better cotton™

United States

10-Year Impact Report

2014-2024

Photo credit: Katrina McArdle Photography | 2024

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Photo credit: Bec Sloane | Better Cotton, 2024

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Ten Years & Counting

Better Cotton in the United States

Better Cotton is the world's leading sustainability initiative for cotton. Our mission is to help cotton communities survive and thrive, while protecting and restoring the environment.

316 Licensed Farms 2024-2025

1,499,655 Bales of US Better Cotton 2024-2025

~635,000 Acres Harvested 2024-2025

Making the Case for US Cotton

As the third largest cotton-producing country in the world, the United States is poised to set a compelling example when it comes to the responsible production of cotton at large scale.

By aligning with Better Cotton standards of practice, US cotton producers have committed to continuous improvement in key target areas such as soil stewardship, efficiency in irrigation water usage, reduction in synthetic inputs and maintaining fair labor practices.

With this Report, we reflect on the first 10 years of Better Cotton's US Program while painting a more complete picture of what it takes to adopt and sustain regenerative cotton farming across the diverse landscape of the US Cotton Belt.

A key component of the Better Cotton Standard System are our Principles and Criteria (P&Cs), laying out the global definition of Better Cotton through six guiding principles. Throughout this Report, we exhibit how US producers embody the P&Cs in their operations while working toward the organization's Impact Targets such as building soil health and minimizing pesticide usage.

Through field days and gin tours, conferences and workshops, the US Program team, its Program Partners and collaborators bring together stakeholders spanning the fiber and textile supply chain to further promote these foundational criteria.

Capacity through Collaboration

True sustainability and systems-level change can only be achieved when values-aligned stakeholders band together. In the US cotton sector, this is substantiated through shared concerns over soil, water, emissions and chemical usage. As a multistakeholder initiative, Better Cotton recognizes the myriad ongoing efforts of fellow initiatives in achieving our shared impact goals.

This Report illustrates the impact and outlook of cotton sustainability in the country by showcasing insights from Better Cotton's 10 years of aggregated data in the US alongside that of its allies and producers who have been making significant progress in this space for decades.

Photo credit: Jack Dalten Creative | 2023

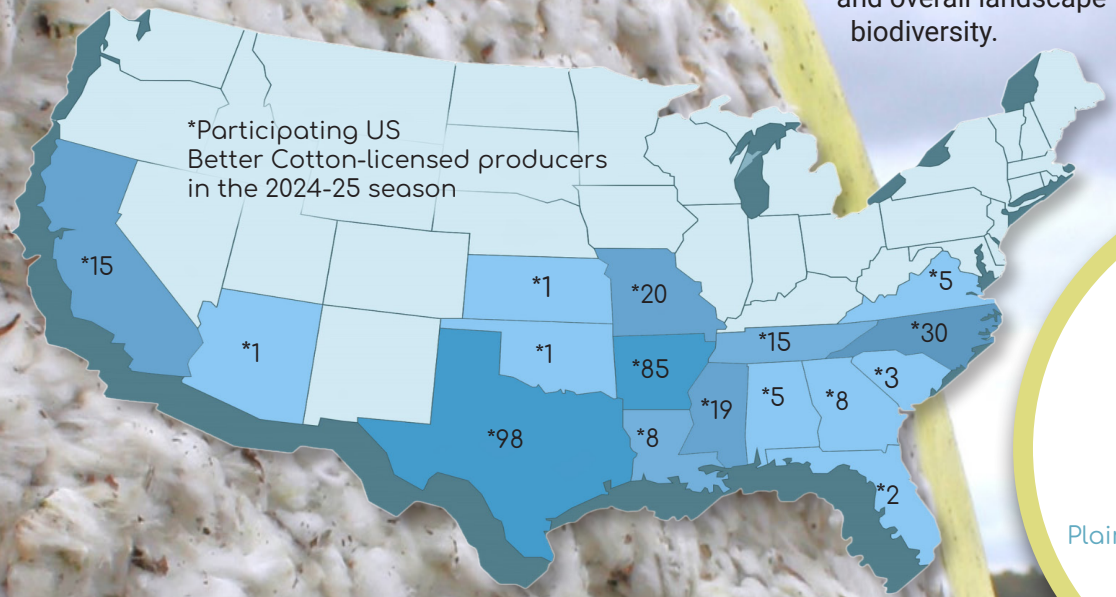
The US Program

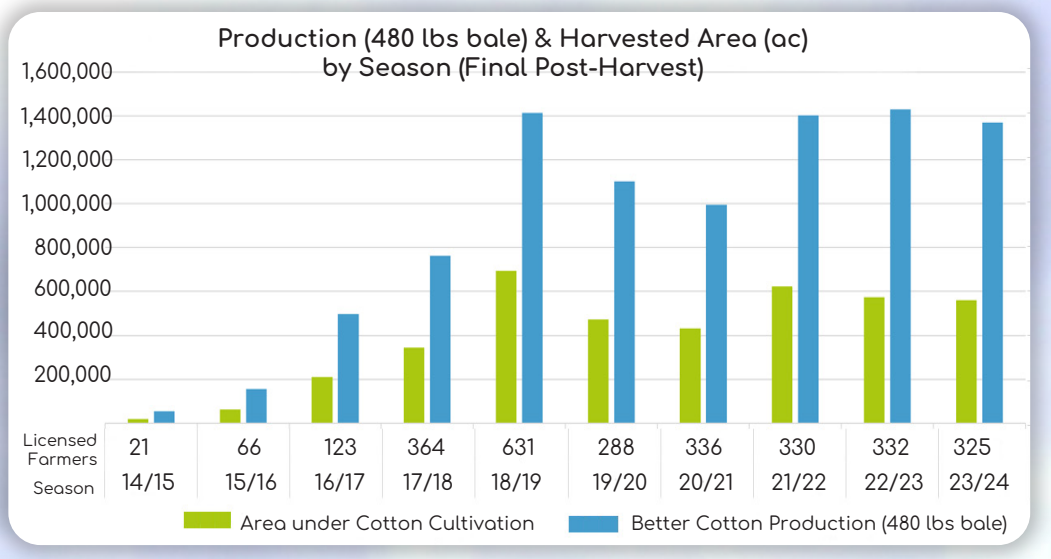
A look at where we started and our program participation since

Better Cotton began licensing US cotton producers in 2014 with a 21-farm pilot. Over the past decade, the program has grown to license on average over 300 US producers each season, responsible for over 10% of total US cotton in the past five years alone.

From Coast to Coast

Along the 2,500 miles between Virginia and California, diverse factors influence farming systems in cotton. Regional variation results in differences among crop varieties and rotations, tillage systems, irrigation methods, fiber quality, pest challenges and overall landscape biodiversity.

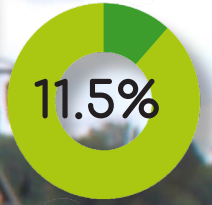




Understanding current practices and metrics is a key step in identifying areas of improvement and measuring impact. This Report aims to break down some of the regional nuances in order to better contextualize that which the facts and figures represent. In order to accurately track progress and changes over time, we must view the collective data through both a macro and micro lens.

Meet our Program Partners, who help to carry out our work by connecting us with producers all across the Cotton Belt:

- Allenberg Cotton Co. (Louis Dreyfus Company)
- Jess Smith & Sons
- Olam Agri
- Plains Cotton Cooperative Association
- Quarterway Cotton Growers
- Staple Cotton Cooperative Association
- Viterra



of US cotton production is made up of licensed Better Cotton*

*As of 2023-24 final post-harvest figures. In its final estimate of the 2023-24 US cotton crop, the USDA placed total production at 12.07 million bales. Final 2023 USDA Crop Estimates (National Cotton Council)

Photo credit: Kalli Unthank | Better Cotton, 2023

Before Better Cotton

Giving Credit Where it's Due

Navigating the "CottonVerse"

Better Cotton is one of a number of cotton organizations within the US, and teasing apart the who's-who helps to showcase the full spectrum of work being done in the country and sector.

Cotton Incorporated has aptly dubbed this vast network the "CottonVerse". The organization echoes our tone of embracing collaboration in support of responsible cotton production, and dedicates a page of their website to making those introductions. Throughout this Report, we have invited Cotton Incorporated and other members of the CottonVerse to spotlight their insights, research and initiatives which, collectively, contribute to elevating US cotton and supporting those producing it.

National Support for US Agriculture

US producers welcome all the support they can muster as they rise to the task of farming in a way that is beneficial to our environment and communities, all while navigating an increasingly volatile market and climate. Research and Extension services through US land-grant universities provide specialized guidance and resources to producers, addressing both local and regionalized challenges and opportunities as well as contributing to ongoing trials which stand to benefit cotton farming at large.

Conservation programs such as the USDA's Natural Resources Conservation Service (NRCS) offer access to funding as well as technical assistance and training to empower and support producers in the adoption of environmentally-conscious practices. Others like the Farm Service Agency (FSA) look out for our farming communities in the face of natural disasters and offer protection against low commodity prices.

It is through the collective efforts of these established institutions that US producers are better enabled to continue farming and, hopefully, sustain their land and production for generations down the line.

There is no telling our story without setting the stage with how the sector looked as Better Cotton entered the picture. Much of our path has been paved by producers, researchers and programs in the decades prior to our involvement.

Before We Arrived on the Scene

The US cotton industry has been measuring and reporting progress on sustainability for decades. Thanks to new technologies, cotton traits and the promotion of regenerative practices such as reduced tillage, irrigation efficiency, targeted fertilizer application and integrated pest management, US cotton has made significant progress since 1980.

Field to Market's 2021 National Indicators Report[1] for cotton noted progress in reductions across the board from 1980 to 2020:

- soil loss per acre: 45%
- irrigation water usage per pound of lint: 58%
- greenhouse gas emissions per pound of lint: 25%
- energy use per pound of lint: 31%

Mississippi State University calculated an over 50% reduction in insecticide applications over the past 30 years as a result of new technology, cotton varieties, practices and the eradication of the boll weevil[2]. Meanwhile, land use efficiency – planted acres per pound of lint, or the amount of land needed to grow cotton– has improved by 30%[3].

[1]Field to Market: The Alliance for Sustainable Agriculture, 2021. Environmental Outcomes from On-Farm Agricultural Production in the United States (Fourth Edition). ISBN: 978-0-578-33372-4

[2]Bayramova, J., Pires, S., Barnes, E., Morgan, G., Kurtz, R., and Daystar, J. (2024). "Sustainable cotton farming trends: Leveraging natural resource survey insights for U.S. cotton production," BioResources, 19(4), 7279–7319.

[3]Field to Market: The Alliance for Sustainable Agriculture. (2021). Environmental Outcomes from On-Farm Agricultural Production in the United States. National Indicators Report, fourth edition. https://fieldtomarket.org/national-indicators-report/

Photo credit: Kalli Unthank | Better Cotton, 2023

Better Cotton Farms in the US

What does large-scale cotton farming look like in the States?

Photo credit: Katrina McArdle Photography | 2024

Better Cotton works with producers in over 20 countries around the world in both large-scale and smallholder settings. It is important to distinguish among these cotton farming operations and all that they entail.

The farms we work with in the US are categorized by Better Cotton as large farms, typically comprising at least 500 acres in cotton, using mechanized production and permanent hired labor. Producers operate on a mix of owned and rented land.

Mechanization involves technologically-advanced agricultural equipment, designed to increase efficiency in planting, spraying and harvesting. This includes GPS systems, variable rate technology, remote sensing through the use of satellite imagery and drones, artificial intelligence, and IoT devices which collect, transmit and analyze real-time data, empowering producers to enhance yields while optimizing their use of resources. The precision technology integrated into these machines factors into both economic and environmental sustainability, allowing for more targeted applications of chemical inputs and thereby reducing the amount needed as well as minimizing drift.

Such equipment is a significant expense for producers, with some costing over $1,000,000 per machine, resulting in larger-scale production. The impact of mechanization is also challenging to measure when viewed through a regenerative lens: weighing the trade-offs between fuel usage and emissions generated versus the efficiency and precision contributing to improved water usage and pesticide application.

With climates ranging from semi-arid to humid subtropical, the states along the US Cotton Belt are grouped into four regions: the Far West, Mid-South, Southeast and Southwest. In this Report, we take a look at how their respective environments and weather variability affect farming decisions, the implementation of practices and annual yields.

Snapshot

Annual averages from among the US farms we currently work with:

Southeast
Bales: 5,200
Cotton Acres: 2,500
Total owners & workers per farm: 7

Mid-South
Bales: 6,200
Cotton Acres: 2,600
Total owners & workers per farm: 10

Southwest
Bales: 4,900
Cotton Acres: 2,700
Total owners & workers per farm: 8

Far West
Bales: 2,900
Cotton Acres: 1,000
Total owners & workers per farm: 16

The Large Farm Context

Our place within Better Cotton's global Large Farm Program

Better Cotton's Large Farm Program comprises countries around the world which produce cotton at large scale, with operations that differ on many levels from those associated with smallholder cotton farming. The Program currently includes Australia, Brazil, Greece, Israel, Pakistan, Spain, Türkiye, the US and Uzbekistan. Better Cotton is facilitating connections among these regions, convening the group on an annual basis to share challenges and innovations while identifying opportunities for collaboration across borders.

Better Cotton began hosting its annual Large Farm Symposium in 2021. The recurring virtual symposium highlights innovative research and projects that are improving large farm cotton production throughout the world.

In 2022, we began to hold regular Large Farm Dialogues, inviting Program Partners, producers and researchers to exchange updates, insights and questions through an informal online platform.

And in 2024, Better Cotton hosted its first Large Farm Week event in Türkiye. For the first time, staff and Partners from different Large Farm countries were able to meet in person, visiting farms, gins, and textile production facilities while gaining a better understanding of all that they have in common.

"Cotton is an economic engine for our world. The competition is not between cotton growing countries; it's about gaining market share in the global textile and fiber supply chain. If we want to be successful, we want the consumers of the world to choose cotton."

Shane Stephens represented American cotton producers at our inaugural Large Farm Week in 2024. Shane is Vice President, Cotton Services & Warehousing at StaplCotn – a Better Cotton Member and US Group Manager, as well as one of the largest cotton marketing cooperatives in the US. He emphasized that US cotton producers have embraced innovative farming techniques for decades but that they are increasingly struggling with economic viability.

Large Farm Week 2024 Recap

Large Farm Symposium 2024 Recap

All Better Cotton Large Farm Symposia

Photo credit: Ashley Barrington | Better Cotton, 2024

Landscape

Spanning a dynamic backdrop of settings & stakeholders

Over the past 10 years, Better Cotton has established its presence across the length of the US Cotton Belt with the help of its Program Partners stationed throughout.

They comprise brokers, cooperatives, gins and merchants who have direct contact with producers – facilitating participation in our Program through enrollment, data collection and regular communication between producers and our team – and ensuring that Better Cotton seasonal licensing requirements are met.

Photo credit: Bec Sloane | Better Cotton, 2024

Spotlight: Partners in the High Plains

Quarterway Cotton Growers

Plainview, Texas – Quarterway Cotton Growers was established as an organization in 2017, when a group of local producers came together to buy a cotton gin. Led by CEO Todd Straley, the forward-thinking collective operates at the forefront of regenerative agriculture, hosting year-round meetings for producers at all stages of their journey to learn from one another.

Todd has supported Better Cotton's work since attending our first stakeholder meeting back in 2012. Having met with merchants, mills, retailers and brands from around the world, he has identified opportunities to set his gin apart through licensing and certifications which reflect a growing demand for responsibly-produced cotton.

A cotton producer himself, Todd and fellow Quarterway producers take full advantage of research, technology and opportunities available to ensure the long-term viability of cotton farming in their region. They continue to share that journey through impactful field events, encouraging participation from all across the supply chain.

Plains Cotton Cooperative Association

Lubbock, Texas - Owned by producers in Texas, Oklahoma, Kansas and New Mexico, Plains Cotton Cooperative Association (PCCA) works to enhance the profitability of grower-owners and gins htrough value-added marketing programs and services. They are one of the leading producer-owned marketing cooperatives in the US, dedicated to supplying high quality, sustainably-grown cotton from the US worldwide.

PCCA joined Better Cotton as a Program Partner in 2017. As part of our 2020 Better Cotton US Roadshow in Texas, PCCA Director of Sales Carlos Garcia took us to see Lacy and Dean Vardeman, who work with PCCA and farm 10,000 acres of cotton, demonstrating the qualities Better Cotton hopes to see among producers – continuous improvement, innovation, stewardship and thoughtfulness. Lacy also presented as a keynote speaker at the 2022 Better Cotton Conference in Sweden.

As we began our transition toward certification, PCCA and Quarterway were among the first Program Partners to participate in our 2024 pilot.

"We have a very unique group here at this gin. We've created a culture here where the regenerative practices and what you're seeing on the farm – it's just what we do."

Todd Straley

Photo credit: Katrina McArdle Photography | 2024

Spotlight: Partners in the Mid-South

Staple Cotton Cooperative Association

Greenwood, Mississippi – With origins dating back to 1921, Staple Cotton Cooperative Association (StaplCotn) is the oldest and one of the largest cotton marketing cooperatives in the United States. Entirely producer-owned, the cooperative handles nearly 14,000 accounts across 11 states, providing a range of services to its members which includes domestic and export marketing, cotton warehousing and agricultural financing.

StaplCotn joined Better Cotton in 2016 and has actively participated in our events over the years, including a 2023 field event with Walmart and Bearskin Farms in Arkansas, and our 2024 Large Farm Week in Türkiye. Most recently, they joined us in Central America for our 2025 Near Shore Supply Chain Tour with SIERRA Textiles.

The cooperative is currently partaking in the carbon insetting pilot set forth by Indigo Ag with whom Better Cotton is collaborating. Indigo Ag is an international agricultural technology company offering biological and sustainability programs for producers and agribusinesses. Their work with addressing Scope 3 emissions strives to provide producers with greater value and opportunities: higher carbon generation per acre, increased carbon credit prices, guaranteed minimum payments for cover crops and more.

Black Oak Gin Company

Black Oak, Arkansas – Our US Program started its pilot phase in 2014, and Black Oak Gin played a key role in getting the Program started in the Mid-South by advocating for Better Cotton. Over the past 10 years they have enrolled all of the producers who have ginned with them. The staff at Black Oak Gin support producer compliance with the Better Cotton Standard by maintaining and updating self-assessments and data submissions, organizing verification visits and retaining relevant documents.

The gin is considered a cornerstone of its local agricultural community - as can be said about most rural gins and agribusinesses - and it has not only facilitated the efficient processing of its producers' cotton but has also contributed to the economic stability of Black Oak and neighboring regions.

Black Oak Gin continuously invests in modern technology and training and, in doing so, ensures that the local agricultural community remains competitive and forward-thinking. They, too, are participating in the carbon insetting pilot.

Our team was joined at the 2024 Better Cotton Conference in Istanbul by representatives from both StaplCotn and Black Oak Gin. Better Cotton-licensed producer and Chairman of Staplcotn, Tap Parker, owner of Parker Farms Partnership, joined cotton producers from across the globe on stage as a speaker during the Regenerative Agriculture session, "Accelerating Field-level Impact".

Photo credit: Katrina McArdle Photography | 2024

Positive Trends in US Cotton

Survey data tracking conservation practice adoption & technological advances

Cotton Incorporated's 2024 Sustainable Cotton Farming Trends report identified recent changes in US cotton farming and highlighted significant shifts towards sustainability:

Producers are increasingly adopting conservation practices such as cover cropping, which rose from 48% in 2015 to 65% in 2023, reflecting a strong commitment to improving soil health. Similarly, no-till and strip-till methods have grown by approximately 20% since 2008, reducing erosion and improving soil carbon storage.

Technological adoption also emerged as a major trend. Precision agriculture technologies saw increases in autosteer and GPS use, soil mapping, yield monitoring, imagery and handheld GPS use. These technologies can reduce input costs by improving the accuracy of fertilizer and pesticide applications. Additionally, irrigation management practices have evolved, notably with increased adoption of efficient pivot/sprinkler systems (from 49% to 59%) and drip irrigation, enhancing water use efficiency amid growing concerns over water scarcity.

Despite facing ongoing challenges—rising production costs, herbicide-resistant weeds, the escalating impacts of extreme droughts—these positive trends demonstrate a clear direction towards sustainability and efficiency. Continued adoption of precision agriculture, conservation tillage, and cover crops positions US cotton producers as leaders in sustainable agricultural practices.

Moving forward, targeted research and support for these practices will be essential for addressing ongoing challenges and securing the long-term viability of US cotton production.

Cotton Incorporated is a research and promotion not-for-profit company for upland cotton with a mission to increase the demand for- and profitability of cotton. Research areas range from the development of agricultural and textile innovations to analyses of commodity and market data.

They have collaborated with Better Cotton and many others, funding essential research which promotes innovation and regenerative practice adoption in cotton farming.

Cotton Incorporated

Photo credit: Kalli Unthank | Better Cotton, 2023

Facing the Forecast

Acknowledging the impact of weather variability and a changing landscape across the US Cotton Belt

Despite market volatility and ever-increasing input and production costs, Better Cotton producers throughout the United States work continuously to improve their cotton fields, yields and management systems. They are no strangers to adapting to shifting weather patterns and do their best to prepare for what life throws their way. Still, the rate and scale at which powerful storms, lingering droughts and unreliable precipitation are ravaging regions along the Cotton Belt during critical planting and harvest times are becoming

It is important to envelope the full backdrop against which producers are operating. In recent years, cotton growing regions in the US have been faced with droughts, floods, rangeland wildfires, tropical storms and hurricanes. Beyond that, variable conditions are also changing pest and disease patterns for crops and livestock, and shifting planting and harvest dates for crops.

Then there are a range of indirect effects impacting farming communities, from compromised air and water quality to property loss and reduced affordability of insurance.

Owens, Nathan. December 3, 2024. "US cotton production slashed from Hurricane Helene." Agriculture Dive. https://www.agriculturedive.com/news/us-cotton-production-slashed-from-hurricane-helene/734444/#:~:text=Dive%20Insight%3A,%2Dlargest%20cotton%2Dproducing%20state .

Looking back through just a handful of weather events in recent years, one can see the slew of hurdles faced by cotton producers across the US.

2024

Hurricane Helene struck the Southeast at its most vulnerable, destroying billions of dollars in crops and infrastructure, including 32% of the cotton grown in Georgia, the second-largest cotton producing state. Excessive heat caused Texas to suffer its most significant losses for the third consecutive year.

2023

Heavy winter rains and snow-melt caused California's Tulare Lake to flood for the first time in decades, inundating Central Valley cotton fields. Mississippi was met with torrential storms early in the season leading to delays in plant maturity and reduced yields.

2022

Producers were hard hit by a drought impacting over half of the US. Heavy August rains riddled Mississippi cotton with boll rot and hard-locked bolls.

2021

Minimal precipitation in the High Plains hurt crop potential and led some producers to abandon their cotton fields.

2020

Heat stress in Arizona and heavy storms in the Southeast damaged cotton crops on both ends of the country.

Photo credit: Bec Sloane | Better Cotton, 2024

Drawing Connections Across the Supply Chain

Closing the distance among a range of stakeholders through effective engagement

Our Better Cotton team in the US hosts and takes part in field days and workshops throughout the year, fostering opportunities to connect directly with our Program Partners and stakeholders. Field events are uniquely effective in driving stakeholder engagement, showcasing farming practices and technology, exchanging knowledge and forming meaningful connections.

Largely due to the tireless engagement efforts of gin CEO Todd Straley, our joint event with Quarterway Cotton Growers has proven to be an effective way to share field-level insights from within a localized context. Queued up for a third year running in September of 2025, the US Cotton Connections field event gathers representatives from leading retailers and brands, merchants and researchers in the fields of West Texas with cotton producers to learn about techniques they have adopted, technology they employ and challenges they face.

Attendees are granted the opportunity to put faces and names to those producing our cotton and engage directly to learn more about what it takes to farm sustainably against an everchanging economic and environmental landscape.

Insights from the 2024 event:

Gin & Equipment Tour

Quarterway's producers led attendees through the state-of-the-art equipment employed in their fields, explaining the advanced technolology used for greater precision and therefore reduced inputs.

The equipment was shown in order of seasonal processes, from planting to harvesting, helping attendees visualize the entire farming process from end to end. Each producer relayed their prioritization of land stewardship and how they continue to adapt their practices alongside the evolution of technology.

Innovative Technology & Research in Cotton

Representatives from Texas A&M AgriLife Extension and ECOM USA, LLC gathered us in the fields to discuss innovative studies being conducted in cotton. They shared current research exploring emissions reduction in cotton farming, improved nutrient cycling, increased water holding capacity and stimulating microbial activity to build soil health.

Talking "Regenerative"

US Impact Manager Karen Wynne and the Better Cotton team led a feedback session around regenerative agriculture, and what it means for cotton farming. Focus groups comprised a range of stakeholders exploring the definition of "regenerative" and how that applies in the local context.

Classing Cotton

Attendees toured USDA cotton classing facilities for a behind-the-scenes look at how cotton is graded. In addition to factors determining the value of cotton, the group learned about how climate has significant effects on micronaire quality.

US Cotton Connections 2024

US Cotton Connections 2023

"The most important and interesting part was interacting with the brands that were in attendance. I felt the brands were truly invested in the growers they heard from and left excited to share their thoughts with coworkers.'"

- Kali Mabe, Sales & Sustainability Specialist, Plains Cotton Cooperative Association

Photo credit: Katrina McArdle Photography | 2024

Calculating Efficiency

We are promoting a holistic approach to sustainable cotton production

Upon enrollment, we ask all producers to identify which among listed practices have been adopted on the farm. This data collected from licensed Better Cotton producers provides the baseline against which to monitor new practice adoption. Some of the variation in date ranges throughout this Report are reflective of this, as we continue to assess how best to track progress across our targeted impact areas.

Not all of these practices are relevant to all farms; some are specific to landscapes, soil types, climates and other factors. We do not expect to see 100% adoption of all practices but continue to monitor the adoption rate of practices over time to identify opportunities for capacity strengthening.

Practice adoption is just one of the indicators we use in measuring the impact of the producers we license from season to season. Through self-assessments and results indicator reports (RIRs) we amass data that help us track farming practices, cotton acreage and yields, and both the usage and efficiency of irrigation water and inputs.

Calculating the amount of inputs applied per pound of cotton lint provides producers with a way to evaluate their investment and assess the impact on yields, rather than simply an amount applied per acre.

Photo credit: Katrina McArdle Photography | 2024

Measuring Impact in the US

Data collection, producer self-assessments & reporting

Seasonal Data Collection

All Better Cotton farm data is self-reported by licensed producers. Better Cotton has implemented standardized data collection and management procedures to ensure that the data gathered from producers is both representative and of high quality. We uphold the credibility of our data through rigorous quality control measures, including regular checks for outliers, anomalies and errors, as well as contextual analysis to validate trends.

To learn more about our data collection and cleaning processes, please visit:

Working with Results Indicators, v2.6

Results Indicator Data Management Process

Photo credit: Jack Dalten Creative | 2023

Self-Assessments

At the beginning of each season, licensed producers submit a self-assessment survey to report their planned acreage and estimated yield, and to assess their compliance with the Better Cotton standard. Starting in 2020, producers have shared details of their farming practices in the first year of enrollment. In the renewal self-assessment, Better Cotton collects additional information including numbers of workers and owners by gender and type of work, continuous improvement plans, and planned input use.

Results Indicator Reports

At the end of each season starting in 2014, licensed producers have reported on total acreage and yield, irrigated acreage and amount of water applied, and total amount of fertilizers, pesticides, defoliants, and plant growth regulators used. In recent years they have started submitting details on irrigation water source, estimated fuel use and use of nitrogen stabilizers. Producers may also provide context for any unusual numbers due to problems like pest outbreaks or drought.

In the graphs that follow, practices are based on the information reported in the self-assessment starting in 2020. The results indicators details on water, fertilizer and pesticide use are reported from 2017-2023.

Practice Adoption by Better Cotton-licensed Producers

Beginning in 2020, we have gathered information on practice adoption by licensed Better Cotton producers in the US upon enrollment. The full self-assessment asks producers to report on their adoption of 26 natural resource management and enhanced biodiversity practices, and 12 practices specific to irrigated farms. The following are the percentages of producers reporting their adoption of selected practices from 2020-2023, based on 534 producers' submissions.

While many practices address multiple environmental factors at once, those listed have been categorized into the impact areas they most directly contribute to: biodiversity, soil health and water quality.

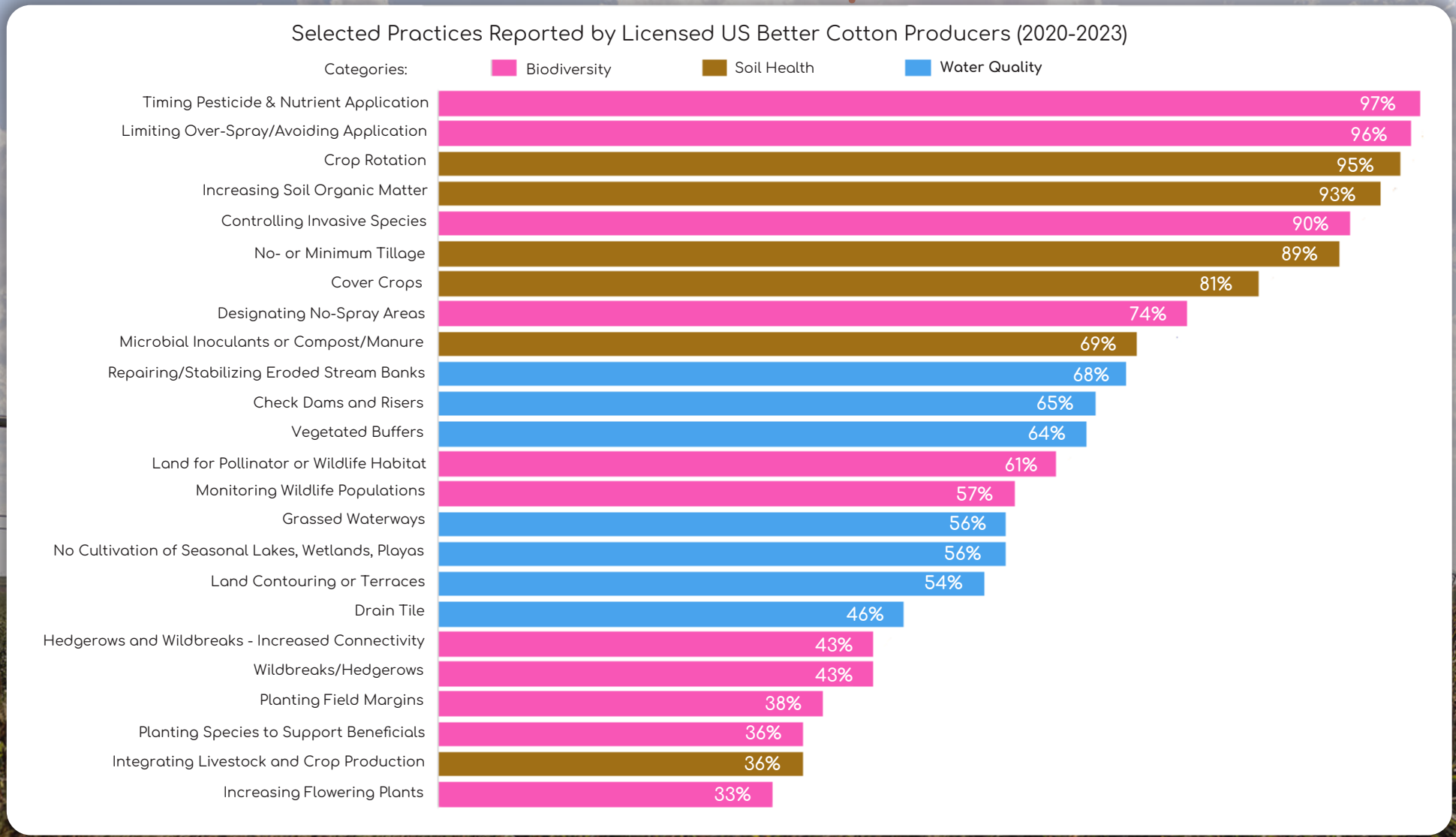


Photo credit: Katrina McArdle Photography | 2024

Soil Health

Photo credit: Whitney Haigwood | 2020

Practices which improve soil health contribute to a wide range of impacts regarding productivity and profitability. Healthy soils hold more water and nutrients while also providing better drainage, allowing roots to penetrate more deeply and better utilizing the soil biology to cycle nutrients.

Better Cotton's soil health indicators focus on maximizing crop diversity and soil cover, while minimizing soil disturbance.

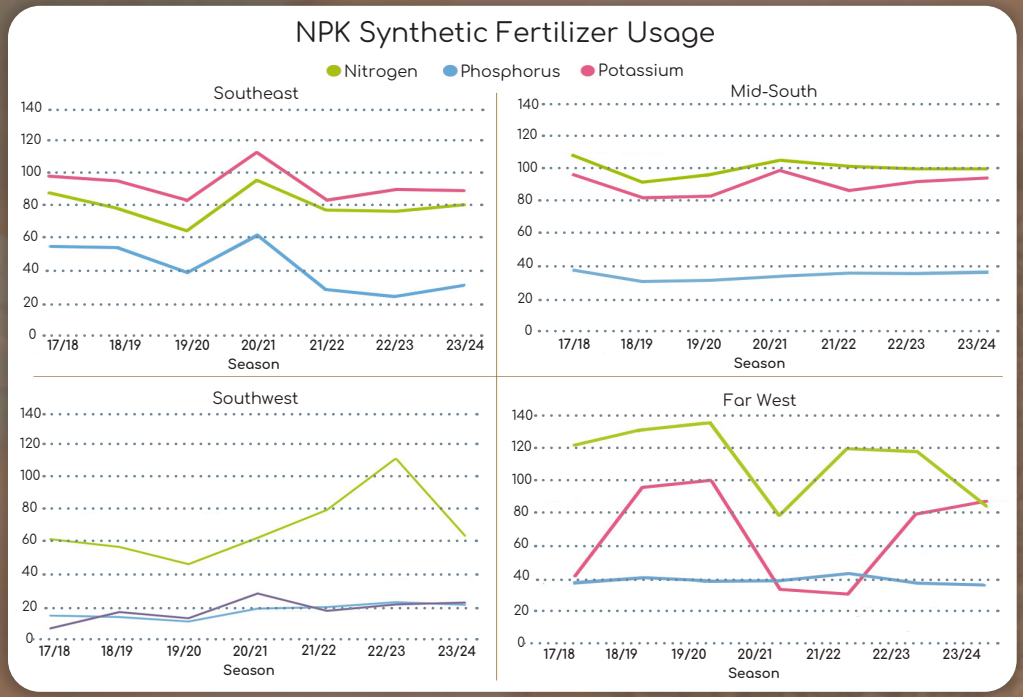
Additional indicators include reducing the use of synthetic fertilizers and employing the 4R approach to fertilizer application – the right source of nutrients applied at the right rate, right time and right place. This is coupled with the adoption of practices which protect water bodies and adapt to changing rain patterns and intensity, and of course overall farm management and continuous improvement.

Some specific practices include:

- Allowing cover crops to grow for longer periods before termination
- Incorporating more species into cover crop mixes
- Incorporating more crops species into the rotation including legumes like alfalfa, peanuts and soybeans
- Fewer passes over the fields, or driving within the same lanes to reduce compaction of the soil
- Minimizing tillage, or transitioning toward no-till systems
- Managing ditch banks and stream buffers to capture runoff
- Adding organic fertilizers like manure to increase organic matter
- Adding microbial inoculants or compost to improve soil biodiversity

Photo credit: Katrina McArdle Photography | 2024

Synthetic Fertilizer Usage



Better Cotton promotes soil health and a reduced reliance on synthetic fertilizers. By adopting practices that increase biology, aggregate structure and organic matter, plants can access more nutrients stored in the soil over a longer period. This improved resilience helps buffer the impact of input prices and varying crop nutrient demand, saving money and improving crop yield and quality.

In the US, producers use a variety of strategies to ensure the most efficient use of fertilizers. The 4R approach encourages producers to optimize fertilizer use by ensuring the right rate, place, time, and source. Soil and tissue testing, variable rate application, split fertilizer applications, and use of nitrogen stabilizers are a few examples of how this is implemented. Better Cotton-licensed producers report annual use of organic and synthetic fertilizer use and nitrogen stabilizers.

The number of Better Cotton producers applying organic fertilizer (primarily manure) increased from 6% in 2015 to 17% in 2023. Access to manure varies by location – large volumes are applied per acre and the source needs to be close enough to make transportation costs pencil out – but in addition to nutrients, manure provides organic matter and biological inputs.

Nitrogen fertilizer is a significant source of GHGs, and overapplication of nitrogen has little effect on yield while increasing costs and environmental impact. Measuring nitrogen use efficiency (right) allows producers to analyze the amount of nitrogen fertilizer applied per pound of lint produced and evaluate opportunities to reduce rates.

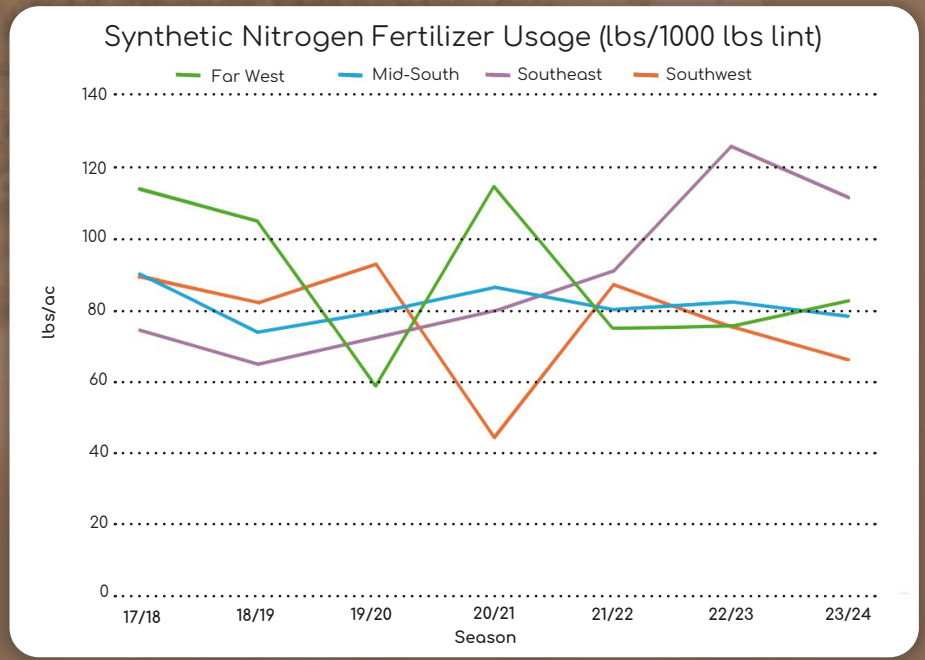


Photo credit: Joe Woodruff | 2023

Biodiversity

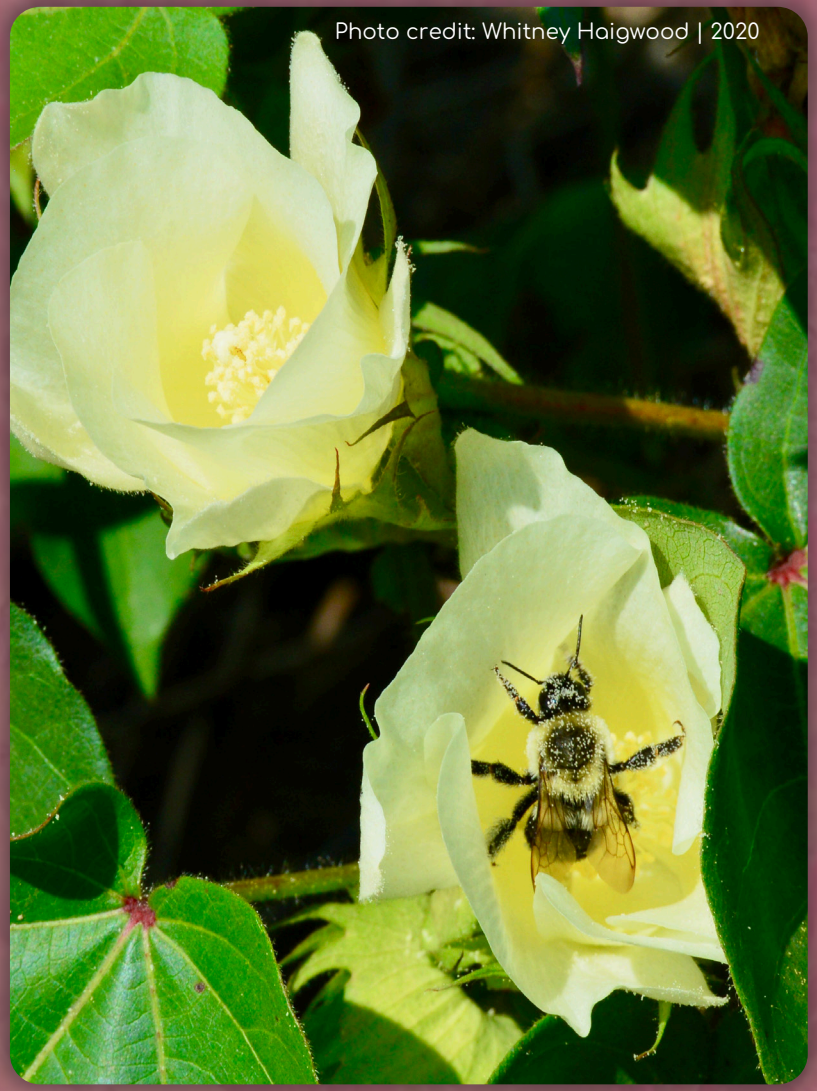


Photo credit: Whitney Haigwood | 2020

The umbrella of biodiversity in farming systems covers everything from soil biology to the way in which cropland is situated within the landscape.

By implementing practices such as minimizing hazardous pesticide usage, diversifying cropping systems and managing the natural habitats surrounding crops, producers improve the overall diversity of the landscape while enhancing soil health and integrated pest management (IPM) systems.

Better Cotton's biodiversity indicators include the protection of water bodies, conservation of natural habitats and, beginning after 2020, a prohibition regarding cotton produced on land converted from natural ecosystems. Additional requirements are incorporated into natural resources and crop protection indicators.

Some specific practices include:

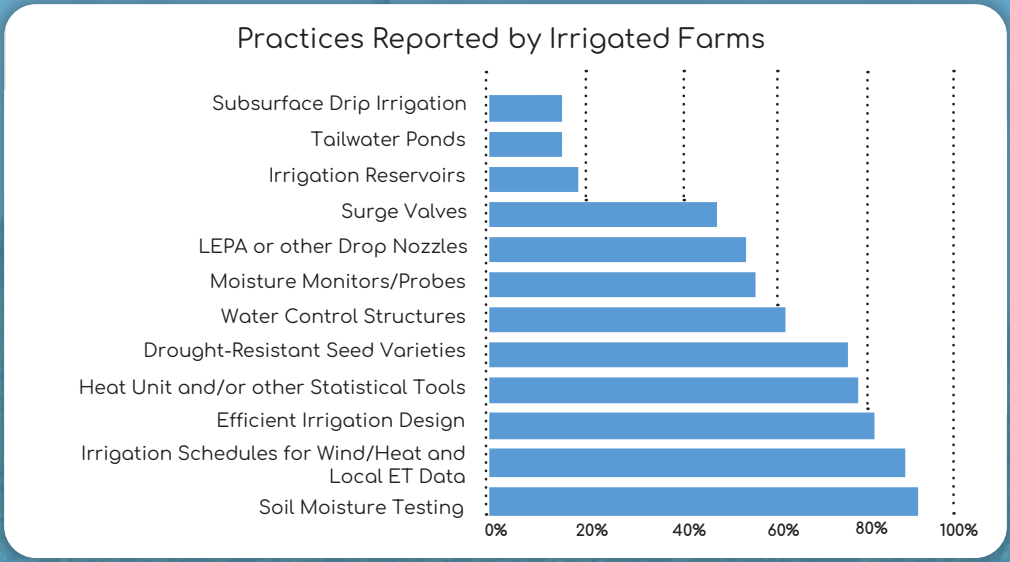
- Timing and reducing pesticide applications, limiting over-spray and designating no-spray areas
- Conserving land for pollinator or wildlife habitat
- Incorporating and improving connectivity of hedgerows and windbreaks
- Planting and managing field margins to support beneficial species and improve cover for protection of wildlife habitat
- Planting species that support beneficials and increasing flowering plants

Photo credit: Bec Sloane | Better Cotton, 2024

Irrigation Water Use Efficiency

A widespread misconception views cotton among the thirstier agricultural commodities. In reality, cotton is a heat- and drought-tolerant crop grown in areas with limited water. Because yield is highly responsive to irrigation, there is a disproportionate association with cotton as a water-intensive crop. Better Cotton's indicators require that irrigation methods, technologies and timing are planned and implemented to improve irrigation efficiency while maximizing water productivity. Indicators focusing on soil health, water quality, and biodiversity also address improved water storage and reduced runoff and leaching.

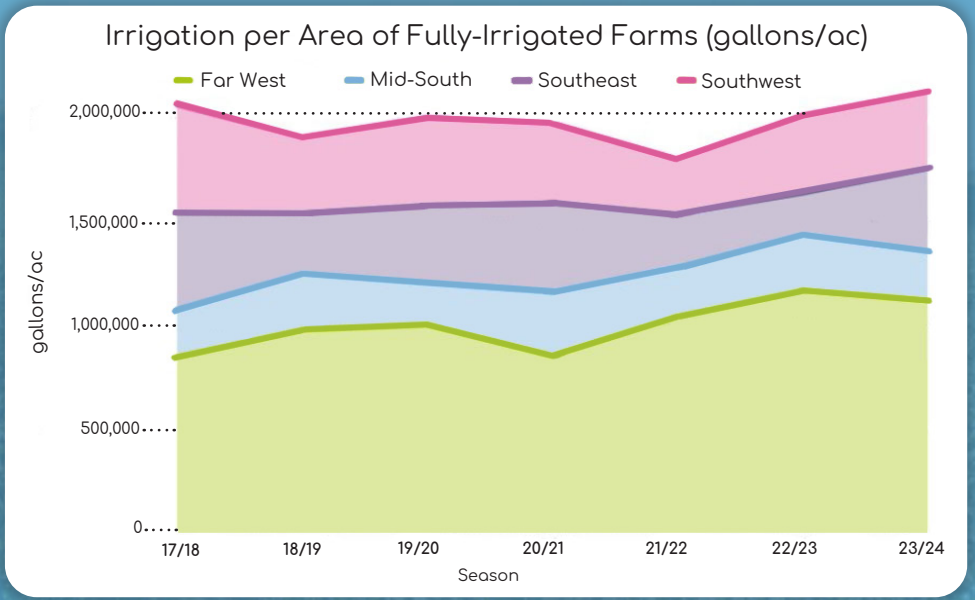
Efficient irrigation methods vary depending on the water source and landscape. Most producers are implementing practices that improve timing of application and plant uptake. More investment is required for practices like subsurface irrigation, establishment of tailwater ponds or irrigation reservoirs, and equipment that can help with efficient water distribution and infiltration.



In 2023, 68% of Better Cotton acreage was irrigated. Almost half of the farms were fully irrigated, while about a third had no irrigation. In the eastern half of the US, irrigation supplements rainfall, while in the west much more of the crop relies on irrigation. In drier years producers use more irrigation water to produce their crop; non-irrigated crops may not be planted or fail to produce.

Some practices include:

- Land leveling in crop fields
- Soil health practices such as reduced tillage, cover crops, and crop rotation
- Building water storage reservoirs and tailwater recovery systems for irrigation water
- Tracking water usage more accurately with well and pump automation systems
- More efficient nozzles on pivot systems
- Systems such as Pipe Planner and surge valves to more evenly distribute furrow irrigation water
- Use of soil moisture sensors



Crop Protection


Photo credit: Whitney Haigwood | 2020

As this Report illustrates, licensed Better Cotton producers in the US employ a number of regenerative practices – many of which fall under the umbrella of integrated pest management (IPM). IPM offers practical and realistic alternatives to the more toxic pesticides producers are trying to cut back on or seek alternatives for. Strategies include disrupting pest life cycles and encouraging beneficial species. Chemical controls are generally used but with greater precision and based on economic action thresholds to reduce applications.

Better Cotton crop protection indicators include adoption of a comprehensive IPM strategy that prioritizes non-chemical and less toxic pest management, safe and responsible pesticide handling, and prohibited use or targeted phase out of Highly Hazardous Pesticides (HHPs). Measures that enhance biodiversity and soil health also play key roles in supporting habitat for beneficial species, breaking pest life cycles and improving the health and resiliency of the cotton crop.

Some practices include:

- Using genetically embedded seed traits that help control insects with Bt* or are herbicide-resistant to support weed management
- Managing fertilizer and irrigation water to support a healthy, pest-resistant crop
- Monitoring beneficial species and limiting the use of broad-spectrum pesticides that reduce beneficial populations
- Limiting applications when pest populations are high, spraying only when economic thresholds are reached
- Spray technology** that allows for targeted application and minimizes overspray


Photo credit: Whitney Haigwood | 2020

*Bt (*Bacillus thuringiensis*) is a soil-dwelling bacterium that produces a toxin fatal to certain herbivorous insects, such as those which damage cotton plants.

**Some spray equipment may include swath control to prevent spraying the same area multiple times or spraying non-cropped portions of the field. Features like this – coupled with practices like closed container mixing, enclosed cabs and installing air filtration systems – not only benefit the environment but adhere to our decent work standards by addressing worker safety on the farm through reduced exposure to chemicals.

Success Stories in Pest Management

The history of advancements in the US cotton sector has been an eventful one, and its most celebrated victory remains the eradication of the boll weevil. Arriving in the Southern states over 100 years ago from Mexico, the notorious insect pest plagued producers all throughout the Cotton Belt. At one point, a third of all of insecticides used in the US were employed to combat the weevil alone, and producers saw over $15 billion in yield losses and costs to fight it off.

Unparalleled in its scope of damage, the threat of the boll weevil was significant enough to band producers, legislators and scientists together in what resulted in one of the world's most successful implementations of integrated pest management (IPM). In 1958, the National Cotton Council unanimously agreed on legislation that called for research efforts to be expanded and the boll weevil to be eradicated. The 1970s saw the launch of the USDA's National Boll Weevil Eradication Project, and by 2009 the boll weevil was deemed conquered.

A similar story can be told of the pink bollworm, another long-time menace of cotton producers whose eradication took years of dedicated research by USDA's Agricultural Research Service (ARS). Their efforts involved planting transgenic cotton, using insect pheromones to disrupt mating, releasing sterile insects to prevent reproduction and extensive surveying[1].

[1] USDA Press. October 19, 2018. "USDA Announces Pink Bollworm Eradication Significantly Saving Cotton Farmers in Yearly Control Costs." https://www.usda.gov/about-usda/news/press-releases/2018/10/19/usda-announces-pink-bollworm-eradication-significantly-saving-cotton-farmers-yearly-control-costs

Photo credit: Carlos Rudney | Better Cotton, 2015

Addressing Highly Hazardous Pesticides in US Production

Better Cotton is committed to reducing the hazards associated with targeted toxic pesticides through the progressive elimination of their usage. Chemicals listed under certain international agreements and classifications of the World Health Organization (WHO) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) have been prohibited by Better Cotton over time due to the degree of harm they pose to human health or the environment. We are now working to replace other acutely and chronically toxic pesticides with alternative practices and less toxic products.

In addition, some inputs may not be defined as highly hazardous but their impact on pollinators, natural habitats, or aquatic systems is significant. The revised Better Cotton standard requires special environmental mitigation measures for these products.

Some of the targeted Highly Hazardous Pesticides (HHPs) are commonly used by cotton producers in the US and other countries in our Large Farm Program. Highly mechanized operations that are managing large areas rely upon pesticides to control weeds and pest outbreaks. In addition to improving yields, crop quality can be significantly improved with good pest management and harvest aids that allow for optimal timing. Some of the herbicides that help to reduce tillage and greenhouse gas emissions – other Better Cotton goals – are listed as HHPs.

Pesticide resistance has limited the effectiveness of some products. Palmer amaranth is a prolific weed found throughout the Cotton Belt; its resistance to an increasing number of common herbicides has limited producers' options for management. Embedded traits for caterpillar control have become less effective over time and producers are returning to chemical controls when necessary. However, decreased reliance on a single type of pesticide and rotation among different modes of action help to slow pesticide resistance.

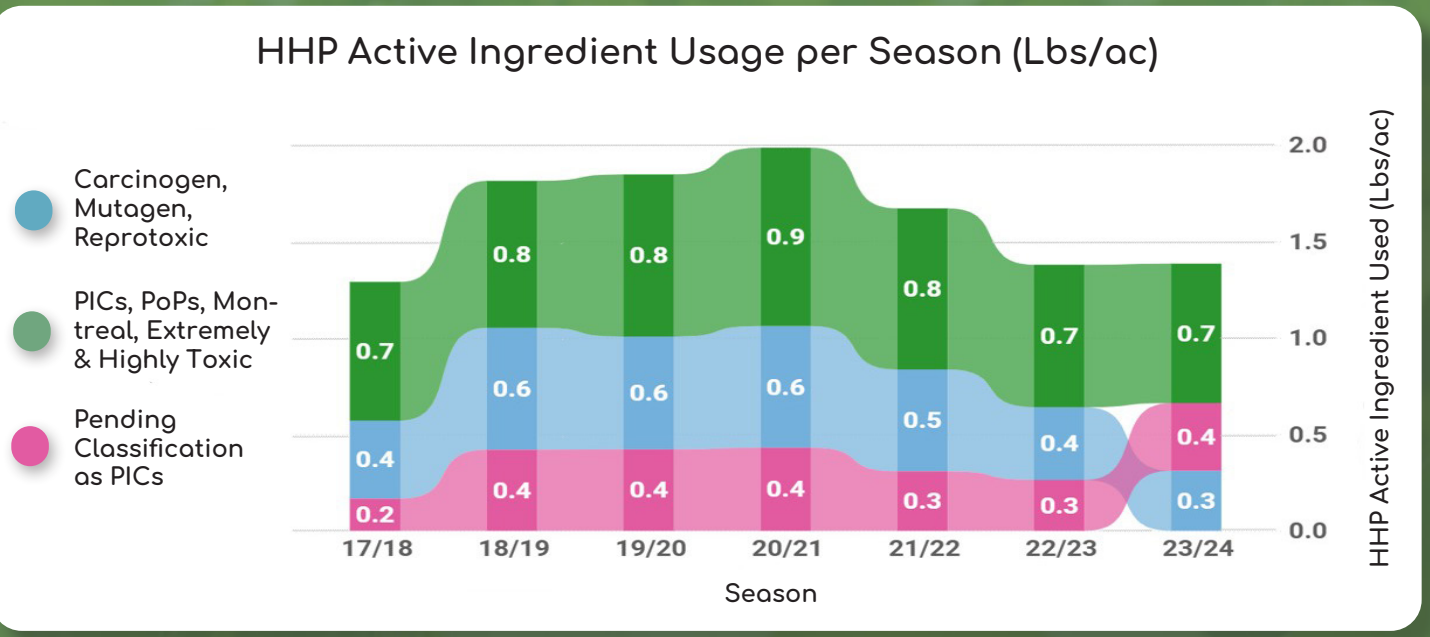
In the US, the Environmental Protection Agency (EPA) regulates pesticide use including reviewing safety data and registering products. Pesticide applicator licenses are required to purchase any restricted-use pesticides; regular trainings and renewals help keep producers and workers updated on product changes, label requirements, and use of personal protective equipment. The EPA also administers the Agricultural Worker Protection Standard[1] to ensure the safety of pesticide applicators and limit farmworker exposure. Other programs under the EPA focus on protecting endangered species and pollinators.

As Better Cotton works to identify alternatives and promote preventive and cultural practices, we will continue to monitor HHP usage. The latest numbers show an overall reduction in rates of HHP use per acre in the past four years. This work will take time as we gather key players in the industry to support a transition toward less toxic products, but we are making progress.

[1]Agricultural Worker Protection Standard (WPS) | US EPA

A Breakdown of Highly Hazardous Pesticide Usage

Better Cotton categorizes and tracks the usage of HHPs by licensed Better Cotton producers in the US. We have seen a reduction in overall use of HHPs since the 2020 growing season.



Banned by global conventions:

Products banned by global conventions (PICs, POPs, Montreal) are not permitted under the Better Cotton license.

These include active ingredients listed in Annexes A and B of the Stockholm Convention, the Annexes of the Montreal Protocol and Annex 3 of the Rotterdam Convention.

"Highly" and "extremely toxic" are defined by WHO and/or GHS classifications. Many were prohibited in 2024, but due to the lack of viable alternatives, some ingredients continue to be permitted for use with limitations or global derogations.

May be banned or restricted globally in the future:

"Pending classification" are those harmful active ingredients which are expected to be banned at the international level.

Carcinogens, mutagens & reprotoxins:

These are substances which present chronic health risks. The commitment by those adhering to global conventions is to phase out these substances by 2028.

Pesticide Action Network (PAN) Group 3:

PAN Group 3 categorizes active ingredients in Better Cotton's High Environmental Hazards list. They have been identified as environmentally hazardous due to toxicity to bees, persistence in the environment, or bioaccumulative properties.

This category appears in the regional breakdowns of active ingredient usage in the following pages.

Photo credit: Whitney Haigwood | 2020

Photo credit: Bec Sloane | Better Cotton, 2024

Region: the Southeast

Alabama, Georgia, Florida, North Carolina, South

The Cotton Belt's Southeast region runs from Alabama and Florida up to Virginia. While this area is diverse, much of this region is characterized by sandy Coastal Plains soils that have less nutrient holding capacity. The landscape tends to have more slope, and the adoption of practices such as reduced tillage and cover cropping have long been promoted to reduce soil erosion. Corn and soy can typically be seen in the rotation here as well, along with peanuts commonly grown in the southern states and more wheat to the north.

Here, many crop fields are smaller and less uniform, and the undulating landscape is dissected by creeks.

The Southeast has also been hard hit by hurricanes over the past decade, with strong winds and flooding causing significant damage to cotton. In 2018, North Carolina's producers saw greater than 20 percent of losses in their cotton crops due to Hurricane Florence[1]. In that same year, Hurricane Michael hit Georgia's cotton industry with over $500 million in losses, including loss related to cotton lint, cottonseed and fiber quality.[2] Cotton in the Carolinas was met with a particularly cold and wet season in 2020, contributing to hard lock, boll rot and both wind and rain damage[3] – adding to a year already burdened by the COVID-19 pandemic, and most recently 2024's Hurricane Helene took its toll on the region with historic floodwaters ravaging fields.

[1]Hart, John. "A quarter of North Carolina's cotton crop is lost." Southeast FarmPress, October 2, 2018. A quarter of North Carolina's cotton crop is lost

[2] UGA Report/estimates; will update this to a source with more concrete numbers: Cotton-Estimated-Losses-Due-to-Hurricane-Michael-Final.pdf

[3]Haire, Brad. "The punches piled up, and cotton got hit hard." Southeast FarmPress, November 18, 2020. https://www.farmprogress.com/cotton/the-punches-piled-up-and-cotton-got-hit-hard

Licensed Better Cotton producers in this region grow cotton on smaller acreages, averaging 2,500 acres in 2024 with seven owners and workers, 13% of which were women.

Practice Adoption

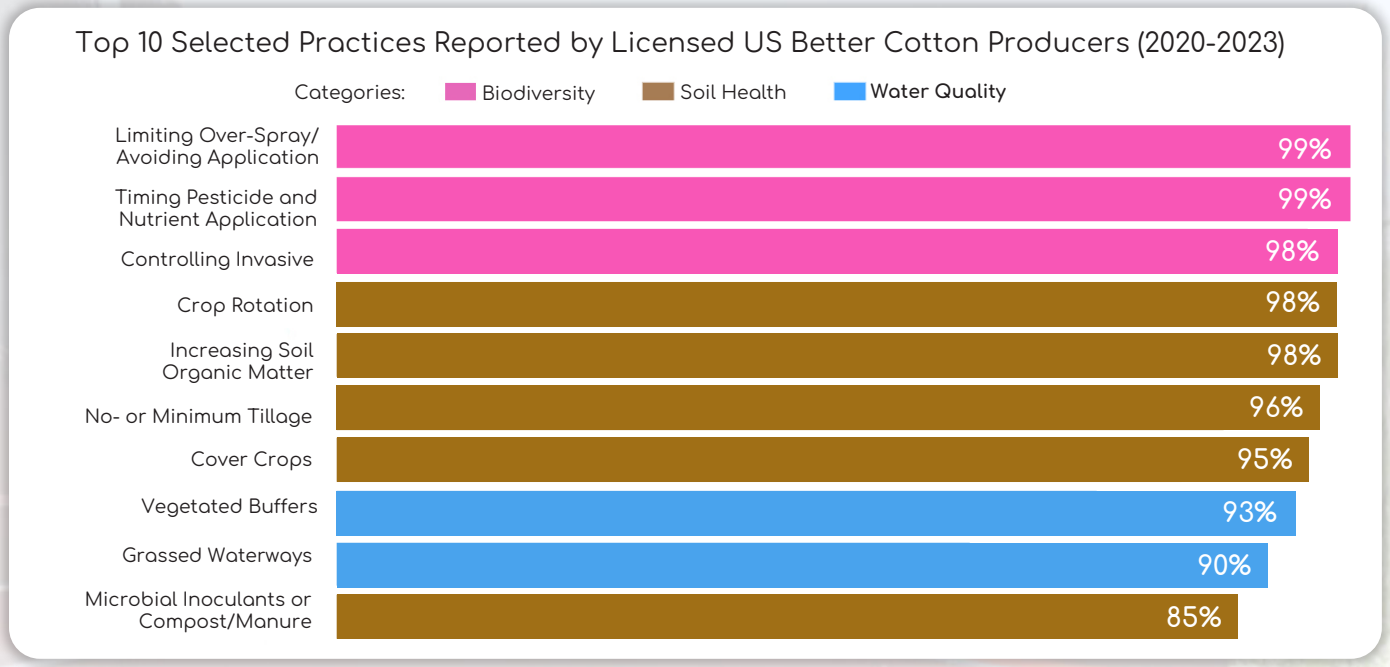
In the US' Southeast cotton region, practices known to reduce soil erosion have been promoted and adopted for decades. Cover cropping and reduced- or no-till farming have been embraced by nearly all Better Cotton licensed producers. Additional practices employed to slow runoff and protect surface waters include vegetated buffers, grassed waterways, terracing and stabilizing stream banks.

Other commonly reported practices include enhancing biodiversity by monitoring wildlife populations, planting field margins, increasing connectivity of hedgerows and windbreaks, and designating land for wild-

With more rainfall in the region and therefore less irrigated acreage, we see less focus on irrigation water management in the Southeast.

In the Southeast:

Practice Adoption



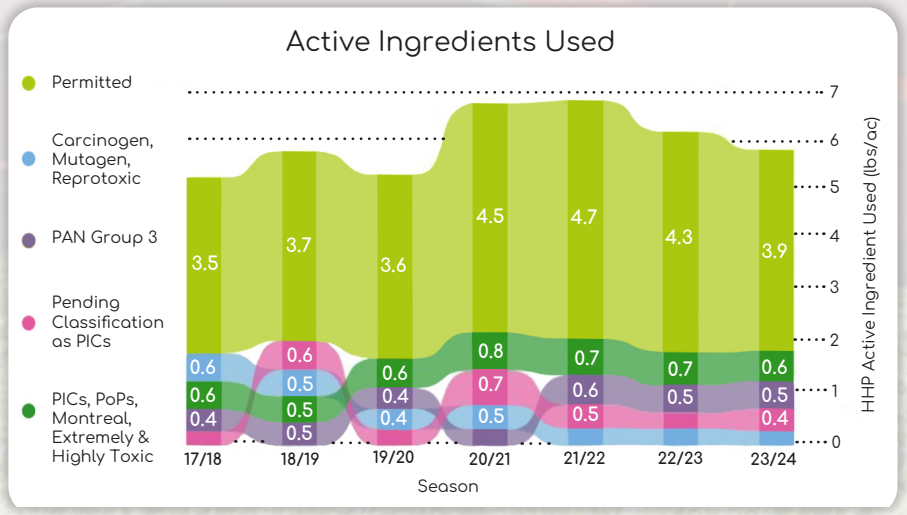
Irrigation Water Usage

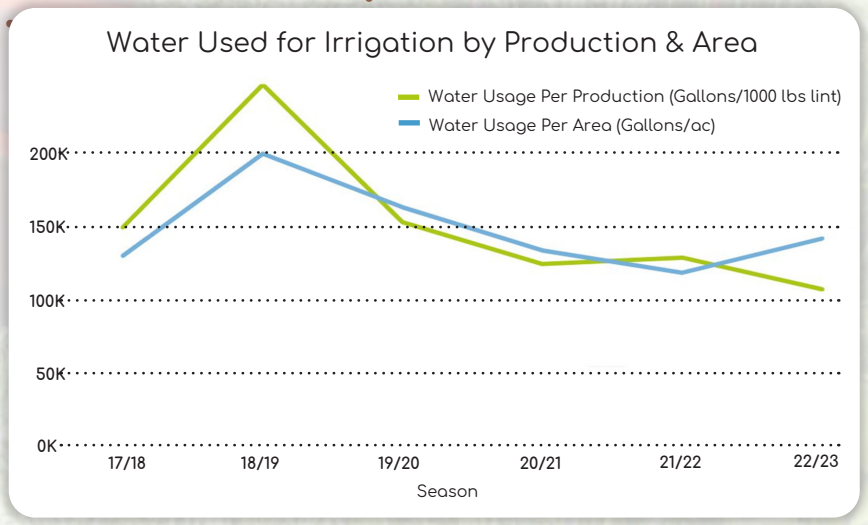
Southeastern farms are not as commonly irrigated, and application is supplemental during dry periods. Average annual rainfall across the region is 50 inches or more, and in many areas field shape and slope make it more difficult to install irrigation systems.

Only 28% of Better Cotton acres were irrigated in 2023 and the amount of water applied is consistently lower than in other regions.

Pesticide Usage

In addition to insect pests like stinkbugs, nematodes tend to be a bigger problem in the region's sandy soils, and deer have become an even more significant pest in recent years.





Region: the Mid-South

Arkansas, Louisiana, Mississippi, Missouri, Tennessee

Cotton has long been a cornerstone of the five states making up the US cotton producing region known as the Mid-South. A subtropical climate, generally reliable rainfall patterns and well-drained, fertile soils factor into the concentration of cotton farming in this corner of the country.

The average Better Cotton farm in this region grew 2,600 acres of cotton in 2024, with an average of ten owners and workers. Ten percent of owners and workers were women.

The soils in this region are rich with minimal slope, which allows for larger tracts of uninterrupted production. Cotton here is rotated primarily with corn, soybeans and rice, with increasing peanut acreage in the north and everything from milo to sugarcane in the south.

Use of pesticides is highest in the Mid-South. Pest pressure can be attributed to the humid climate as well as the scale of production and migration of pests like Lygus plant bugs between crops.

Practice Adoption

Mid-South reported practices reflect the landscape and cropping systems.

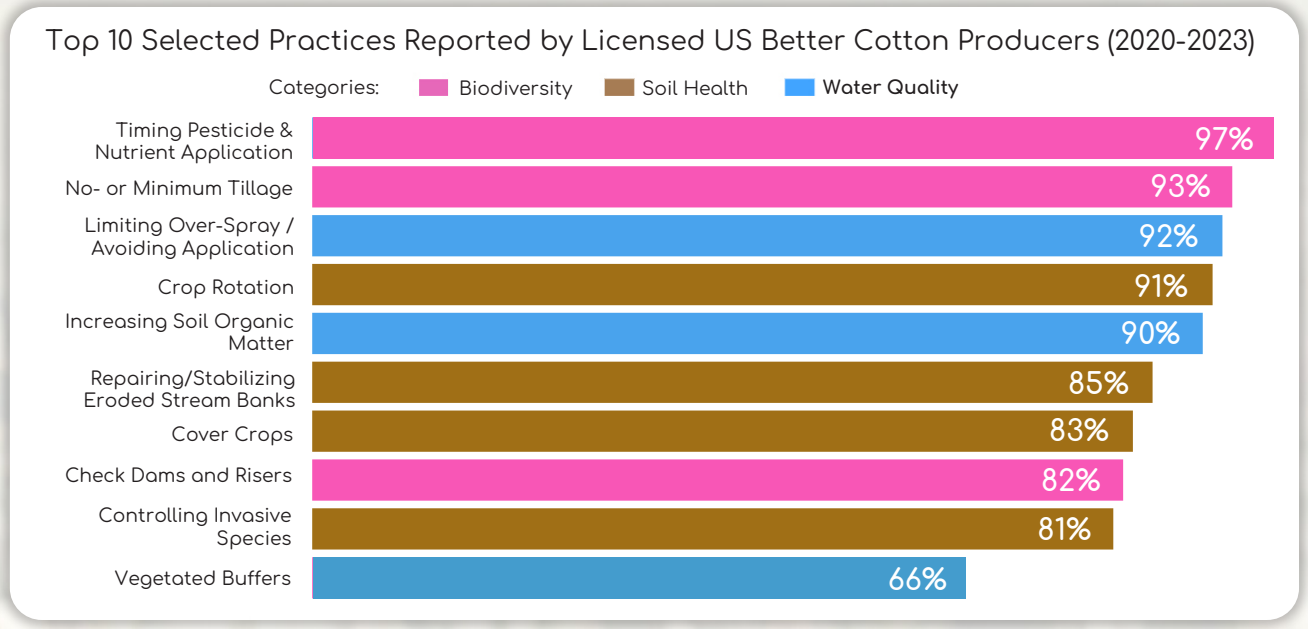
Furrow irrigation is commonly used, which requires level land and bedded rows. While the bedding does require some tillage, cotton producers in the Mid-South have found strategies which allow them to do so minimally, while also planting cover crops between rows.

Drainage ditch management is more common in this region due to the type of irrigation and landscape.

Photo credit: Kalli Unthank | Better Cotton, 2023

In the Mid-South:

Practice Adoption

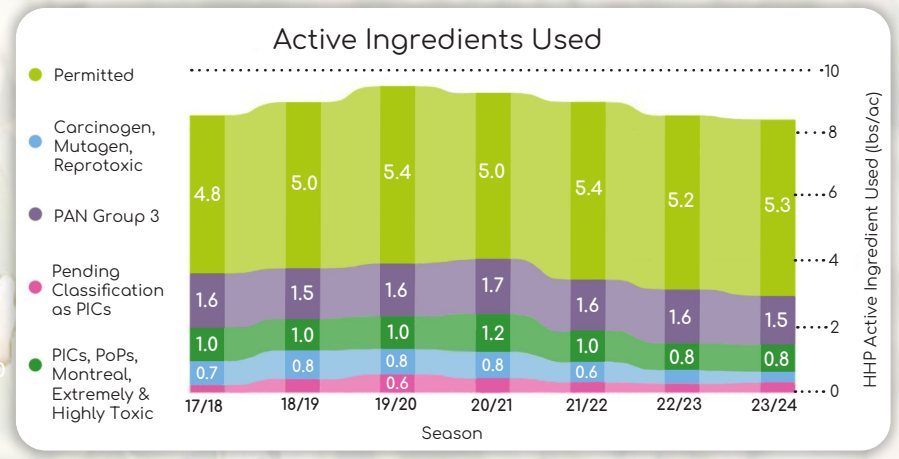


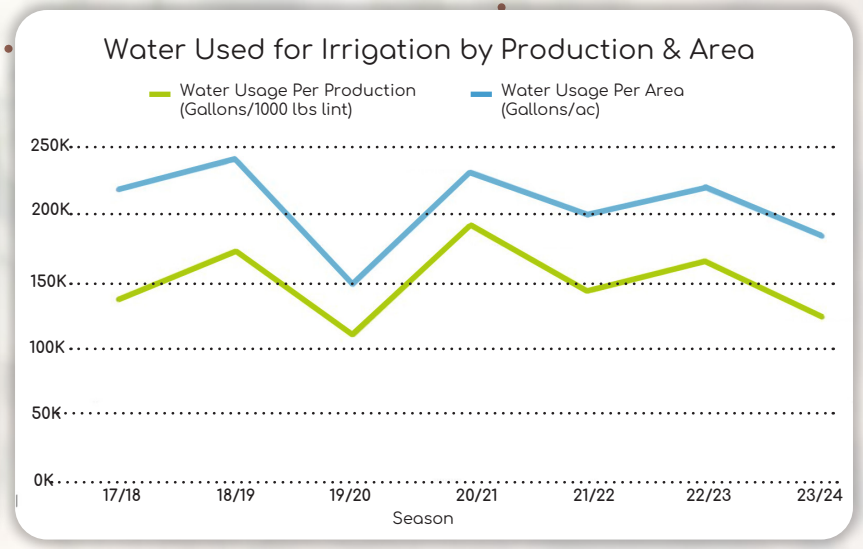
Irrigation Water Usage

In the Mid-South, 84% of Better Cotton acreage was irrigated in 2023, and many use furrow irrigation. While average rainfall is approximately 50 inches per year, supplemental irrigation remains important for the dry periods.

However, increased irrigation and other demand for water puts future groundwater supplies at risk. Measures to maintain efficient groundwater use and utilize rainfall are still critical. Programs like Pipe Planner are popular to ensure uniform distribution of water over the irrigated area.

Pesticide Usage





Region: the Southwest

Kansas, Oklahoma & Texas

The Southwest is home to three Cotton Belt states, including its biggest producer – Texas. Better Cotton farms here are larger, at an average of 2,700 cotton acres with eight owners and workers in 2024. Primarily due to the large work crews required to manage weeds on Texas' certified organic cotton operation, 38% of owners and workers in the region are women.

Texas is divided into nine main regions of cotton production. In the east, producers farm on black prairie soils with high rainfall and frequent hurricanes. Extreme drought and rainfall have both ruined crops in recent seasons. In arid West Texas, limited irrigation water and years of drought have limited production of cotton and reduced the number of alternate crops.

Oklahoma's primary cotton production is in the southwest corner of the state and is similar to the Texas panhandle in climate and soils. The relatively recent increase in cotton production in southern Kansas reflects changes in cotton varieties, equipment, and weather patterns.

Despite the low rainfall in much of the region, only 35% of the Better Cotton acreage was irrigated in 2023. Inputs are used sparingly, with the lowest rates of active ingredients in the US per acre. While cost of production is lower, crop loss is also more common.

The Ogallala aquifer is a critical source of water in the region that has been depleted over many decades. Groundwater levels continue to drop, making it more difficult to access with deeper wells that require more energy to pump. Between limited irrigation water and hotter and drier summers, crops like corn are less suitable in rotations and cotton is the rare crop that is both suitable and valuable.

Photo credit: Katrina McArdle Photography | 2024

Practice Adoption

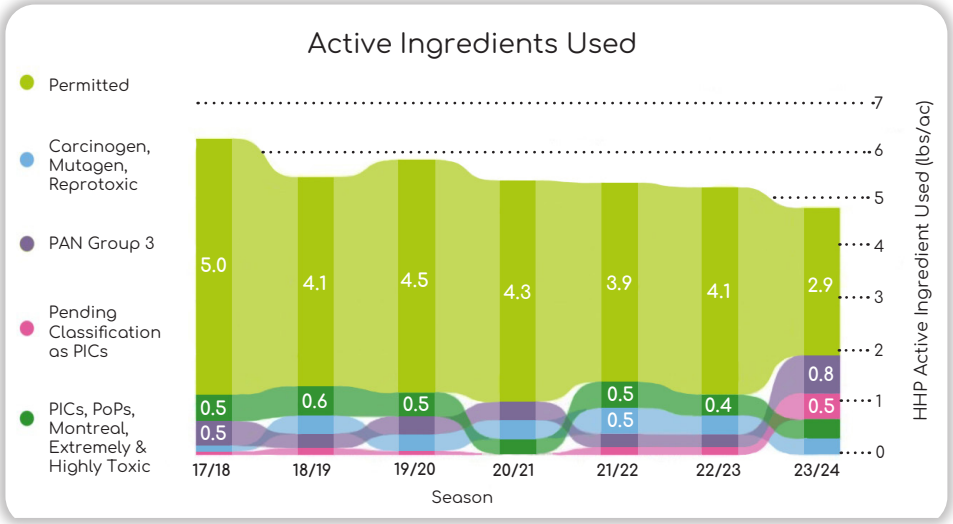
In much of the Southwest, farm management decisions are influenced by the region's arid climate. Cover crops, for instance, can be difficult to establish without sufficient rainfall. While water erosion is not a major concern, wind can be a significant problem. Some practices such as sand fighting create more soil disturbance but reduce the impact of wind erosion.

Despite those challenges, the arid climate also presents benefits, especially when it comes to insect management. The majority of certified organic cotton grown in the US comes from Texas, with licensed Better Cotton farms among them.

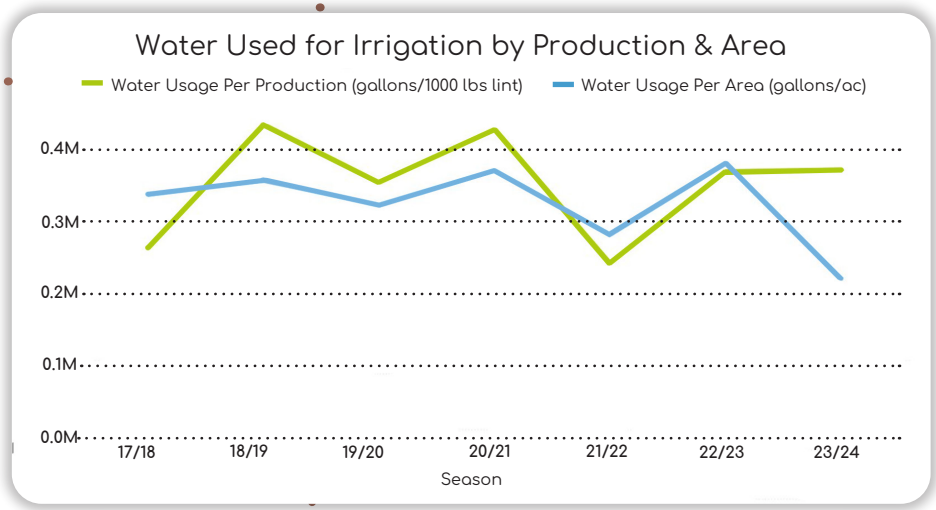
While tillage and cover cropping are more difficult to adopt in parts of the Southwest, many licensed producers integrate livestock grazing into their rotation or apply manure to build soil organic matter.

In the Southwest:

Pesticide Usage



Farms in the Southwest tend to use few insecticides on their cotton. The dry climate reduces pest and disease pressure and often cotton producers in the region prefer to rely on natural enemy populations that are sensitive to insecticide use.

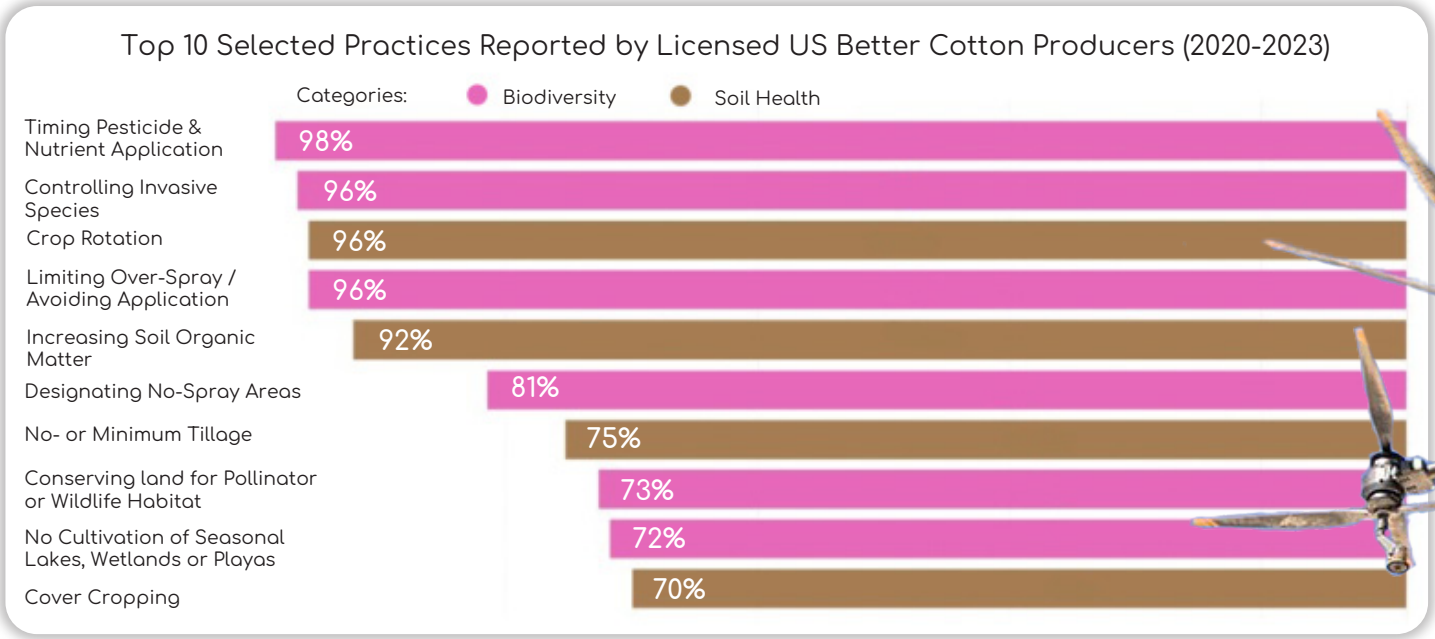


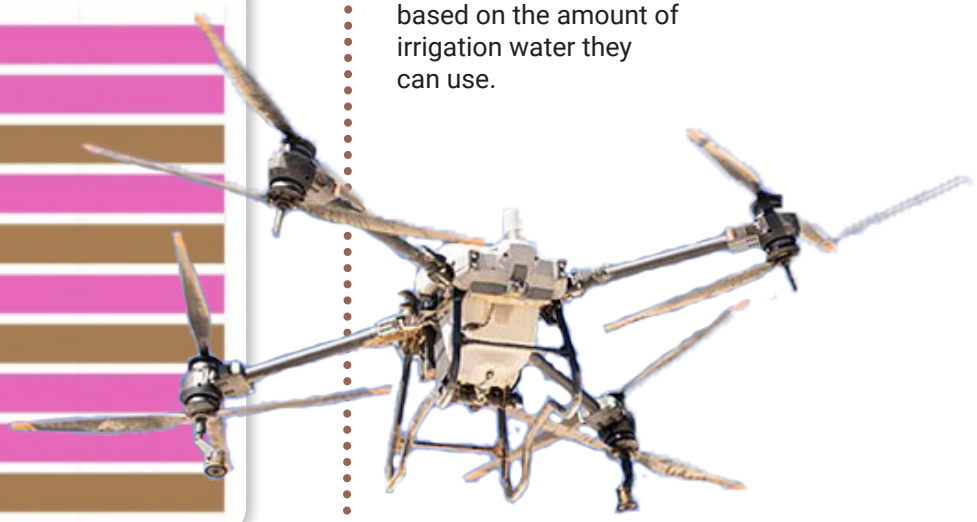
Irrigation Water Usage

Southwestern farms are increasingly relying on irrigation. While dryland farming continues, extended droughts have caused increasing crop failures.

In 2023, 35% of Better Cotton acres were irrigated. Many producers have limited their cotton acreage based on the amount of irrigation water they can use.

Practice Adoption





Region: the Far West

Arizona, California & New Mexico

The Far West comprises both the Mediterranean climate of central California and arid Arizona and New Mexico. One-hundred percent of its cotton farms are irrigated, and water management is a key factor in production decisions.

Here, the average Better Cotton production area is just over 1,000 acres, with an average of 16 owners and workers in 2024. The high worker number compared with smaller acreage is likely due to the intensive nature of other crops on the farm. Nineteen percent of owners and workers that same year were women.

Farms in this region tend to be more diversified, with higher value specialty crops like tomatoes, alfalfa hay and nuts such as almonds and pistachios grown in addition to cotton. Competition for cropland and water influences management decisions. Many in the region grow Pima cotton, a different species than the upland cotton grown in most of the US. Pima cotton has a higher value due to its longer staple length, strength and quality.

California agriculture is highly regulated. Pesticide usage is publicly reported, surface and ground water usage as well as fertilizer application are monitored and limited, and air quality measures are enforced. Furthermore, workers' rights are written into many laws regarding pay, requisite training, organizing, and worker safety that go far beyond laws elsewhere in the United States.

Practice Adoption

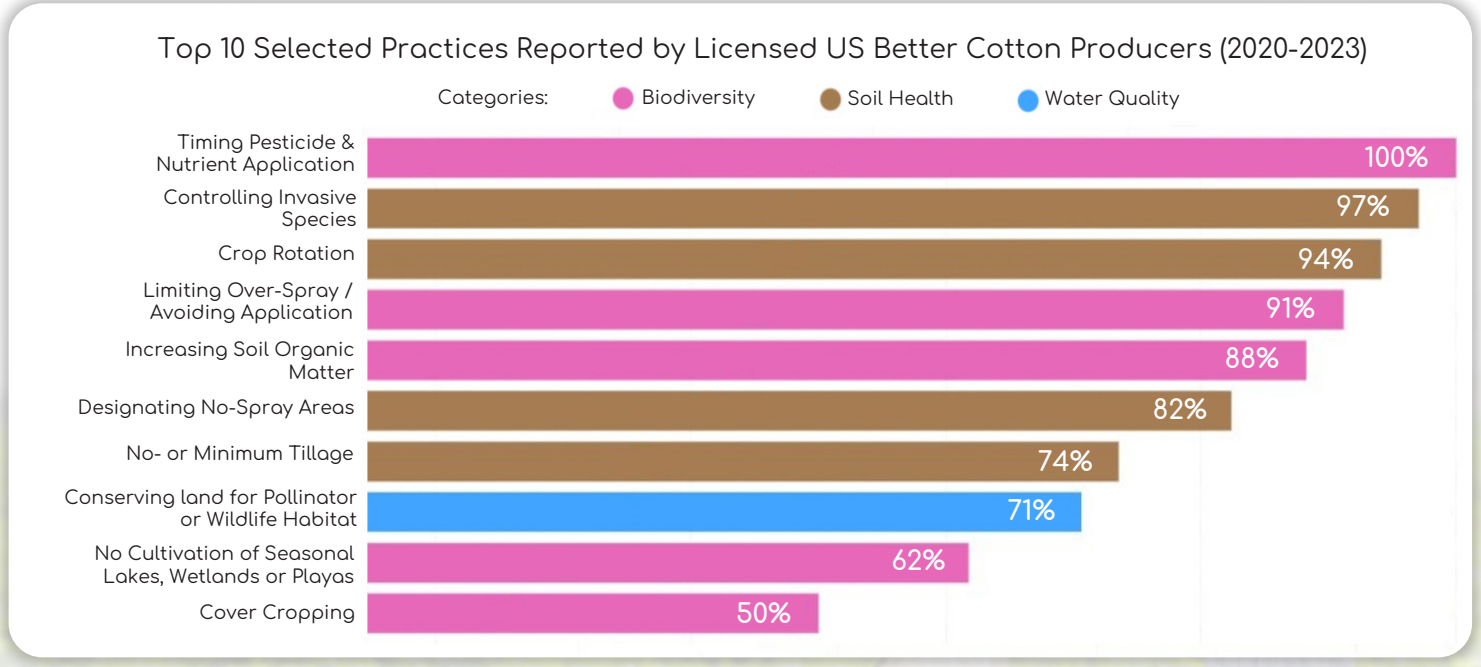
In the Far West – with less potential for rainfall to impact soil erosion and water quality – we see less of a focus on practices addressing those issues, such as repairing and stabilizing eroded stream banks or implementing drain tiles.

Practices that increase soil carbon, such as reduced tillage and the addition of organic fertilizer, are more commonly implemented by producers in the region.

Photo credit: Bec Sloane | Better Cotton, 2024

In the Far West:

Practice Adoption



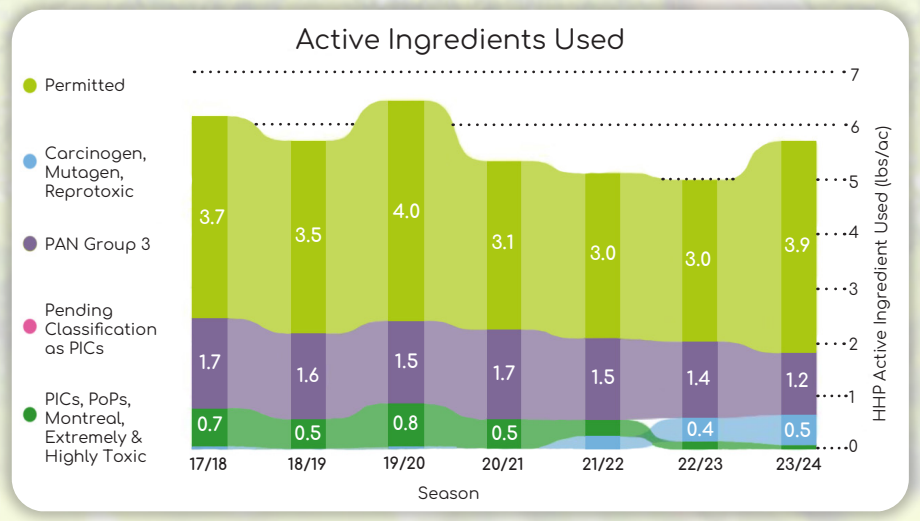
Irrigation Water Usage

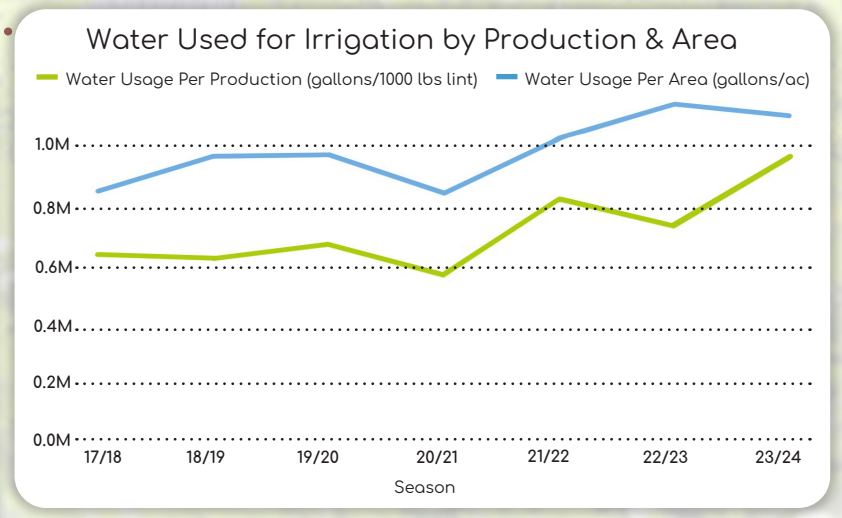
One-hundred percent of cotton in the Far West is irrigated, and water usage for agriculture is highly regulated in the state. Management decisions are often based on multiple crops' water statewide requirements, therefore efficient application of irrigation water in cotton is essential.

Pesticide Usage

As with cotton farming in the Southwest, the arid climate in the Far West helps to limit pest pressure on the crop.

Pesticide options are more limited for producers in California, which has its own stringent pesticide registration and monitoring system.





Collaboration in the US

Treading Common Ground

Through projects and collaborations, Better Cotton in the United States works in tandem with fellow initiatives, organizations and universities.

In doing so, we are better equipped to effectively address regenerative farming goals such as improving soil health, promoting biodiversity and seeking alternatives to Highly Hazardous Pesticides.

Photo credit: Jack Dalten Creative | 2023

Agricenter International Inc & the Judd Hill Foundation

Allies in the field supporting research into soil health, yield and profitability

From 2020-2022, Better Cotton's Growth and Innovation Fund* and Cotton Incorporated sponsored the University of Arkansas' research at the Agricenter International campus in Memphis, Tennessee, and the Judd Hill Foundation in Trumann, Arkansas. The project in Memphis evaluated the differences in soil health, yield and profitability with two 15-acre treatments: no-till with a multi-species winter cover (cereal rye, black-seeded oats, and hairy vetch) and conventional tillage with no cover crops. Soil health was evaluated using standard fertility, Haney soil health tests, bulk density, water infiltration rates and soil moisture at 6, 12, 18 and 30 inches. In-season pest management, nutrient management and harvest preparation were identical for both fields. All production practices were recorded to facilitate the creation of a budget, and the farm was enrolled in both Better Cotton and the U.S. Cotton Trust Protocol. In 2021, reduced inputs and increased yields in the "improved" plot resulted in higher profitability than in the conventional plot.

The research in Trumann introduced sheep grazing on the winter cover. While the no-till fields demonstrated improved soil health and infiltration each year, overall profitability was lower due to a lower yield. The integrated grazing treatment resulted in higher profitability with reduced expenses and comparable yields to the conventional control (livestock returns were not included in the calculations).

Photo credit:
Demarcus Bowser | 2020

*Better Cotton's Growth and Innovation Fund (GIF) is the organization's internal fund, supporting our vision and mission with a field-level grant-making program. The majority of this funding comes from the volume-based (sourcing) fees that our Retailer and Brand Members pay – an integral part of the Better Cotton model.

University of Arizona & Ak-Chin Farms

Exploring a pragmatic approach to pest management in cotton

Integrated pest management (IPM) takes a practical approach to minimizing pest populations with both the crop and environment in mind through a range of tactics that form a comprehensive site-specific strategy. These include encouraging beneficial species and natural predators of insect pests, as well as prioritizing non-chemical controls and optimizing the use of inputs to meet environmental and economic goals.

In 2022, we began working with Dr. Peter Ellsworth, Professor of Entomology and Extension IPM Specialist at the University of Arizona, and his team at the university's Maricopa Agricultural Center (MAC) to tackle pressing cotton pest issues and explore feasible solutions.

Whitefly, a common insect worldwide and a key pest in cotton, excretes sticky honeydew that can ruin lint quality and be disastrous for a cotton crop. For years, scientists at MAC have been developing a tool to set economic action thresholds for whiteflies based on predator populations along with pest counts. Their recommendations were based on counting the predators that feed on whiteflies and determining whether those populations were high enough to manage the insect pest. They identified six natural enemies which, in sufficient numbers, could potentially mitigate whitefly populations and ultimately reduce or eliminate pesticide usage.

With the support of Better Cotton's Growth and Innovation Fund, Dr. Ellsworth and his team partnered with Ak-Chin Farms, a licensed Better Cotton farm in Maricopa, Arizona, to field-test the system. Plots were established at the farm to compare the use of the tool versus traditional pest-scouting methods. In 2023, Ak-Chin Farms hosted over 40 pest control advisors, researchers, producers and industry representatives to offer them hands-on experience in scouting for pests and natural enemies, as well as testing out the predator count tool.

Photo credit: Jack Dalten Creative | 2023

Read on to learn more:

US Better Cotton Farmers Adopt Innovative Pest Management Techniques

Gino Pedretti

Implementing regenerative practices in the Central Valley

2024 Story Feature:
Navigating Regenerative Farming in California's Central Valley

For four generations, the Pedretti family has farmed in California's San Joaquin Valley. In addition to cotton, Better Cotton-licensed producer Gino Pedretti currently grows corn, alfalfa and wheat alongside his beef and dairy operations.

Gino began experimenting with regenerative cotton systems in 2022. He tested the system on 36 acres, using flood irrigation, a cover crop mix, reduced tillage, hand weeding and winter grazing. Continuing to test and refine his regenerative system, Gino then established a 40-acre plot in 2024. These fields are not the same each year as he rotates between crops, double cropping corn and wheat, followed by three years of cotton and then planting alfalfa.

Minimum tillage and cover crops are difficult to establish in the region because, in part, of pink bollworm management requirements and limited water use in the winter. Better Cotton helps cover the costs of multi-year field trials like Gino's regenerative research plot through its US innovation funds.

"You have to learn to manage the cons, and take advantage of the pros."

In addition to Better Cotton, Gino has been involved with other sustainability initiatives over the years including Fibershed, with its Climate Beneficial™ Verified program (formerly the California Cotton and Climate Coalition, or C4), a holistic verification system supporting regenerative farming techniques in cotton. He hosted a field tour in 2024 organized by Fibershed as an opportunity to meet in the fields with apparel and textile brands, designers and mills looking to source regeneratively and sustainably grown cotton.

Photo credit: Bec Sloane | Better Cotton, 2024

Quinton Kearney

Farming organic cotton in semi-arid West Texas

Weed zapping, water stress and wasps are just a few of the unique elements making up the bold and outside-the-box thinking some are embracing in their pursuit of organic cotton farming in the dry plains West Texas.

Better Cotton-licensed producer Quinton Kearney of Q&P Kearney Farms is defying conventional practices one by one in his thorough commitment to regenerative and sustainable agriculture. Along with a small group of fellow producers with King Mesa gin in Lamesa, Texas, his irrigated cotton acreage is certified organic.

Rather than rely on chemical compounds to regulate size and uniformity, Quinton adopts a more natural technique: intentional water stress. He also employs a “weed zapper” using high voltage electricity in place of herbicides to target weeds. Quinton has further reduced the need for chemical intervention by introducing beneficial insects like lacewings and Trichogramma wasps to target unwanted pests and their eggs.

Read on in our 2024 feature on Quinton:

Zapping Away at Convention:
Taking the Long View with Organic Cotton

In each region of the Cotton Belt, licensed Better Cotton producers are observing the land on which they grow their cotton, assessing their farm management techniques and exploring which regenerative practices make sense to incorporate into their operations.

Photos: Better Cotton’s Iain Stoddart and Jacob Cagle visit Quinton’s farm in 2024 and learn about his innovations.

Photo credit: Jacob Cagle | Better Cotton, 2024

Producer Spotlight

Zeb Winslow

Committed to an ongoing soil conservation journey

Coming from five generations of farming in Scotland Neck, North Carolina, Zeb Winslow has been a licensed Better Cotton producer since 2017. Supported in part by innovation funds from Better Cotton, along with ag-tech providers GROWERS and the Soil Health Institute, he has been implementing tissue sampling and soil testing to gather data that will improve his land and yields.

Adoption of soil health practices like cover cropping is higher in North Carolina than it is in much of the Cotton Belt, and Zeb has been actively involved in sustainable cotton production for years – sharing his journey and knowledge along the way. He spoke at the Better Cotton Conference in Brussels in 2018 and frequently hosts field days at his farm. He is actively involved in the Soil Health Institute's peer education program as a Farmer Mentor.

We are working with Zeb and GROWERS on the second season of a research project using a coordinated approach of soil and tissue testing methods on fields with a range of production and fertilization histories to evaluate soil characteristics, nutrient uptake and impact on yield.

"We're not going to decode this in one year, but maybe we can find a corner and start to build off of that."

2024 Story Feature:
In Search of the Rosetta Stone of Soil Health

2017 Story Feature:
Better Cotton Farmers Stand at the Forefront of Soil Conservation

Photo credit: Better Cotton | 2017

Rallying Around Shared Soils

Joining forces through research and resources to effectively address common impact areas

Soil stewardship is a priority shared among all producers and is a key attribute found within Better Cotton's Principles & Criteria regarding natural resources. By implementing regenerative soil practices and participating in the collection of soil samples and data, Better Cotton-licensed producers contribute to an indispensable pool of knowledge that benefits cotton producing soils across the country.

The U.S. Regenerative Cotton Fund

Like Better Cotton in the US, SHI too is approaching a 10-year milestone (2025) and have much to show for their work thus far, including among US cotton producers.

SHI's U.S. Regenerative Cotton Fund (USRCF) advances the adoption of soil health management systems across the Cotton Belt, simultaneously contributing to cotton producers' livelihoods, climate change mitigation and a more resilient future for all. The initiative aims to draw down one million metric tons of carbon dioxide equivalent by 2026 through increased adoption of regenerative soil health practices by cotton producers.

The Soil Health Institute

Among conservation groups and sustainability initiatives in the US, soil health features prominently as a shared impact target area and the literal foundation of regenerative agriculture. The Soil Health Institute (SHI) is a global non-profit based in the US which has been deeply committed to ensuring the vitality and productivity of our soils through scientific research and advancement. Like Better Cotton, SHI is a convener, bringing together soil scientists and industry leaders to equip – as well as empower – producers and land owners with knowledge and training that support a more environmentally and economically beneficial relationship with the land.

Better Cotton and SHI have crossed paths on innovation projects and at field events among our Program Partners, facilitating with research and outreach to involve more producers in improving their soils while supporting them with the essential resources and opportunities.

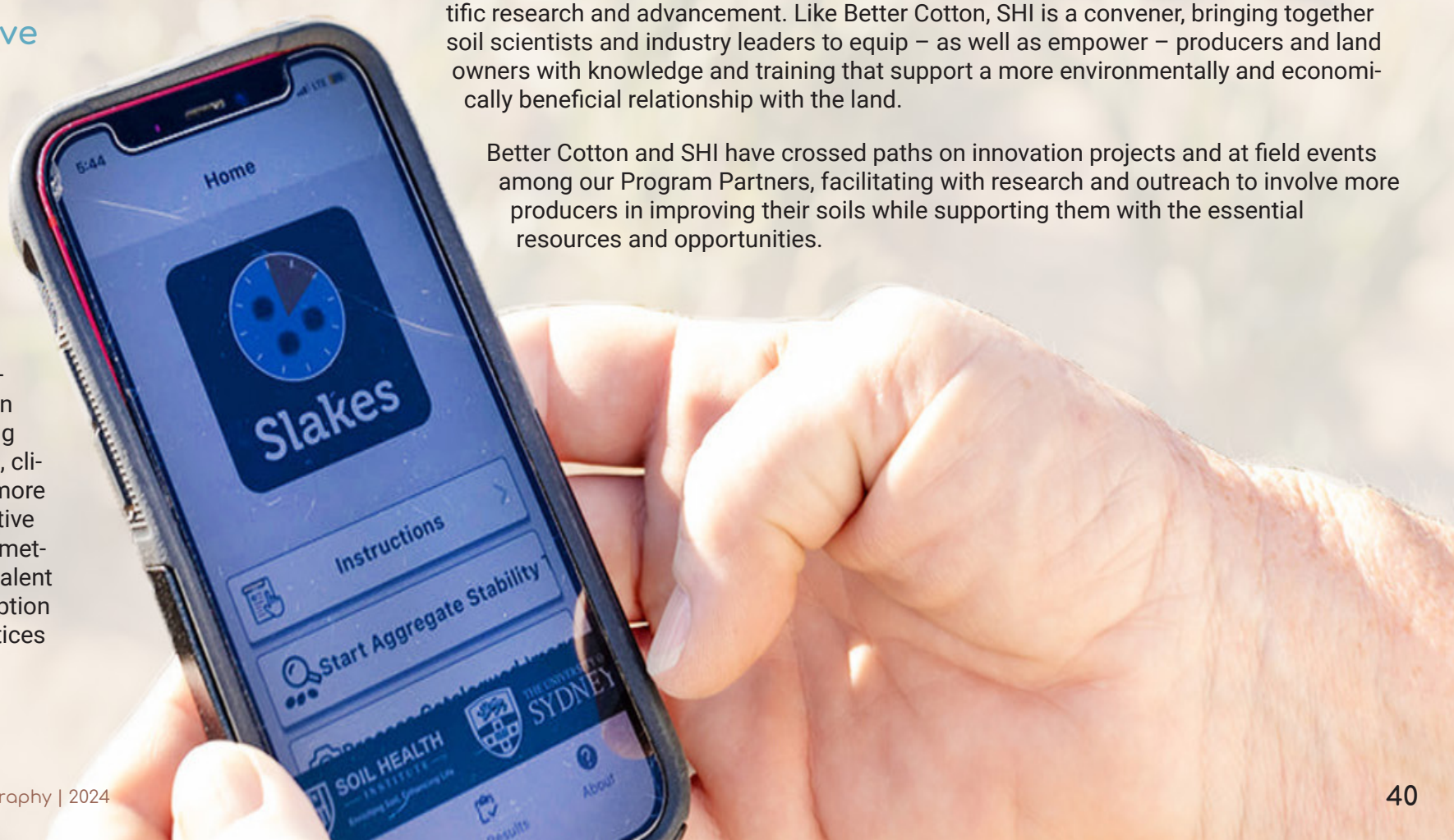


Photo credit: Katrina McArdle Photography | 2024

Photo credit: Katrina McArdle Photography | 2023

Scaling Soil Health

Getting granular with soil systems at the regional level

SHI Chief Impact Officer Byron Rath speaks with stakeholders from across the supply chain at our 2024 US Cotton Connections Field Event.

Photo credit: Katrina McArdle Photography | 2024

Better Cotton operates amid a vast range of cotton-growing regions across the globe, each unique in everything from climate to farming systems to the very soils the crop is planted in. The four regions spanning the US Cotton Belt are just as distinctive. The more data gleaned from our producers about the health and productivity of their respective soils, the more we can learn about how best to support them in sustaining this land for generations down the line.

SHI is working to establish soil health benchmarks to provide producers with locally-relevant information to apply to their individual soil and cropping systems. They are doing so by comparing three types of management systems:

Baseline: regionally common systems that may include some soil health practices where such is the norm

Soil Health: one or more soil health practices adopted compared to the baseline system

Reference: minimally disturbed sites with living roots that represent the potential for the region's soil health

Samples are collected from defined regions for specific cropping systems and on similar soil types to illustrate the impact of management and identify opportunities for innovation. As indicators of soil health, SHI looks at soil organic carbon, aggregate stability, carbon mineralization potential and available water-holding capacity.

This level of benchmarking carries the potential to benefit stakeholders across the board. Producers and their advisors will be able to see results of their management decisions and set tangible goals, while brands and industries will be able to invest more confidently in theirs. Sustainability and sourcing professionals will be better able to quantify the impact of their projects, as will companies looking to measure their sustainability efforts.

SHI's emphasis on localized attention to soil characteristics and performance falls right in line with how we opt to present our data snapshots. Weather variability, statewide water regulations and territorial pests can all contribute to the challenges and innovations we see across the US Cotton Belt. Throughout the regional spotlights in this Report, practice adoption, synthetic input application and water usage among Better Cotton-licensed producers are depicted alongside the relevant context of their respective regions, offering a more thorough grasp of what producers are undertaking.

Regionalization & Benchmarking

Leveraging regional data collection and knowledge sharing to empower producers

In 2025, SHI will publish seven regional reports addressing the regional soil-related progress cotton producers are achieving. These reports will empower producers and their advisors to set soil health goals appropriate for their respective soils and climate, and will demonstrate regionally-feasible improvements achieved using soil health practices.

These reports will illustrate why SHI recommends testing a suite of soil health indicators - as compared with looking at soil organic carbon alone – because data show that certain indicators respond to soil health practices differently depending upon the region.

Many producers are concerned with water availability and carbon stock changes and potential, so SHI models available water holding capacity and calculates soil carbon stocks in its producer and regional reports.

Tangible Results & Sustained Commitment

SHI has developed Soil Health Benchmarks for 11 regions accounting for 50% of the US Cotton Belt, or 10.5 million out of around 20 million acres in the US that have the potential to grow cotton.

To date, SHI has empowered 1,400 producers and their advisors - representing 610,000 acres - in partnership with 21 technical specialists and Farmer Mentors, and discovered that producers using soil health systems increased net farm income by $173 per acre in Texas, Georgia, North Carolina, South Carolina and Mississippi, and reduced greenhouse gas emissions by an average of .43 metric tons of C02e per acre and year due to reduced use of fuel, fertilizer and soil amendments.

In 2026 and 2027, SHI plans to continue outreach and education and benchmark 80% of the US Cotton Belt so producers and advisors have realistic and achievable soil health and soil carbon goals across all 20 million acres of cotton-growing soils.

US Regenerative Cotton Fund Milestones:

- Published 28 partial economic budgets in Texas, Georgia, North Carolina, South Carolina, and Mississippi showing that producers save $74 per acre growing cotton using a soil health management system and gain $173 in net income per acre, based on standardized prices, using soil health management practices;
- Engaged 1,400 producers and advisors representing more than 609,000 acres, 23 Farmer Mentors & technical specialists, and hosted 28 field days and workshops in Alabama, Arkansas, Georgia, Mississippi, North Carolina, South Carolina, Oklahoma, and Texas;
- Collected over 1,200 soil samples to inform soil health and carbon benchmarks to date representing over 10.5M acres and developed 264 personalized soil health reports delivered to cotton producers and land managers;
- Hosted 12 interns from Tuskegee, Alcorn State, Pine Bluff, Prairie View A&M, Fort Valley State, North Carolina State, and North Carolina Agricultural and Technical State Universities.

Photo credit: Bec Sloane | Better Cotton, 2024

Linking the Demand

Better Cotton & its Members increase market access for farming communities

Our member base reflects a global community that comprises over 2,600 key players made up of civil society groups, producer collectives, suppliers and manufacturers, and influential retailers and brands – a testament to the breadth of the industry and our reach throughout it.

We drive global demand for more sustainable cotton by encouraging our Supplier and Manufacturer as well as Retailer and Brand Members to source Better Cotton.

Better Cotton has begun the transition toward becoming a certification scheme. We introduced new chain of custody models to enable the sourcing of Physical Better Cotton in 2023 in response to evolving legislative requirements and demand from buyers. We expect this new offering to lead to increased demand for Better Cotton in the current regulatory environment.

Photo credit: Katrina McArdle Photography | 2024

Stirring Interest & Marketability

The commitment of US-based Better Cotton Members

Better Cotton was established with multistakeholder perspectives and needs in mind – one of which was to ensure that there is demand for Better Cotton itself. Creating demand for the fiber fiber produced by Better Cotton-licensed producers is a key driver in scaling Better Cotton as a more sustainable commodity. All of our members play a crucial role in generating that demand and across various points in the supply chain, and provide feedback on developments to meet market needs whether through formal consultations or conversations with Better Cotton team members.

Better Cotton Member Categories

Better Cotton's membership options are inclusive of all stakeholders who support the sustainable future of cotton. Visit our Membership page to learn more:

Our Membership - Better Cotton

Associate Member | Suppliers & Manufacturers | Retailers & Brands | Producer Organizations | Civil Society

Our Retailer and Brand Members also have a unique connection to field-level investments via the Volume-Based Fees they pay from their Better Cotton sourcing which are channeled to the Growth and Innovation Fund.

From the very beginning – establishing a need for the Better Cotton Initiative during a 2005 WWF roundtable convening with Gap, H&M, Adidas and IKEA – until now, the commitment of our Retailer and Brand Members has ensured there is a market pathway for Better Cotton. In the past 10 years, Global Membership has grown from 469 to over 2,600.

Our North American Retailer and Brand Members make up a significant portion of that membership growth with 54 Members at the end of 2024. They represent nearly 40% of global Better Cotton sourcing with an average of 933,683 MT sourced each year for the past five years.

Aside from sourcing, they have shown leadership in Better Cotton's mission and market development through Better Cotton Council representation, field project funding and Traceability panel participation.

Below: Better Cotton staff and Members gather at the J.Crew Group offices in New York for a regional workshop.
Bec Sloane | Better Cotton, 2025

Pioneering Traceability

Better Cotton traceability is contributing to the increasing accountability of cotton supply chains, providing brands and consumers alike with greater transparency around the origin of their cotton. Developed alongside over 1,500 stakeholders and launched in 2023, our traceability solution enables Retailer and Brand Members to source Physical (traceable) Better Cotton with a verified country of origin.

The initiative was led by our Retailer & Brand Traceability Panel, which gathered over a dozen Retailer and Brand Members in 2021 to collectively fund and shape our approach to traceability. The Better Cotton community and industry as a whole benefited from the multi-year commitments by a handful of these Members who were essential in bringing this solution to fruition.

Over 1,900 suppliers globally are now eligible to sell their cotton as Physical Better Cotton – a direct result of the efforts put forth by the members of the Traceability Panel to prepare the supply chain. To date, over 316,000 MT of Physical Better Cotton have been sourced by Spinners and Fabric Mills in the supply chain, with Retailer and Brand uptake more than doubling each month.

In just a year and a half, this collective drive has led to the availability of Physical Better Cotton in 13 countries, with supply from the US available as of the end of 2024.

As of the 2024-25 season, producers in the US who successfully completed Better Cotton's certification process were eligible to sell their cotton as Physical Better Cotton. Approximately 490,000 bales (~107,000 MT) of Physical Better Cotton from the US were available from the 2024-25 season.

"We understand the importance of material traceability and transparency in the different tiers of the supply chain, and that is why we committed to source Physical Better Cotton and claim our products without greenwashing. We would like to eliminate the mass balance Better Cotton sourcing, and convert all our Better Cotton to physical, if possible, by 2030."

Dr. Thiwanka De Fonseka, Chief Sustainability Officer, Charles Komar & Sons

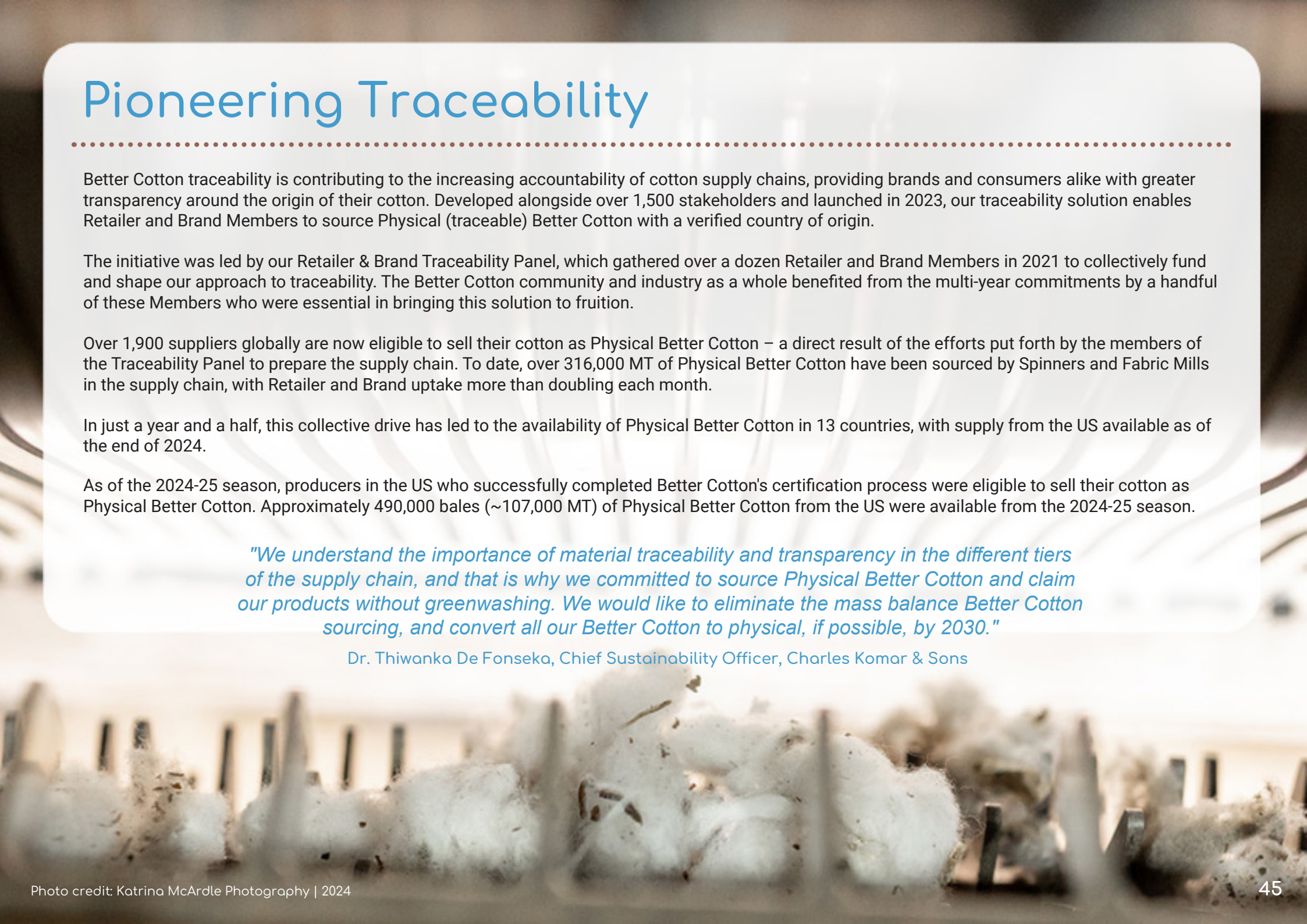


Photo credit: Katrina McArdle Photography | 2024

Bales & Bale Tags

A tour through existing traceability systems for US cotton

The USDA Agricultural Marketing Service currently maintains a national bale-tagging system. Known as the Permanent Bale ID (PBI), it consists of the gin code and a serialized number to provide a unique ID for every US cotton bale – numbers which can be recycled only after five years to avoid duplication.

Gins are required to comply with and sign a cooperative agreement outlining specifications for bale bags and tags, ordered from manufacturers who provide details of ginners and their orders to the USDA for approval prior to printing.

Assigning a tag to a bale

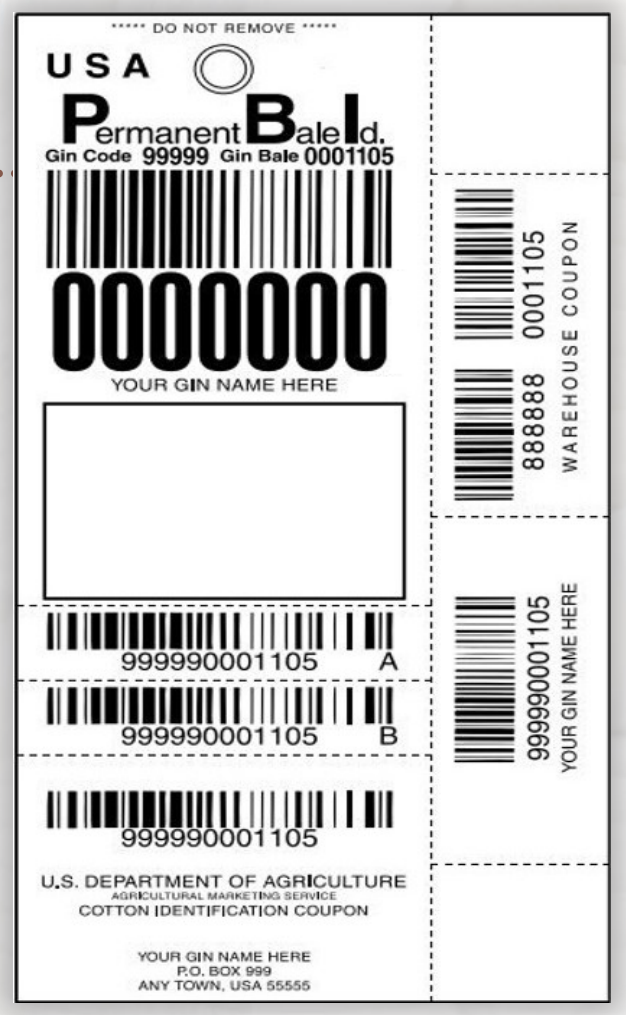
Bale tags are assigned in sequential order as soon as the bale leaves the bale packing machine.

The bale tag is scanned at the point of packing so the system can connect the modules that have just gone through the ginning process with the PBI on the bale.

What happens beyond the gin?

Most cotton bales are sold via cotton marketing aggregators such as Staplcotn and PCCA, who pay the producer for a portion of the cotton up front, warehouse the cotton, market it and may also trade it.

The aggregator ultimately decides when to sell their cotton. When this happens the aggregator ships the cotton and pays the producer the outstanding balance.



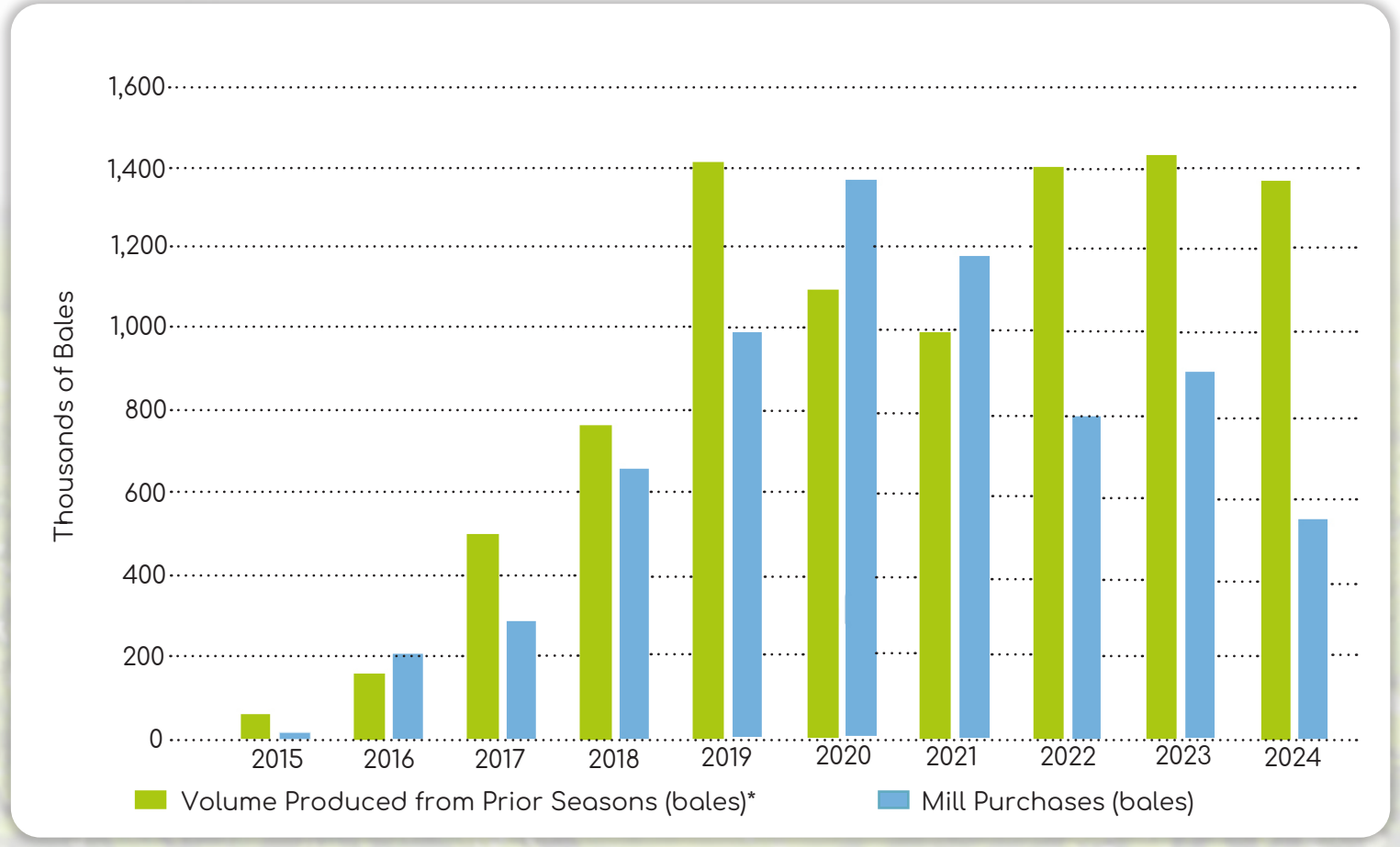
Marketing aggregators provide a cash flow function for producers – allowing them to wait for the right price – and handle most of the administrative duties and logistics as well.

Warehousing & Electronic Warehouse Receipts (EWRs)

Once a bale is received at the warehouse, the warehouse will create a receipt in EWR system for that bale. The receipt is an electronic title for each bale, and whoever owns the right to the receipt owns the bale. The receipt also stores data about the bale and if the bale is traded, the receipt can be updated to reflect the new holder.

Uptake of Better Cotton from the US

Tracking the rise of mill uptake over the past decade



This graph represents the mill uptake for US Better Cotton since 2015.

Better Cotton provides a quarterly analysis of global Better Cotton supply and demand for members only.

Access it here:
Better Cotton Production and Uptake Reports

Not yet a member? Learn more about Better Cotton Membership today:
Our Membership - Better Cotton

*Volume Produced from Prior Seasons: This does not account for possible prior season's excess inventory in Trader accounts being shipped to mills, in addition to most recent licensed season volume at the farm level.

Aligning to Promote Industry Progress

Exploring common ground amidst the proliferation of sustainability initiatives and standards in the US

At a point in time when synthetics dominate the textile industry and producers are met with rising costs and decreasing market value, it takes a choir of voices to amplify cotton's story and generate the necessary demand. Beyond our Membership, collective efforts put forth by cotton organizations and sustainability initiatives contribute significantly to raising the value of cotton grown in the US, the visibility of those producing it and the regenerative practices they adopt and promote.

Better Cotton is not alone in advocating for US cotton producers: a vast array of target-aligned programs contribute research, resources, promotion and incentives in support of the country's cotton sector. The following features in this section spotlight the contributions of just a few of our allies in this space who supply reliable information, valuable resources and effective communications across a range of stakeholders.

In addition to aligning on the sourcing of sustainably-grown cotton and promoting a more transparent fiber and textile supply chain, our fellow initiatives contribute to continued progress being made in addressing shared impact targets to protect and restore our environment.

By recognizing the simultaneous efforts put forth by these allies throughout the field and industry, we identify opportunities for collaboration and amplifying one another's work for the benefit of producers, communities and the environment.

Advocacy

In 2024, Better Cotton also joined with what has now risen to over 65 members of the Make the Label Count (MTLC) coalition. That membership represents a range stakeholders from natural fiber organizations and environmental groups to manufacturing supply chain partners, retailers and brands. The global advocacy group is calling for fair, transparent and credible sustainability information across the fashion and textile sectors, including an urgent revision of the European Commission's Product Environmental Footprint (PEF) methodology.

MTLC Campaign Manager and Woolmark Sustainability Manager, Elisabeth van Delden, presented on behalf of MTLC during our 2024 Large Farm Symposium, laying out the present landscape of the textile industry and how natural fibers – and Better Cotton – fit into the picture.

Large Farm Symposium 2024 Recap

Photo credit: Bec Sloane | Better Cotton, 2024

Textile Exchange: Keeping Materials at the Heart of Sustainable Fashion

Textile Exchange is a global nonprofit which has been actively involved with sectors throughout the fashion and textile supply chains for over 20 years. With roots in organic cotton, their reach now encompasses a vast range of fibers and materials. The organization's extensive work and resources help to steer the industry toward creating more positive impacts throughout our environment while driving demand for the materials reflecting those values.

Echoing our recognition of collaborative efforts in this space, the Textile Exchange's 2025 Sustainable Cotton Challenge brings into the fold over a dozen cotton sustainability groups from around the world – Better Cotton among them – to collectively drive the industry toward more responsible cotton sourcing.

Textile Exchange

The Fiber & Materials Matrix

An open-source tool created by and for the fashion and textile industry

The Fiber and Materials Matrix (FMM), formerly called the Preferred Fiber and Materials Matrix, enables a holistic understanding of impacts. It is an interactive tool designed to show what is covered – and what is not – across various fiber/raw material programs, giving programs a standardized way to view their performance toward a shared "direction of travel" for beneficial impact, while also helping brands and retailers to make more informed material sourcing decisions.

The FMM has been developed to include programs across the following material types: cotton, synthetics (including biosynthetics), wool, manmade cellulosics (MMCF), leather and cashmere, as well as recycled content programs across material types.

Just as we look to couple our cumulative data from Better Cotton's work in the US over this past decade with the myriad factors that contributed to those numbers, Textile Exchange provides more than a score with this resource. The FMM is a thorough assessment of sustainability standards and programs, comprising a wide range of indicators, qualitative and quantitative criteria, and offering transparency and context to more effectively support responsible material choices.

Better Cotton is proud to be a participant in the FMM and to support the momentum generated by Textile Exchange toward propelling the demand for responsibly-sourced materials.

Photo credit: Bec Sloane | Better Cotton, 2024

Sharpening the Focus on Cotton's Impact

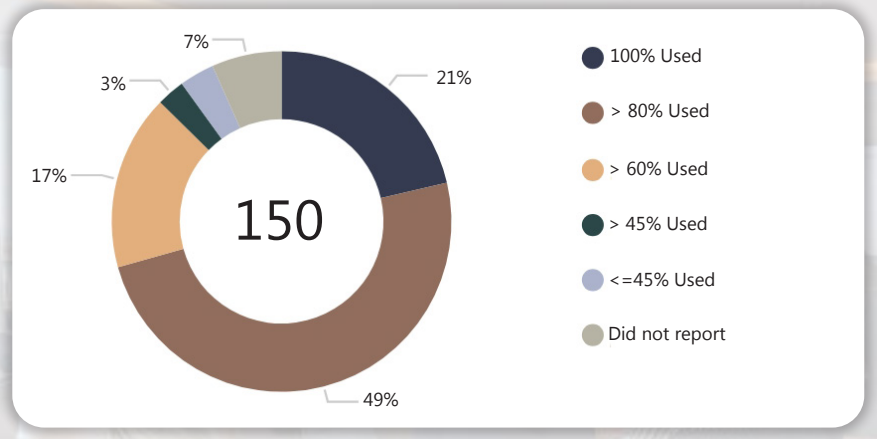
In 2018, Textile Exchange launched the 2025 Sustainable Cotton Challenge to drive the demand for sustainable cotton by calling on the fashion, textile and apparel industry to set and achieve ambitious cotton sourcing targets.

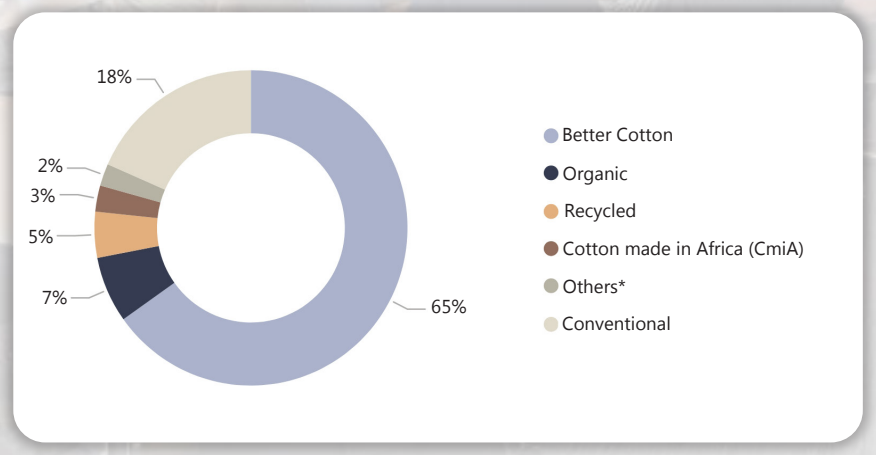
The goal of the Challenge is to increase the industry's use of cotton covered by a sustainability program from 30% to 50% by 2025, shifting the market toward the use of cotton grown using agricultural practices with improved environmental and social sustainability outcomes. To achieve this, Textile Exchange challenged signatories to source 100% of their cotton from more sustainable programs and initiatives by 2025.

Signatories report and track their progress through Textile Exchange's Materials Benchmark. As of 2024, there were 150 signatories, including 138 brands and 12 suppliers. In 2023, 31 signatories (21%) had 100% of their cotton covered by a sustainability program, and 81% of the Challenge's total cotton volumes were sourced from recognized sustainable programs and initiatives. Through the Challenge, Textile Exchange plays a key role in driving demand and through research, data and reporting, build the case for change in the market toward sourcing cotton from preferred production systems.

Looking toward 2030, Textile Exchange is committed to its Climate+ strategy of driving the fashion, textile and apparel industry toward a 45% reduction in GHG emissions that come from the pre-spinning phase of production through three key levers: innovation, reducing growth related to new materials, and assertively substituting conventional cotton with sustainable cotton. Grounded in partnership, Textile Exchange is amplifying beneficial impacts in climate, soil health, water and biodiversity through sustainable cotton production.

Below: Signatories by % of cotton sourced from recognized programs and initiatives. Insights shared from Textile Exchange's 2025 Sustainable Cotton Challenge Dashboard.





Above: Reporting signatories' cotton uptakes by programs and initiatives in 2023. Insights shared from Textile Exchange's 2025 Sustainable Cotton Challenge Dashboard.

***Others:** Fairtrade (0.0%), Fairtrade Organic (0.0%), Cotton made in Africa Organic (0.0%), REEL Cotton Code (0.0%), e3 Sustainable Cotton (0.0%), International Sustainability & Carbon Certification (0.0%), myBMP (0.0%), Fair for Life (0.0%), World Fair Trade Organization Fair Trade Standard (0.0%) EUCOTTON - Organic (0.0%), Responsible Brazilian Cotton (ABR) (0.1%), REEL Regenerative Code (0.0%), EUCOTTON (0.2%), In-conversion (transitional) (0.6%), U.S. Cotton Trust Protocol (0.5%), Regenerative Organic Certified (0.0%), Other programs (0.8%)

Photo credit: Bec Sloane | Better Cotton, 2024

U.S. Cotton Trust Protocol: Keeping a Close Eye on Cotton

Technological Advances in Cotton Traceability & Supply Chain Transparency

The Trust Protocol is a voluntary sustainability program and traceability platform for cotton produced in the US, the first to offer article-level traceability and quantifiable measurement across key sustainability metrics: land use, soil carbon, water management, soil loss, greenhouse gas emissions and energy efficiency.

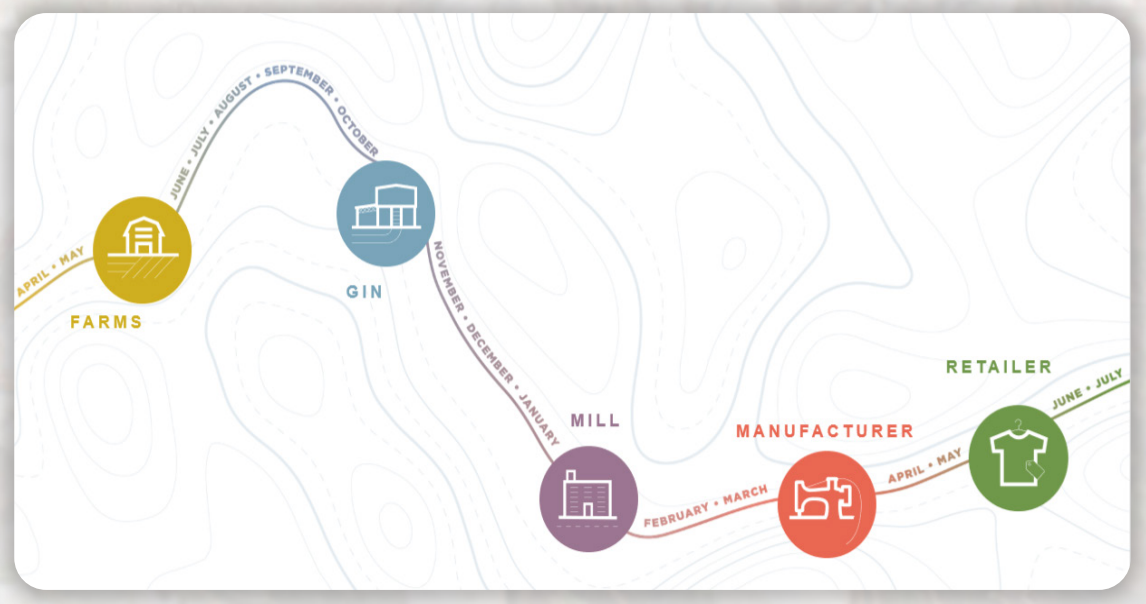
The program's mission is to create a sustainable standard for US cotton that is data-powered, traceable and generates positive impact through the global cotton value system – from farms to finished product.

The program provides data in aggregate form, enabling producers to assess their practices by measuring against regional, state and national metrics, and supporting brands and retailers in their corporate reporting and product marketing.

The Trust Protocol's proprietary traceability platform is designed for the precise tracking of US Cotton, any cotton grown in the United States and Protocol Cotton, grown by participating producers. It captures detailed transaction data and maintains a fiber inventory, requiring active participation from all supply chain members to ensure data accuracy.

This technology offers improved inventory reconciliation, increased data accuracy, and AI-powered document verification. This provides brands and retailers with visibility into the journey and origin of their cotton.

At their core, Trust Protocol shares Better Cotton's foundational values of sustainability, transparency and continuous improvement. With powerful systems like this platform, they are providing an invaluable asset to the advancement of supply chain transparency while further supporting sustainable cotton production in the US.



Right: Transparency map, image courtesy of U.S. Cotton Trust Protocol

Photo credit: Kalli Unthank | Better Cotton, 2023

Cotton Incorporated: Keeping Cotton in the Conversation

Better Cotton recognizes the far-reaching contributions of Cotton Incorporated and that our organizations are involved in initiatives reflective of shared values. Because of those overlaps, we often share space in communications surrounding cotton, though our respective teams have additional impact targets of their own.

In this space, we spotlight some of Cotton Incorporated's efforts in making relevant, research-backed information accessible to a wide range of stakeholders. We also feature a glimpse into their work in promoting cotton's circularity story.

Communicating Cotton's Sustainability Value to Diverse Audiences

Cotton Incorporated strategically communicates cotton's benefits to a wide range of stakeholders – brands, retailers, industry leaders, consumers – meeting each where they are in their sustainability journey. By ensuring audiences receive relevant, science-backed insights, they reinforce cotton's myriad environmental advantages.

For industry professionals, Cotton Incorporated engages through major trade shows, academic institutions, sustainability conferences and *CottonWorks™* webinars. These platforms allow them to present the latest research on cotton's biodegradability, circularity and advantages over synthetic fibers. They also participate in industry groups, contributing data to sustainability reporting frameworks helping ensure cotton is accurately represented in environmental impact assessments.

The organization actively contributes to sustainability standards development, helping ensure cotton's environmental benefits are considered in global methodologies. They engage in the EU Product Environmental Footprint (PEF) Technical Secretariat, promoting science-based assessments fairly comparing cotton with synthetic fibers.

For broader public engagement, the not-for-profit amplifies cotton's sustainability message through digital platforms like *CottonToday*, peer-reviewed publications and earned media campaigns. Through targeted content marketing, social media outreach and educational initiatives, Cotton Incorporated informs consumers about the environmental benefits of choosing cotton over synthetic alternatives, particularly in reducing plastic pollution.

By leveraging research, industry collaboration and strategic communications, Cotton Incorporated ensures that cotton's role as a sustainable, natural fiber remains top of mind for decision-makers and consumers alike, reinforcing its position as the fiber of choice for a more sustainable future.

Right: Better Cotton's Kalli Unthank tours Cotton Incorporated with Vice President and Chief Sustainability Officer, Jesse Daystar.

Photo credit: Bec Sloane | Better Cotton, 2024

Demonstrating a Dedication to Circularity

Cotton Incorporated commits to advancing circularity in the textile industry through research-driven solutions that enhance cotton's sustainability.

As a fiber that naturally returns to the earth, cotton presents unique opportunities for composting, biodegradability and recyclability—offering a viable alternative to synthetic fibers that contribute to microplastic pollution.

In recyclability, Cotton Incorporated's Blue Jeans Go Green™ program collects and repurposes denim for new applications, while their cotton-to-sugar research ivestigates enzymatic processes to convert cotton textiles into glucose, unlocking potential for value-added products.

Addressing the growing concern of microplastic pollution, their research underscores the significant contribution of synthetic apparel to plastic leakage in the environment. Their study published in *Nature Communications* estimates that the global apparel industry generated 8.3 million tons of plastic leakage in 2019, with synthetic textiles being the primary source. This research strengthens the case for cotton as a natural, biodegradable alternative that reduces the accumulation of persistent plastic waste.

Furthermore, Cotton Incorporated has funded several studies examining the biodegradation of cotton fibers in various aquatic conditions. Research confirms that in wastewater treatment, freshwater and saltwater environments, cotton readily biodegrades, whereas polyester does not.

Above: Decomposition of denim jeans. Photo credit: Insights International, Inc., courtesy of Cotton Incorporated.

Below: Graphic illustrating cotton's circularity from the CottonToday website, courtesy of Cotton Incorporated.

Cotton Incorporated participates in Soil Health Institute's U.S. Regenerative Cotton Fund, conducts Life Cycle Assessments (LCAs) to quantify environmental benefits and explores innovative cotton byproduct applications.

Through these initiatives, Cotton Incorporated is driving a more sustainable and circular future for the cotton industry, reinforcing cotton's role in a responsible textile economy.

Photo credit: Bec Sloane | Better Cotton, 2024

Looking Ahead

Photo credit: Better Cotton | 2017

Photo credit: Whitney Haigwood | 2020

On the Horizon

Building upon our strategy and vision in the years to come

Better Cotton continues to monitor progress towards its impact target areas and prioritize the following areas for the US program:

IPM Strategy – Better Cotton occupies a unique place in the conversation around pesticides in cotton. We balance aspirational goals with the need for practical solutions for large-scale commodity cotton producers operating in an increasingly challenging market. We are building the business case to eliminate the use of HHPs, promoting a broader array of IPM tactics for common pests, and engaging with key partners to research and promote innovative solutions.

Evolve Data Management Systems for Optimal Impact – The increasing demand for more and better data, including certified and traceable cotton, reporting on Scope 3 emissions reduction in alignment with the Greenhouse Gas Protocol, and ongoing impact measurements, requires better collection, analysis, and reporting. We are improving our systems to generate accurate and timely information to provide more value to licensed Better Cotton producers and Better Cotton Members.

Engagement Tailored to US Context with Communication Emphasis – The US team now has a dedicated communications role in place to raise the visibility of the Program's work and presence in the country. By producing more contextualized and tailored communications and expanding our capacity to document field events, projects and producer stories, we increase our relevance while generating greater interest, raising producer engagement and effectively promoting innovative Better Cotton-licensed producers.

Incorporate Certification through the Chain of Custody for Physical Better Cotton – All producers and Program Partners in the US will become certified in 2025 and will be eligible to sell their cotton as Physical Better Cotton.

Reward Cotton Producers for their Impacts – We are piloting an approach to carbon insetting with Indigo Ag and three Program Partners enrolling 20,000 acres harvested by Better Cotton-licensed producers for the 2024-25 season.

2025 Beltwide Cotton Conference

Building a collaborative IPM strategy in the US

US cotton production is built on high-tech machinery, advanced genetic traits and an array of pesticides that can produce a lot of high-quality, low-cost cotton for the global market. As we work to encourage producers to adopt practices which reduce reliance on synthetic fertilizers and pesticides while building more agroecological systems, we need researchers, Extension staff and consultants to own the effort, too.

As part of our team's participation at the 2025 Beltwide Cotton Conference, US Impact Manager Karen Wynne brought together a group of 38 cotton entomologists, nematologists and agronomists to explore strategies to research and promote a broader approach to IPM and the phasing out HHPs.

Working with the Western and Southern IPM Centers, the Arizona Pest Management Center and the National Cotton Council, our collaborators presented the case for eco-efficient pest management, outlined voluntary and regulatory pressure to reduce pesticide use, and highlighted the example of 30 years of successful Arizona pesticide reduction.

Based on an online survey and participant interviews from 2024, we broke into four discussion groups. Each group was assigned one topic:

- Landscape approaches to pest management
- Outreach & education
- Research on alternative products & technologies
- Expanding predator threshold research

The groups were tasked with producing concrete steps to move forward in each area and identifying key people to take on the work.

Better Cotton's US team will now work to support those next steps and build the leadership within the US cotton research and Extension communities.

Photo credit: Karen Wynne | Better Cotton, 2025

2025 Near Shore Supply Chain Tour

Better Cotton and SIERRA Textiles cohosted a second year of their joint event in Central America

A Warm Welcome Back

Echoing a fruitful convening in 2024, Better Cotton and SIERRA gathered with key stakeholders in Central America to address the rising demand for a transparent supply chain and more responsible textile industry.

Kicking off the 2025 Near Shore Supply Chain Tour, our US team visited a SIERRA spinning mill in Cofradía, a town in Cortés, Honduras, alongside representatives of leading companies for a first-hand look at how their operations reflect an ongoing commitment to sustainability and traceability:

- Designated areas for yarn types and blends to avoid contamination
- Fewer types of yarn and greater mechanization
- Color-coding to differentiate among 100% cotton, cotton-polyester blends and modal yarns

The group was given a sneak peek at the latest technology in testing cotton yarn – the 'EKG of cotton' – which spots imperfections in the final product. They were also shown iron-on traceability tags, developed to prevent ruining fabric throughout processing, identifying all machinery involved and tracing back to the group of bales.

The team next toured Alcatextil, Guatemala's largest knitting mill. Beyond producing high quality fabrics, their mission includes continuously improving upon their processes with both economic growth and the environment in mind. Their attention to traceability was reflected in this, from material segregation and detailed labelling to in-house software developed for tracking orders with corresponding traceability info.

Overall, the event was a successful gathering of stakeholders exchanging knowledge, building relationships and sharing Better Cotton's vision of continuous improvement toward a more sustainable supply chain.

Photos courtesy of SIERRA Textiles | 2024

Appendix

Photo credit: Bec Sloane | Better Cotton, 2024

Cooperative Extension Services (Extension)
Extension services aim to provide research-backed information addressing questions and concerns primarily related to agriculture and horticulture. Extension is connected directly to universities, and extension agents/educators are typically faculty and staff members of each US state's land-grant university system which places emphasis on agricultural and environmental studies.

Cotton Belt
Four regions (the Far West, Mid-South, Southeast and Southwest) comprising the 17 cotton-producing states of the US.

Growth and Innovation Fund (GIF)
Better Cotton's GIF is the organization's internal fund, supporting our vision and mission with a field-level grant-making program.

Highly Hazardous Pesticides (HHPs)
HHPs, as defined by criteria agreed upon by the Food and Agriculture Organization of the United Nations/WHO Joint Meeting on Pesticide Management, are pesticides acknowledged to present particularly high levels of acute or chronic hazards to health or environment according to internationally accepted classification systems.

Integrated Pest Management (IPM)
IPM takes a practical approach to minimizing pest populations with both the crop and environment in mind through a range of tactics that form a comprehensive site-specific strategy. These include encouraging beneficial species and natural predators of insect pests, as well as prioritizing non-chemical controls and optimizing the use of inputs to meet environmental and economic goals.

Land-Grant Universities
Institutions of higher education in the United States designated by their respective states to provide education in agriculture, science and engineering. They play a critical role in research and outreach, addressing both local and national challenges.

Large Farms
Large Farms are defined by Better Cotton as farms with a size typically above 500 acres (200 hectares) of cotton which either have mechanized production or are structurally dependent on permanent hired labor.

Natural Resources Conservation Service (NRCS)
The NRCS is an agency of the USDA that provides science-based soil information, technical assistance and voluntary programs to help producers, ranchers, foresters as well as other landowners and managers to conserve natural resources.

NPK
In US agriculture, especially in the context of measuring fertilizer ratios, nitrogen (N), phosphorus (P) and potassium (K) are often referred to by the chemical symbols for those elements on the periodic table.

Physical Better Cotton
Physical Better Cotton refers to the cotton grown and harvested by Better Cotton-licensed producers and is a term used as part of our Traceability sourcing solution through which we are increasing the availability of Physical Better Cotton traceable back to its country of origin.

Program Partner
Program Partners in the US are typically organizations that have direct contact with a group of producers, such as brokers, cooperatives, gin, and merchants. They facilitate producer participation in the Better Cotton Program through enrollment, regular communication with producers and Better Cotton, data collection, and ensuring Better Cotton seasonal licensing requirements are completed by producers.

Results Indicator Reports (RIR)
At the end of each season, licensed producers complete RIRs to report data on total acreage and yield, irrigated acreage and amount of water applied, and total amount of fertilizers and pesticides used. They also make note of any new practices or changes they are implementing to improve their operations' sustainability, from multi-species cover cropping to installing tiles to improve drainage.

United States Department of Agriculture (USDA)
The USDA is an executive department of the United States federal government that aims to meet the needs of commercial farming and livestock food production, promotes agricultural trade and production, addresses food safety, protects natural resources and fosters rural communities.

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