

## Chapter 1 : Quenching Cotton's Thirst: Reducing the Use of Water in the Cotton Lifecycle

*Cotton USDA's latest official data on U.S. and global trade, production, consumption and stocks, as well as analysis of developments affecting world trade in cotton, can be found in the Cotton: World Markets and Trade report.*

Click to print Opens in new window Innovations like this micro-subsurface drip irrigation system allow farmers to support their crops while conserving water. Approximately half of all textiles are made of cotton. According to WWF , it takes more than 20, liters 5, gallons of water to produce just one kilogram 2. The cotton apparel lifecycle contains many places, from dirt to shirt to landfill, where we have made strides in reducing water consumption, but there is still work to be done. Several cotton organizations like Cotton Inc. In the South and the Southeast, non-irrigated cotton systems dominate, while in the arid West nearly all of the crop-water requirements are met by irrigation water. Farmers in the U. However, there have been many advances in irrigation like drip-irrigation installations that reduce the amount of water used to supplement rainfall, in regions where it is needed. These technologies can sometimes be financially out of reach for small farmers, but since their benefits are substantial, organizations are trying to bridge the distance. Pesticide use contaminates groundwater and can cause long-term pollution problems downstream from cotton farms. It is also an expensive practice, so there are several reasons that farmers are trying to curb or end pesticide use. That said, any use of pesticide has the potential to affect groundwater. Although certified organic cotton farming has lost some ground in the past few years, it looks like cotton organizations are encouraging more sustainable farming practices that steer farmers further from traditional wasteful cotton farming and more in the direction of organic principles as a whole. So, the industry is moving in a more sustainable direction, and slowly but surely, it is resulting in water savings. Manufacturing Manufacturing processes also use a lot of water. Several brands have worked to develop processes that use less water. Consumer habits Consumers can do several things to reduce water use for cotton products, especially apparel and household items sheets, etc. The first thing consumers can do is buy less. Brands like Patagonia have even gone so far as to tell customers that they should repair their garments rather than buy new. Another way that consumers can be aware is to find out where their clothes come from. TS Designs has a close relationship with their North Carolina, third-generation cotton farmer who grows their crop relying only on rainfall. When a consumer tires of a garment or it is worn out, the best thing to do is donate it. This is roughly the amount of fabric it would take to cover the entire state of California. Fifteen percent, or 60 billion meters, will be wasted during the production phase extra fabric, itself a finished product, that ends up on the cutting-room floor , before the garments even reach a consumer. Efforts to recover these fibers will reduce the water constraints of the apparel industry by cutting the cotton-growing component out of the equation. Manufacturers large and small are working to recover fibers for reuse. Right now, Evrnu is the only U. You can reach her at andrea. Follow Andrea Newell anewell3p.

### Chapter 2 : Cotton - Organisation for Economic Co-operation and Development

*World cotton consumption in /18 is expected to reach million bales, a robust percent-growth rate, and the highest level since / Consumption growth is forecast in all.*

Share via Email More than million people in India do not have access to safe water. Meanwhile, more than million people in India do not have access to safe water. All of these exports require water to produce, and the quantities needed are staggering. Not only does it take water to grow anything, it also takes water to make anything: This water that goes largely unseen is called virtual water. Producing 1kg of cotton in India consumes 22, litres of water, on average, according to research done by the Water Footprint Network. In other words, this 22, litres of water cannot be used for anything else because it has either evaporated or is too contaminated for reuse. By exporting more than 7. The global average water footprint for 1kg of cotton is 10, litres. Even with irrigation, US cotton uses just 8, litres per kg. This has created a widespread pattern of unsustainable water use and strained electrical grids. This will transfer bn cubic metres of water annually from wetter regions to drier ones. However, the country exports far more water than that, in the form of virtual water, in cotton, sugar, cereals, motor vehicles and its many other exports. Faltering forward All of these exports could be produced using far less water, says Hoekstra, who pioneered the water footprint concept. Organic cotton production also has a lower net water use because it uses no chemicals. Rather than matching production of goods to the sustainable use of existing water resources, India, like governments around the world, hopes to use engineering to increase the amount of water, said Hoekstra. The water hub is funded by Grundfos. Find out more here. This content is brought to you by Guardian Professional. Become a GSB member to get more stories like this direct to your inbox.

*Cotton System Consumption and Stocks National Agricultural Statistics Service NASS. This is an archive and email subscription service for reports issued by NASS.*

February , Introduction Good morning. While the presentation will focus on a few highlights, the full report will be available at the end of this session. Year in Review Overall, cotton futures were stronger in relative to competing crops. Oil prices increased to the highest level since mid The world economy is improving and increased growth is projected for the next two years. World cotton area and production bounced back from the low levels observed in and However, due to increased production and large carryover stocks, ending stocks outside of China are projected to reach the highest level on record. Balance Sheet To recap the current marketing year, the most recent estimate puts the harvest just over 21 million bales, up 4 million bales from The crop is the largest since the marketing year and about 6 million bales higher than the recent 5-year average. Increases were observed in all regions of the cotton belt. The increased acres were primarily the result of higher cotton prices relative to grains and oilseeds. The estimate for U. The current marketing year began with cotton stocks at 2. When added to the recent harvest, total supplies for the marketing year are estimated at 24 million bales. Total supplies will be more than sufficient to satisfy estimated use of NCC Acreage Survey With that review in mind, the projections for the marketing year will begin with the outlook for U. As in past years, the prospects for the U. Surveys were distributed on December 15 and responses were collected through mid-January. Respondents are asked to give their plantings of cotton, corn, soybeans, wheat, and other crops for and intended acreage for Once again, it is important to remember that the survey is a snapshot in time based on grower intentions. Changes in markets and weather will cause actual plantings to differ from early-season intentions. Pre-Planting Market Signals As always, the survey results should be viewed as a measure of grower intentions prevailing at the time the survey was conducted. During the survey period, the cotton futures prices were stronger relative to competing crops. The price ratios of cotton to corn and cotton to soybeans are more favorable than in However, soybeans are expected to provide competition for available acres in , due in part to the lower production costs relative to cotton. While cotton prices have improved relative to other crops, cottonseed prices are at the lowest level since the marketing year, thus increasing the net costs of ginning. It is important to call attention to the ratios because past experience has shown that these ratios are reliable indicators of changes in cotton acreage. Historical data over the past 10 years shows a clear relationship between the price ratios and changes in cotton acreage. All six states show an increase in acreage. In Alabama, the survey responses indicate 0. In Georgia, cotton acreage is expected to increase by 0. In North Carolina, an 8. In South Carolina, acreage is expected to increase by 3. Cotton acreage is expected to increase by 3. Mid-South growers intend to plant 1. Across the region, Louisiana and Mississippi intend to decrease cotton acreage and Arkansas, Missouri, and Tennessee expect to increase acreage. The largest decline was reported in Mississippi with 5. Mississippi respondents expect to increase acreage of all other crops as less cotton acreage is planted. In Tennessee, cotton acreage is expected to increase slightly as land shifts away from corn and wheat. Missouri growers expect to increase cotton acres by 3. In Louisiana, respondents intend to plant 2. All states in the Mid-South except Missouri intend to plant more soybeans in Increases in cotton area are expected in each of the three states. Overall, Texas acreage is expected to increase by 3. In south Texas, respondents indicate a 0. Respondents from the Blacklands indicate an increase of 8. In West Texas, respondents indicated a 4. Cotton acreage is expected to decline in Arizona and California and increase in New Mexico. In California, growers intend to plant more wheat and corn. Arizona growers are expecting to plant Cotton Production Summing across the 4 regions gives intended upland cotton area of The survey indicates that growers intend to plant slightly more ELS cotton in Summing together the upland and ELS cotton intentions shows U. Given the economic climate, it is important to discuss the factors affecting cotton acreage in Based on the current price of cotton and cottonseed, total revenue is expected to fall short of total costs. However, in the Southwest, cotton is still the better alternative and a significant increase in acreage is expected for Oklahoma and Kansas. Low wheat prices along with above-average yields in will likely

encourage more cotton acreage in the Southwest in Kansas had a tremendous increase in acreage in and another large increase is expected for Kansas growers have greatly benefited from the availability of Dicamba and 2,4-D tolerant varieties. In the Southeast and Mid-South, cotton continues to be a good alternative, but some growers may expect higher returns from other crops in In the West, expected water availability may be influencing cotton acreage decisions. Planted acreage is just one of the factors that will determine supplies of cotton and cottonseed. Ultimately, weather, insect pressures, and agronomic conditions play a significant role in determining crop size. The NCC economic outlook does not attempt to forecast weather patterns and the standard convention is to assume yields in line with recent trends and abandonment consistent with historical 5-year averages. However, due to the dry conditions that currently persist across the cotton belt and the anticipation of abnormally dry conditions throughout the spring, the abandonment estimates for Texas and Oklahoma are slightly higher than the recent 5-year average. As always, it is important to remember the volatility around projected production given the uncertainty of weather patterns. Using an average U. The projected crop represents a 1. If drought conditions continue across the cotton belt, further reductions in the production estimate may be necessary. Drought Monitor While the drought monitor shows abnormally dry conditions across the Cotton Belt, the situation in the Southwest is of particular concern. Very little rain or snow has fallen in West Texas or Oklahoma in the past 90 days. The lack of precipitation in Texas is reaching historic levels. According to the National Weather Service, February 7 was the th consecutive day without measurable precipitation in Amarillo, which is higher than the previous record of 75 days. In Lubbock, February 7 was the 91st consecutive day without measurable precipitation, which is just below the day record.

Balance Sheet Returning to the U. A slight increase in consumption by the domestic textile industry is projected in the marketing year. When exports are added to U. Recall that the U. The heavily discounted low micronaire Texas cotton appears to have boosted export sales. If the current sales pace continues, the strong demand for U. However, shipments have been lagging behind sales during the first half of the marketing year. While several factors led to shipping delays earlier in the marketing year, trucking shortages, along with increased trucking costs, are currently the main issue impacting cotton shipments. The shipment pace has increased over the past few weeks, which is not surprising since the pace during the second half of the marketing year is generally higher as harvest and ginning is completed. With twenty-six weeks remaining in marketing year, an average of about , bales will need to be shipped each week to reach the In the latest export report, shipments reached almost , bales, which is the highest level for the marketing year. USDA is expecting a slower sales pace in the second half of the marketing year due to a potential increase in competition from Australia due to an early harvest and lower exports to Mexico due to increased production. World trade is projected to be higher in the marketing year, but increased competition from other major exporting countries has led to a decline in the U. China reduced acreage and production from through as cotton shifted out of the lower-yielding areas and into Xinjiang. China increased acreage in following two years with very low cotton acreage. However, the level of 8. Large increases in acreage are not expected in Xinjiang due to limited water availability. Growth in world cotton demand remains a concern as competition from lower priced manmade fibers continues to weigh on the market. While internal cotton prices are still strong relative to polyester prices, polyester prices increased in and are currently at the highest level since Increased sales of Chinese reserve stocks have led to more domestic spinning of cotton. The gap between domestic and international cotton prices has narrowed and is expected to reduce yarn imports as domestic yarn becomes more price competitive. Vietnam was the top supplier of cotton yarn to China in , followed by India and Pakistan. Various sources have reported the possibility of additional imports to rotate the reserve stocks. However, no official announcement has been made. China Ending Stocks China will begin the next round of reserve auctions on March 6.

## Chapter 4 : Cotton Production and Consumption: A Cry For Sustainability

*Cotton and Wool Yearbook Tables, an annual data product that contains U.S. cotton and wool production, supply, use, trade, and price statistics. The tables also include domestic and world price series and indexes; State cotton acreage, yield, and production data; and conversions of U.S. textile imports and exports.*

Worldwide cotton production has not declined this much since. Adverse weather, lower global world market demand and policy uncertainty all contributed to the sharp decline. The decreased synthetic fibre prices driven by substantially lower oil prices placed huge competitive pressures on world cotton markets. Mill consumption estimates in China and India remained stable at 7. With lower output, US exports are estimated to fall to 2. Projection highlights Although the world cotton price is under pressure from substantial high stock levels and fierce competition from synthetic fibres, cotton prices are expected to be relatively stable in nominal terms after an anticipated further drop in. During, relative stability is expected as government support policies stabilise markets in major cotton producing countries. However, world cotton prices are expected to be lower than the average in both real and nominal terms. World production is expected to grow at slower pace than consumption during the first few years of the outlook period, reflecting the anticipated lower price level resulting from the large global stocks that accumulated between and. World cotton area should be stable for the first five years but it is projected to grow from onwards. Yields rise around the world and global average yield grows slowly as production switches from relatively high yielding countries, notably China, to relatively low-yielding ones in South Asia. World cotton use is expected to grow at 1. Consumption in China is expected to fall to 6. Cotton consumption by region Source: It is expected that the growth in global cotton trade will be slower compared to previous years, especially, when growth was driven by surging Chinese imports. To obtain value-added from mills, a shift to trading cotton yarn and fabrics rather than raw cotton has emerged over the past few years, which is expected to continue. Nonetheless, by global raw cotton trade will reach 8. Exports from Brazil are expected to almost double from 0. With higher production, Australia is expected to increase cotton exports to 1. Cotton producing countries in Sub-Saharan Africa, as a whole, will increase their exports to reach 1. On the import side, China is expected to import 1. Its dominant role in the world cotton market will be significantly challenged as other importing countries emerge. While continuing increases in farm labour costs and competition for resources with other agricultural crops place significant constraints on growth in global cotton production, higher productivity driven by technological progress, including greater adoption of bio-tech cotton, creates substantial potential for cotton production to expand in the next decade. While the medium-term prospects are for sustained growth, there may be potential short-term uncertainties in the current Outlook which may result in short-term volatilities in demand, supply and prices. A sudden slow-down in global economy, a sharp drop in global textiles and clothing trade, quality and price competition from synthetic fibres and changes in government policies are important factors that can affect the cotton market. The unprecedented high stock level is a key driver of the world cotton price.

**Chapter 5 : USDA ERS - Data**

*The organic cotton market is predicted to remain relatively small. Keeping in mind the immense scale of global production and consumption, there is need for mass market transformation making.*

Cotton Introduction The s witnessed sluggish growth in world cotton production, consumption and trade. Average annual output during was The annual growth rate was only 0. Growth in trade was also slow. The annual growth rate between and was only about 0. Cotton prices have weakened significantly since and reached an historical low in late However, since , at the regional and country level, several significant developments in production and trade have shaped and will continue to shape world cotton demand, production and trade in the next decade. These include the cultivation of new genetically engineered or transgenic cotton varieties; the emergence of new low-cost producers and implementation of the Agreement on Textiles and Clothing ATC ; global economic growth, population growth and price competition from man-made fibres. It is projected that world cotton consumption would increase by 1. Such a growth rate is significantly lower than the actual growth rate between and of about 2. The lower growth rate may be attributed to the near saturated demand in developed countries and competition for land by other crops, especially food crops in developing countries. Between and , China, India and Pakistan experienced little or no expansion in their cotton planting areas. It is expected that total consumption in developed countries and developing countries reach Cotton mill consumption is driven by both domestic consumption and trade in textiles. Mill consumption in developed countries is expected to decline by 0. Mill consumption is likely to continue to decline in the United States, Japan, Australia and many countries in Western Europe. However, the annual declines in mill consumption would be much slower than the 3. After a sharp decline in mill consumption since the s, total mill consumption in developed countries was only about 4. Japan is likely to experience a continuing decline in mill consumption, but the rate of decline would slow while countries in the former Soviet Union and Eastern Europe are expected to have some recovery after a sharp decline in mill consumption in the last decade. Driven largely by textile exports rather than domestic demand, countries in the Far East are expected to continue to enjoy above average annual growth. It is projected that total mill consumption will reach China, India and Pakistan are expected to continue to be the largest mill consumption countries in the world with annual growth rates of 3. By , total mill consumption is projected to be 7. These three countries would account for more than half of world mill consumption. Growth in mill consumption in Latin America is projected to be only 0. Growth would slow down in Brazil and Mexico, the largest mill consuming countries in this region, but would be higher in smaller consuming countries such as Colombia, which is expected to grow by 3. However, if the North American Free Trade Agreement NAFTA were to expand to include Brazil and several other countries in this region in the current decade, their mill consumption level would be significantly higher. In Africa, total mill consumption is expected to decline at an annual rate of 3 percent, largely due to stagnating domestic consumption and weak competitive position in the world textile and apparel markets. After experiencing rapid growth in the last decade, consumption in countries in the Near East region is expected to continue to grow but at a slow pace. Turkey, the largest consuming country in this region, is expected to reach 1. The economic and political relationship with the EU benefited Turkey, which had very strong growth in textile exports in the last decade. However, the removal of textile quotas by would put more competitive pressure on textile exports from Turkey. Production Increased global demand for cotton should induce higher production in the next decade. World cotton production is projected to increase by 1. Developing countries would continue to account for the largest share of world cotton production. Production from developing countries is expected to reach Production in African countries is projected to grow strongly at 3. The annual growth rate is expected to reach 2. Brazil would produce one million tonnes of cotton by , largely due to expansion into new production areas. Production expansion in the Near East region is expected to slow down. The annual growth rate is expected to be 0. Production in Egypt is expected to stabilize with higher irrigation costs continuing to be a major constraint to expansion. Irrigation development has contributed to significant growth in production in Turkey over the past decade and will

continue to foster further production expansion but at a slower pace. Asia will continue to be the major cotton producing region in the world. This region is expected to produce about 6 million tonnes by 2010. However, competition for land from other crops, especially food crops, is a major constraint. China is expected to produce 6 million tonnes by 2010. India is expected to reach 3 million tonnes by 2010 with an annual growth of 1 percent. Production should remain stable in developed countries in current decade except in South Africa and a few Eastern European and former Soviet Union countries. Production in the United States would be essentially remain at the current level of 4 million tonnes by 2010, while production in Western Europe would decline by nearly 5 percent. Increases in textile imports and labour costs discourage domestic production expansion. If the current agricultural policies were to be reformed, these developed countries would see their production contract further. Although some countries in Eastern Europe and in the former Soviet Union would have great potential to expand production, both institutional and financial constraints may prevent countries such as Uzbekistan and Tajikistan from reversing their declining trend. Trade Growth in world cotton trade has significantly slowed down over the past decades. However, while the trade pattern from developed countries to developing countries continued, trade among developing countries grew. In particular, Africa emerged as an important exporter in the world market. However, given the competition from man-made fibres and the slow growth in textile trade, no major increase in trade in cotton is expected. World cotton trade is projected to continue to expand at an annual growth rate of about 1 percent in the current decade. It is expected that world cotton trade will reach around 6 million tonnes by 2010. Developed countries would continue to account for more than half of world cotton net exports. The increase in exports is largely attributed to the lower domestic mill consumption and increased in imports of textiles and apparel. In contrast, net exports from the EU would decline from 0.5 million tonnes in 1990 to 0.1 million tonnes by 2010. After the 7 percent annual expansion in exports during 1990-1995, Australia would see its exports decline in the current decade to 0.1 million tonnes. Exports from Eastern European countries and the former Soviet Union are expected to stabilize at around the current level of 1 million tonnes. After declining over the past decade, total net exports of cotton from developing countries are expected to increase in the current decade. Exports from Africa are expected to continue to increase by 4 million tonnes. Developing countries in all other regions are likely to see their net exports decline or become net importers in the current decade. Although cotton production is expected to increase, Latin America would see its exports stabilize at around the current level. Declines in exports from Argentina would be offset by higher exports from Paraguay while exports from Brazil would remain at the current level. As a result, total exports from this region would be only 0.5 million tonnes. Exports from the Near East are likely to decline from the current level of 0.5 million tonnes. Given the need to meet the increase in textile exports coupled with slow expansion of production, exports from the Near East would continue to contract. Developing countries play an increasingly important role in cotton imports. They accounted for about 68 percent of world cotton imports in 1990, which was significantly higher than the 50 percent share recorded during the late 1980s. It is expected that this share will go up to 71 percent by 2010, largely due to the increase in demand for raw material to meet textile exports from developing countries. Latin America and Asia would account for most of these imports which could reach 0.5 million tonnes. As imports of manufactured cotton products increase, developed countries including Japan and member nations in the European Union are expected to reduce their raw cotton imports in the current decade. Total raw cotton imports by developed countries by 2010 is projected to be around 1 million tonnes. Issues and uncertainties The 1990s witnessed substantial variations in world cotton prices. In the next decade, both supply side and demand side factors will affect the world cotton market significantly. Expansion in production in low cost areas and application of high yielding biotech cotton will place downward pressure on world cotton price. On the other hand, if the new WTO negotiations were to succeed in reducing domestic support levels in developed cotton producing countries, these countries would reduce their trade and exports. Thus, the world price could rise and production would shift to low-cost producing countries. Furthermore, tariff reductions for all manufacturing goods including textiles and clothing have been proposed in the new WTO negotiations. If significant and effective tariff reductions in textiles and clothing were to emerge from the Doha Development Agenda DDA, especially when the completion of the ATC is taken into account, the world cotton market would face some dramatic changes. Tariff reductions in textiles and clothing would stimulate higher demand for both natural and man-made fibres in developed and developing countries. The Multifibre Arrangement MFA restricted trade, but the quota system acted to give preferential treatment to

some countries that have limited comparative advantage in the world textiles and clothing markets. The removal of quotas along with tariff reductions would intensify global competition in textiles and clothing. Many of these high-cost producing countries may be driven out from the textiles and clothing market and even become importers, thus changing the pattern of world trade in cotton. Overall, cotton production and trade could be higher and the world market could be more stable with higher prices in the current decade.

### Chapter 6 : World Cotton Production and Consumption

*There is "a really big increase" in overall cotton demand globally, and if projections for the new marketing year hold, it will be the most cotton that has ever been consumed worldwide, says Hank Reichle, executive vice president of the Staplcotn cooperative at Greenwood, Miss. "We're.*

### Chapter 7 : USDA ERS - Cotton & Wool

*World Cotton Production Cotton production is widely grown in the world. In , 90 countries planted cotton. Pakistan is the forth largest cotton growing country after China, India and United States, which account for a combined 71 percent of world production in /*

### Chapter 8 : Annual Economic Outlook for Cotton

*For MY /18, total arrivals as a percentage of the total Cotton Advisory Board (CAB) production estimate have reached 68 percent as of March 21,*

### Chapter 9 : Energy use for cotton production by life cycle stage | Statistic

*World cotton demand is increasing and the latest USDA report projects a 5% increase in consumption in , which is more than double the previous 5-year average. China's stocks are declining and USDA estimates an 8 million bale decline in*