAN	36.40	388.6	14.15	2.86	0.00	4.22	9.85	2.93	0.21	0.69
BANGLADESH	45.90	776.0	35.62	552.63	1,718.00	1,730.00	0.00	576.25	0.33	0.33
INDIA	12,055.00	445.1	5,365.51	2,607.49	170.10	5,593.00	1,100.98	1,449.11	0.22	0.26
MYANMAR	241.48	634.5	153.21	78.17	27.30	164.52	16.00	78.17	0.43	0.48
PAKISTAN	2,110.00	599.8	1,265.62	674.72	1,200.44	2,447.59	9.46	683.73	0.28	0.28
SRI LANKA	0.00	0.0	0.00	0.00	1.17	0.80	0.00	0.38	0.48	0.48
Southern Asia	14,491.70	471.7	6,836.26	3,916.50	3,117.26	9,942.52	778.08	2,791.20	0.25	0.28
IRAN	98.00	820.4	80.40	64.76	85.76	150.00	0.02	80.90	0.54	0.54
IRAQ	8.64	363.7	3.14	1.91	4.92	8.05	0.00	1.93	0.24	0.24
ISRAEL	4.43	1,701.5	7.54	1.57	0.00	0.00	7.54	1.57	0.21	0.00
SYRIA	25.81	977.8	25.23	9.19	0.00	15.03	8.40	10.99	0.47	0.73
TURKEY	480.00	1,827.0	832.78	1,282.47	1,169.84	1,616.61	126.01	1,542.47	0.89	0.95
Sub total	620.12	1,532.6	950.37	1,361.83	1,270.38	1,799.77	141.96	1,641.85	0.85	0.91
WORLD TOTAL	32,863.85	788.4	25,908.45	20,605.44	10,091.96	26,144.82	10,091.92	20,372.94	0.78	0.78

Note:

Subtotals and total include countries not shown..

* Ending stocks divided by consumption plus exports.

** Ending stocks divided by consumption.



2022/23 Supply and Use of Cotton by Country

	Area	Yield	Production	Begin Stocks	Imports	Consumption	Exports	End Stocks	S/U*	S/MU**
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
CANADA	0.00	0.0	0.00	0.24	0.15	0.15	0.01	0.23	1.46	1.52
CUBA	4.05	273.8	1.11	0.64	2.19	3.30	0.00	0.64	0.19	0.19
DOM. REP.	0.00	0.0	0.00	0.46	0.97	0.97	0.00	0.46	0.47	0.47
MEXICO	146.15	1,599.9	233.82	166.05	190.57	318.09	106.30	166.05	0.39	0.52
USA	3,698.83	936.2	3,592.45	519.68	0.24	513.56	3,182.30	416.51	0.11	0.81
North America	3,855.49	993.0	3,828.70	688.16	194.23	837.17	3,288.74	585.18	0.14	0.70
EL SALVADOR	0.00	0.0	0.00	15.00	27.61	27.61	0.24	14.76	0.53	0.53
GUATEMALA	0.00	0.0	0.00	5.82	27.64	27.64	0.00	5.82	0.21	0.21
HONDURAS	0.10	319.9	0.03	0.33	0.00	0.00	0.00	0.37	0.00	0.00
NICARAGUA	0.48	550.3	0.27	0.07	0.00	0.27	0.01	0.06	0.20	0.21
Central America	0.59	509.4	0.30	21.22	55.26	55.53	0.25	21.00	0.38	0.38
ARGENTINA	525.93	697.5	366.81	896.92	0.00	110.55	121.58	1,031.60	4.44	9.33
BOLIVIA	4.31	653.6	2.82	0.65	0.09	3.45	0.00	0.10	0.03	0.03
BRAZIL	1,584.40	1,764.8	2,796.06	2,014.20	2.69	665.00	1,964.00	2,183.94	0.83	3.28
CHILE	0.00	0.0	0.00	0.55	0.31	0.05	0.00	0.81	17.06	17.06
COLOMBIA	18.45	863.7	15.94	13.44	11.22	27.00	0.00	13.60	0.50	0.50
ECUADOR	1.23	448.4	0.55	1.88	8.15	9.13	0.00	1.45	0.16	0.16
PARAGUAY	9.90	428.3	4.24	0.23	1.66	0.91	4.97	0.25	0.04	0.27
PERU	23.40	835.2	19.54	27.35	43.15	59.65	0.47	29.93	0.50	0.50
URUGUAY	0.00	0.0	0.00	0.01	0.00	0.01	0.00	0.00	0.38	0.38
VENEZUELA	14.18	399.7	5.67	3.28	4.63	9.99	0.00	3.60	0.36	0.36
South America	2,181.80	1,472.0	3,211.63	2,958.52	71.90	885.73	2,091.03	3,265.29	1.10	3.69
ALGERIA	0.00	0.0	0.00	0.06	0.85	0.85	0.00	0.06	0.07	0.07
EGYPT	83.16	837.5	69.65	18.55	86.78	100.71	55.72	18.55	0.12	0.18
MOROCCO	1.00	1,020.3	1.02	7.37	5.15	5.26	0.00	8.29	1.58	1.58
SUDAN	180.00	736.9	132.63	42.55	0.00	18.03	125.24	31.91	0.22	1.77
TUNISIA	0.00	0.0	0.00	3.11	2.35	2.00	0.00	3.46	1.73	1.73
Northern Africa	264.16	769.6	203.30	71.64	95.13	126.85	180.96	62.26	0.20	0.49
BENIN	663.23	481.9	348.68	165.40	0.00	2.00	300.00	212.08	0.70	106.04
BURKINA FASO	700.00	350.2	280.00	140.20	0.00	5.44	260.00	154.76	0.58	28.45
CAMEROON	235.00	569.0	141.00	63.06	0.00	1.90	143.71	58.45	0.40	30.76
CENT. AFR. REP.	33.19	255.9	8.49	3.75	0.00	0.00	8.42	3.82	0.45	0.00
CHAD	300.00	184.0	58.40	27.78	0.00	1.02	68.00	17.16	0.25	16.84
COTE D'IVOIRE	452.50	467.7	219.12	108.94	0.02	3.06	251.40	73.62	0.29	24.06
GUINEA	12.63	289.8	3.66	1.64	0.00	0.00	3.65	1.65	0.45	0.00
MADAGASCAR	19.79	0.0	0.00	0.93	0.00	0.00	0.00	0.93	0.00	0.00
MALI	760.00	433.8	312.00	62.17	0.00	2.00	255.00	117.17	0.46	58.58
NIGER	4.82	475.1	2.29	0.24	0.00	0.96	1.33	0.24	0.10	0.25
SENEGAL	25.00	471.4	11.78	3.92	0.00	0.00	10.41	5.31	0.51	0.00
TOGO	180.00	110.3	58.40	13.46	0.00	0.00	45.58	26.28	0.58	0.00
Francophone Africa	3,386.15	426.4	1,443.82	591.49	0.02	16.38	1,347.49	671.46	0.49	41.00
ANGOLA	2.84	310.9	0.88	0.29	0.00	0.61	0.27	0.29	0.33	0.48
ETHIOPIA	83.99	745.7	62.63	36.96	0.06	56.10	6.59	36.96	0.59	0.66
GHANA	15.28	377.7	5.77	12.05	1.30	1.30	5.77	12.05	1.70	9.24
KENYA	46.20	100.6	4.65	1.19	3.43	8.08	0.00	1.19	0.15	0.15
MALAWI	86.34	250.4	21.62	11.61	0.00	3.00	18.62	11.61	0.54	3.87
MOZAMBIQUE	137.66	166.5	22.92	11.45	0.00	1.30	21.62	11.45	0.50	8.81
NIGERIA	271.92	343.6	93.44	40.16	0.87	29.74	64.57	40.16	0.43	1.35
SOUTH AFRICA	14.04	937.6	13.54	36.54	12.70	17.18	9.06	36.54	1.39	2.13
TANZANIA	641.00	220.5	141.32	63.42	0.00	45.00	96.32	63.42	0.45	1.41
UGANDA	104.03	428.3	44.56	31.99	0.00	4.30	40.26	31.99	0.72	7.44
CONGO, DR	0.00	0.0	0.00	2.18	7.17	7.17	0.00	2.18	0.30	0.30
ZAMBIA	139.87	191.8	26.83	44.54	0.05	1.79	25.09	44.54	1.66	24.88
ZIMBABWE	246.81	232.2	57.30	34.65	0.00	2.81	54.49	34.65	0.60	12.32
Southern Africa	1,811.36	275.9	499.84	332.21	44.65	199.52	344.97	332.21	0.61	1.67
KAZAKHSTAN	125.80	638.2	80.28	47.59	0.48	13.22	52.42	62.71	0.96	4.74
KYRGYZSTAN	14.10	860.5	12.13	5.25	3.00	0.96	14.10	5.32	0.35	5.55
TAJIKISTAN	202.36	541.0	109.47	43.46	0.00	14.82	96.12	42.00	0.38	2.83
TURKMENISTAN	572.58	522.5	299.15	122.60	0.00	144.24	154.91	122.60	0.41	0.85
UZBEKISTAN	945.00	995.2	940.46	618.05	0.00	835.93	13.59	708.99	0.83	0.85
Central Asia	1,859.83	775.1	1,441.50	836.94	3.48	1,009.17	331.13	941.62	2.93	0.93
ARMENIA	0.00	0.0	0.00	0.08	0.22	0.22	0.00	0.08	0.00	0.00
AUSTRIA	0.00	0.0	0.00	1.32	2.51	2.65	0.02	1.17	0.44	0.44



2022/23 Supply and Use of Cotton by Country (continued)

	Area	Yield	Production	Begin Stocks	Imports	Consumption	Exports	End Stocks	S/U*	S/MU**
	000 Ha	Kgs/Ha			000 Metric Tonnes				Ratio	Ratio
AZERBAIJAN	100.00	681.3	68.13	50.60	0.00	30.08	38.05	50.60	0.74	1.68
BELARUS	0.00	0.0	0.00	2.70	7.14	7.34	0.20	2.30	0.30	0.31
BELGIUM	0.00	0.0	0.00	1.60	5.25	4.20	1.05	1.60	0.31	0.38
BULGARIA	0.79	325.7	0.26	3.44	2.57	2.21	0.01	4.06	1.83	1.84
CZECH REP.	0.00	0.0	0.00	0.61	1.16	1.02	0.00	0.74	0.73	0.73
DENMARK	0.00	0.0	0.00	0.02	0.05	0.04	0.02	0.01	0.00	0.15
ESTONIA	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FINLAND	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FRANCE	0.00	0.0	0.00	1.98	8.70	7.89	0.81	1.98	0.23	0.25
GERMANY	0.00	0.0	0.00	3.06	15.92	13.93	2.29	2.75	0.17	0.20
GREECE	271.93	1,121.2	304.88	122.56	5.01	16.08	270.00	146.37	0.51	9.10
HUNGARY	0.00	0.0	0.00	0.03	0.50	0.00	0.38	0.15	0.00	0.00
IRELAND	0.00	0.0	0.00	0.06	0.10	0.15	0.00	0.02	0.11	0.11
ITALY	0.00	0.0	0.00	8.08	24.93	24.31	1.83	6.87	0.26	0.28
LATVIA	0.00	0.0	0.00	3.52	2.22	0.20	0.26	5.28	11.35	26.38
LITHUANIA	0.00	0.0	0.00	0.10	0.00	0.00	0.00	0.10	0.00	0.00
MOLDOVA	0.00	0.0	0.00	0.74	2.18	2.18	0.00	0.74	0.34	0.34
NETHERLANDS	0.00	0.0	0.00	0.13	1.79	1.59	0.07	0.26	0.15	0.16
NORWAY	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
POLAND	0.00	0.0	0.00	0.00	4.00	3.77	0.12	0.11	0.03	0.03
PORTUGAL	0.00	0.0	0.00	11.16	33.76	30.50	0.91	13.51	0.43	0.44
ROMANIA	0.00	0.0	0.00	0.30	0.18	0.18	0.03	0.27	1.26	1.49
RUSSIA	0.02	1,769.6	0.04	23.67	26.59	19.43	0.56	30.29	1.51	1.56
SLOVAK REP.	0.00	0.0	0.00	0.50	0.11	0.00	0.00	0.61	0.00	0.00
SPAIN	66.03	1,047.1	69.14	29.27	4.15	2.78	80.13	29.65	0.41	10.67
SWEDEN	0.00	0.0	0.00	0.00	0.01	0.01	0.00	0.00	0.07	0.08
SWITZERLAND	0.00	0.0	0.00	0.03	0.80	0.46	0.09	0.28	0.50	0.60
UKRAINE	0.00	0.0	0.00	0.06	0.70	0.64	0.00	0.12	0.18	0.18
UNITED KINGDOM	0.00	0.0	0.00	0.12	0.12	0.06	0.06	0.12	1.01	2.03
FORMER YUGOSLAVIA	0.00	0.0	0.00	4.38	7.00	6.81	1.00	3.57	0.46	0.52
Europe	438.77	1,008.4	442.45	270.06	157.45	178.52	397.91	303.53	0.53	1.70
Including EU-27	338.75	1,104.9	374.28	187.27	116.91	116.06	431.49	214.45	0.46	1.85
CHINA	3,034.00	1,892.3	5,740.00	8,994.03	2,290.34	8,240.16	30.00	8,754.20	1.06	1.06
HONG KONG	0.00	0.0	0.00	29.34	0.69	0.39	0.47	29.16	33.68	74.21
AUSTRALIA	612.00	2,022.9	1,238.00	726.48	0.00	1.59	1,173.70	789.19	0.67	496.77
INDONESIA	3.68	621.1	2.29	122.13	543.80	539.55	1.31	127.36	0.24	0.24
JAPAN	0.00	0.0	0.00	4.59	37.84	38.22	0.21	4.00	0.10	0.10
KOREA, D.R.	0.00	0.0	0.00	0.37	4.59	4.95	0.00	0.01	0.00	0.00
KOREA, REP.	0.00	0.0	0.00	36.23	139.02	139.02	0.54	35.69	0.26	0.26
MALAYSIA	0.00	0.0	0.00	13.27	143.21	87.74	55.48	13.27	0.09	0.15
PHILIPPINES	0.01	576.7	0.01	4.87	7.02	7.03	0.02	4.86	0.69	0.69
SINGAPORE	0.00	0.0	0.00	0.36	0.06	0.00	0.04	0.37	8.61	0.00
TAIWAN	0.00	0.0	0.00	1.97	81.00	76.80	5.13	1.04	0.01	0.01
THAILAND	1.00	1,509.0	1.51	7.33	159.49	158.66	0.16	9.51	0.06	0.06
VIETNAM	1.00	724.3	1.51	222.54	1,655.78	1,600.00	0.00	279.83	0.17	0.17
Eastern Asia	617.69	2,012.8	1,243.31	1,140.14	2,771.82	2,653.56	1,236.60	1,265.12	0.33	0.48
AFGHANISTAN	36.40	389.0	14.16	2.93	0.00	4.22	9.85	3.02	0.21	0.71
BANGLADESH	45.90	776.8	35.65	576.25	1,750.00	1,730.00	0.00	631.91	0.37	0.37
INDIA	12,055.00	445.1	5,365.51	1,449.11	170.10	5,732.82	619.00	632.90	0.10	0.11
MYANMAR	241.48	634.5	153.21	78.17	27.30	167.81	16.00	74.88	0.41	0.45
PAKISTAN	2,127.97	602.8	1,576.46	683.73	1,100.00	2,400.00	9.46	950.73	0.39	0.40
SRI LANKA	0.00	0.0	0.00	0.38	1.17	0.80	0.00	0.76	0.95	0.95
Southern Asia	14,509.67	492.6	7,147.16	2,791.20	3,048.81	10,038.05	778.08	2,294.81	0.21	0.23
IRAN	98.00	821.2	80.48	80.90	85.76	150.00	0.02	97.12	0.65	0.65
IRAQ	8.64	364.1	3.14	1.93	4.92	8.05	0.00	1.95	0.24	0.24
ISRAEL	4.43	1,703.2	7.55	1.57	0.00	0.00	7.54	1.58	0.21	0.00
SYRIA	27.10	982.7	26.63	10.99	0.00	15.10	8.40	14.12	0.60	0.93
TURKEY	484.80	1,828.8	886.60	1,542.47	1,200.00	1,648.94	126.01	1,854.12	1.04	1.12
Sub total	626.21	1,606.0	1,005.68	1,641.85	1,301.04	1,832.18	141.96	1,974.44	1.00	1.08
WORLD TOTAL	32,603.55	804.0	26,214.34	20,372.94	10,035.82	26,080.47	10,035.82	20,506.82	0.79	0.79

Note:

Subtotals and total include countries not shown..

* Ending stocks divided by consumption plus exports.

** Ending stocks divided by consumption.