TURKEY COTTON REPORT

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Abstract

World cotton area, production and consumption is estimated 35.9 million hectares and 27.3 million tons, and 22.7 million tons respectively in 2011/12. Domestic cotton production and area was 480.000 hectares and 817 000 in 2010/11, respectively. Turkish cotton area and production are projected to decrease about 17% and 27% in 2011/12 due to the fall in the price of cotton in relation to previous years as well as the decreasing competitiveness of cotton in relation to wheat, corn and soybeans. In 2011/12, Turkey represent 2.7% of total cotton production, 5.4% of total cotton consumption, and 5.4% of total cotton imports in the world. Turkey is the eight largest producer in the world. However, it was estimated that Turkey imports a total of 480 000 tons of cotton in 2011, of which 363 772 ton or 82 % was US cotton. The cotton is produced in three major areas, in descending order the Southeastern Anatolia (GAP), Aegean, Cukurova. With the expansion of irrigation area to 1.04 million hectares by 2014, cotton planting and production area would be increase in the GAP region, accounted for 300 000 hectares planting area and over 500 000 tons cotton production. During last decade private sector had significant role for cotton seed supply and improvement of new cotton varieties. The ratio of cotton seed production by private sector jumped from %19 to %100 between 2001 and 2011. The textile industry is one of the most important and dynamic sectors in the Turkish economy accounting for 8 percent of its GDP. In 2011, Turkey's textile exports were valued at 7.709 billion US$, and Turkey's clothing and apparel exports were valued at 15.666 billion US$, for a total value of 23.373 billion US$. These sectors had a 17,3% share in total export volume in 2011.

Introduction

A warm climate crop, cotton is cultivated between 37^{o} N and 32^{o} S, and about 90% of cotton is grown in the Northern Hemisphere. Cotton is grown in more than 60 countries and planted on about 2.5% of the world's arable land making it one the most important industrial crops in the world. It also provides employment to millions of person during cotton production, transportation, ginning, baling and storage, and in allied industries such as agriculture inputs, machinery and equipment, cotton seed crushing and textile manufacturing. The most important, cotton provides food and fiber which are the most basic requirements of human being. Among edible oil consumed in the world cotton oil is the fifth rank.

Cotton planting area, yield, production, and trade in selected countries in 2011/12 and 2012/13 were given in Table 1. The ICAC Secretariat reported that 2011/12 world cotton area and production is estimated at 35.977 million hectares and 27.3 million tons. In 2011/12, world cotton consumption is expected to be 22.7 million tons 7.3% lower than last season, 24.5 million tons in 2010/11. Global cotton production was 25.1 million tons in 2010/11 and cotton production reached 27.3 million tons in 2011/12 (8.7 % increase in cotton production). World cotton production is forecast 25.5 million tons in 2012/13 down by 6.6 % from this season. The decline in prices during 2011/12 (2010/11: 164.26, 2011/12: 1.00 U.S. $ per pound) has driven cotton planting down this year in many countries.

Although cotton is produced in 61 countries in the world during 2011/12, only eight of them, China (Mainland), India, USA, Pakistan, Brazil, Australia, Uzbekistan and Turkey

share 86.8% of production, 78.3% of area and 80.6% of consumption. The average world cotton planting area is between 30 and 36 million hectares for long term. Last decade cotton yield increased average 10 Kg ha^{-1} per year. According to the latest the ICAC estimates, the world average yield is expected at 748 kilograms per hectare in 2011/12. Average yield in cotton was varied from 164 Kg ha^{-1}(Kenya) to 1900 Kg ha^{-1} (Australia) regardless of planting area in 2011/12. The five highest yielding countries in 2011/12 in descending order were Israel, Australia, Mexico, Brazil and Turkey (ICAC, 2012).

After a 25% jump to 9.6 million tons in 2011/12, the volume of cotton traded internationally is expected to drop by 21% to 7.6 million tons in 2012/13. The leap in global cotton trade in 2011/12 does not reflect improved demand for cotton. In fact, global cotton mill use is estimated down by 7% to 22.7 million tons, the smallest in eight years. A small rebound in global cotton mill use is projected in 2012/13, on the basis of lower prices and a more robust global economy. This improved demand will boost cotton imports, but not enough to offset the expected drop in demand by China, which now holds large stocks. Imports by China are projected to fall by almost half to 2.7 million tons in 2012/13, whereas imports by the rest of the world could rebound by 18% to 4.9 million tons. Global 2012/13 cotton production is forecast at 25.5 million tons, down by 6.6 % from this season: the decline in prices during 2011/12 has driven cotton plantings down this year in many countries. Global stocks are expected to expand by 14.1% in 2012/13 to 15.72 million tons. By the end of July 2013, global cotton stocks could represent 66.8% of global consumption, the highest stocks-to-use ratio since the mid-1980s. The projected accumulation of cotton stocks will weigh on international cotton prices in 2012/13 (ICAC, 2012).

In China, cotton prices in 2012/13 will be supported by the minimum support price policy, under which the government organizes daily purchases of new crop cotton between September 2012 and March 2013. In the rest of the world, the pressure of accumulating stocks, combined with weak demand, could drive cotton prices down. Due to the Chinese government's commitment to support domestic prices and the rebuilding of its national reserve (4,6 million tons at the end of August 2012), Therefore, cotton imports by China will likely drop sharply in 2012/13. The Secretariat expects China to import 2.5 million tons this season, less than half the record quantity purchased last season. With the projected sharp decline in Chinese imports, the 2012/13 outlook in the rest of the world is conducive to lower international prices. Cotton production outside China is forecast down by 6% to 18.6 million tons in 2012/13, as a result of the significant drop in prices last season. Cotton production in the southern hemisphere is projected down by 17% to 3 million tons in 2012/13 as a result of the fall in cotton prices since last year. The decline in production will be more pronounced in Brazil (-21% to 1.5 million tons) and Argentina (-22% to 164,000 tons, respectively) than in Australia (down by 8% to 991,000 tons) (ICAC, 2012). The separation between cotton prices and the prices for other agricultural crops, like corn and soybeans, promises to lead to a significant decline in cotton acreage for the 2013/14 season (Cottoninc, 2012). At its present level of 16.7 million tones, the projection for 2012/13 global ending stocks is the highest ever. The stocks-to-use ratio climbed to 67.1% also a record (Table 2).

Table 1: Cotton Planting Area, Yield, Production, and Trade in Selected Countries in 2011/12 and 2012/13

Countries	Area (1000 ha)		Yield (Kg ha^{-1})		Production (1000 MT)		Consumption (1000 MT)		Import (1000 MT)		Export (1000 MT)	
	2011/12	2012/13	2011/12	2012/13	2011/12	2012/13	2011/12	2012/13	2011/12	2012/13	2011/12	2012/13
China	5.528	4.975	1.339	1.379	7.400	6.860	8.635	8.635	**5.342**	**2.535**	5	5
India	12.178	11.540	493	472	6.001	5.447	4.421	4.775	120	120	**2.295**	**618**
USA	3.829	4.226	886	878	3.391	3.725	718	351	4	1	2.526	2.504
Pakistan	2.800	2.900	819	740	2.294	2.146	2.163	2.336	195	381	250	120
Brazil	1.393	1.045	1.352	1.426	1.884	1.490	888	897	6	17	1.043	666
Australia	600	515	1.800	1.924	1.080	991	8	8	0	0	1035	818
Uzbekistan	1.316	1.285	669	700	880	900	273	281	1	1	532	568
Turkey	542	407	1.384	1.550	750	630	1.250	1.325	519	765	7	7
Sub-Total	28.186	26.893			23.680	22.189	18.356	18.608	6.187	3.820	7.693	5.306
Other	7.791	7.349			3.602	3.295	4.423	4.940	3.416	3.764	2.023	2.278
World Total	35.977	34.242	758	744	27.282	25.484	22.779	23.548	9.603	7.584	9.716	7.584

Source: ICAC, Cotton This Month, October 1st, 2012

Table 2: World Cotton Balance Sheet

	2008/09	2009/10	2010/11	2011/12 (Estimate)	2012/13 (Proj.)
	Millions of Metric Tons				
Beginning Stocks	12.257	11.397	8.638	9.380	13.780
Production	23.455	22.168	25.210	27.282	25.480
Supply	35.712	33.565	33.848	36.662	39.260
Export	6.609	7.805	7.625	9.716	7.580
Import	6.647	7.928	7.725	9.603	7.580
Consumption	23.817	25.470	24.517	22.779	23.550
Ending Stocks	11.939	8.638	9.380	13.782	15.720
Stocks/Use Ratio	50.1	33.9	38.3	60.5	66.8
Cotlook A Index*	61.20	77.54	164.26	100	84**

Source: ICAC, Cotton This Month, October 1st, 2012.

* U.S. cents per pound.

** Average for the first two months of 2012/13 (August to September 2012).

Cotton Production in Turkey

Turkey is one of the important countries in terms of the magnitude of total cotton production, consumption and total imports in the world. Turkey has produced over 500 000 tons of cotton lint per year since 1980. Domestic cotton production and area was 480.000 hectares and 817 000 in 2010/11, respectively. Turkish cotton area and production are projected to decrease about 17% to 400.000 hectares and 27% to 600.000 MT in 2011/12 (USDA b, GAIN Report, 2012). The decrease is expected to occur due to many issues including the fall in the price of cotton in relation to previous years as well as the decreasing competitiveness of cotton in relation to wheat, corn and soybeans. Cotton compete with wheat and corn production for land use, depending on which is more profitable for producers. In 2011/12, Turkey represent 2.7% of total cotton production, 5.4% of total cotton consumption, and 5.4% of total cotton imports in the world. Turkey is the eight largest producer in the world (Table 1).

The cotton planted area, production, and yield trend in Turkey is given Table 3. The area under cotton increased considerably between 1945 and 1955, and cotton production thus kept on increasing in that of years. Since 1955, cotton planting area has fluctuated between 650 000 and 750 000 hectares. The lowest (400 000 ha) and highest (760 000 ha) planting area were recorded in 2011/12 and 1998/99 respectively. An all time record cotton production of 910 000 tons achieved in 2001/2002. Until a few years ago, with a lint cotton production of about 900 thousand tons, Turkey used to be ranked as the sixth largest cotton producing country in the world, after China, the USA, India, Pakistan and Uzbekistan. However, a significant reduction in cultivation area and production has been witnessed during the recent years. With its new production regions and increased annual production levels, Brazil has significantly surpassed Turkey in production capacity. Severe drought, low cotton prices, coupled with the farmers' switch to alternative crops, have resulted in a dramatic drop in cotton production in the recent years, from around 900 thousand tons level a few years ago, to as low as 400 thousand tons level last season (ICAC, 2010).

Last three decades yield increased from average 700 Kg ha-1 to 1600 Kg ha-1. The increase in cotton production has also been instrumented in expanding the textile industry. The variety potential and the agro-climatic conditions are the determining factors in terms of high yield. Also, increase in yield may be attributed to the improvement in plant protection and agronomical applications, and fertilizers. Better protection against pests has impact yields in China and the USA. On the other hand, average yield increase in Brazil is due to a shift in cotton area to high yielding area (Chaudhry, 2004). In Turkey, all cotton planted areas are irrigated. With better growing conditions, increased use of certificated seeds and availability water during the growing season has increased yields in most areas especially at the Southeast Anatolian (GAP) region. The average yield in 2011/12 is expected to be 1500 Kg ha-1. Overall yields improved in recent years due to the investment of modern equipment, planting at larger fields, increased utilization of certified seeds and mechanical harvesting. Field yields are improving because the farmers that continue to plant cotton are the most efficient and experienced, well equipped and have larger fields. Turkish Government is also increasing its efforts to unite small and divided farms. Therefore, better planting techniques and economies of scale are helping to achieve higher yields. Increases in the use of certified seeds over the years had also helped increasing yields. The increase in certified seed use is driven by a ten percent higher production bonus for certified seed users. The rate of certified seeds utilization has rapidly increased in all cotton productions areas and reached to 100%. Farmers have been using seeds which are delinted, high quality, and high germination rate and to which insecticides were applied in recent years (Sarsu and Yucer, 2011; USDA a, GAIN Report, 2012).

The cotton is grown in three main areas; the Southeastern Anatolia (GAP), Aegean, Cukurova, and small amounts of cotton also are produced around Antalya. The highest cotton planting and production regions in 2011/12 in descending order were the Southeastern Anatolia (GAP), Aegean, Cukurova and Antalya (Table 4). Among the cotton production areas Sanlıurfa, Aydın, Adana, Hatay and Izmir have the highest cotton planting area and production. These provinces produced 638 MT or 78% of total Turkey cotton production in 2010/11. Cotton planting area is continuing to gradually increase in the Southeastern Anatolia (GAP) region from 8% (1980/81) to 60% (2010/11) due to an increasing in irrigation system created by the GAP. The Southeastern Anatolia Project (GAP) is a massive $32 billion public project to harness the power and potential of the upper reaches of the Tigris and Euphrates rivers and to irrigate the fertile plains that lie between them. GAP is estimated to double Turkey's irrigable farmland. It is planning to irrigate a total of 1.7 million hectares of land by the end of this project. Average annual expansion of the irrigation network during the last five years is about 10 000 hectares. Crop yields of cotton, wheat, barley, lentils and other grains have tripled in the Harran plain as a result of irrigation from the Ataturk Dam. Cotton planting area in the GAP has climbed from 50 000 ha to 300 000 ha last three decades. At the same period cotton yield rose from 500 Kg ha^{-1} to 1500 Kg ha^{-1}, that is three times more. Cotton production increased from 26,000 tons (1980/81) to 450,000 tons (2010/11), making the GAP region the top cotton producer area. This region produces over 50% of Turkey’s total cotton production. With the expansion of irrigation, The GAP region will account for over 300 000 hectares planting area and over 500 000 tons cotton production. Harran is the heart of the cotton growing area in the GAP region, where 140,000 hectares are under irrigation. An estimated 15,000 hectares of land have been affected by salt accumulation caused by poor irrigation practices. However, drainage channels have been built to prevent harm to the cotton fields from rising underground water levels due to excessive irrigation. The Turkish Government also provides technical and financial assistant to farmers to build modern drip irrigation systems to prevent ecological problems and wasting water resources (USDA b, GAIN Report, 2012).

Table 3. Cotton Area, Production, and Yield in Turkey

Years	Area (1000 h)	Production (1000 MT)	Yield (Kg h^{-1})
1945/46	231	54	235
1955/56	625	157	251
1965/66	685	325	474
1975/76	670	480	716
1985/86	659	518	832
1995/96	757	851	1127
2001/02	697	920	1214
2002/03	694	983	1035
2003/04	637	918	1396
2004/05	640	936	1462
2005/06	547	864	1582
2006/07	591	977	1653
2007/08	530	868	1636
2008/09	495	673	1360
2009/10	420	638	1520
2010/11*	481	817	1700

Source: *Republic of Turkey Ministry of Food. Agriculture and Livestock, Turkish Statistical Institute.

The Turkish government has spent more than US$ 22.5 billion over the past three decades on a gigantic irrigation and agricultural extension project in Southeast Anatolia, known as the GAP project. When finished, some 1.5 million hectares of land will be irrigated and a total of 22 dams will be completed. So far about seventy-four percent of the hydro electric projects are completed but only fifteen percent of the irrigation projects. In 2008 the government promised to allocate US$ 12 billion in five years for dams, irrigation and infrastructure in the region. During the last three years, the Turkish government allocated funds for some of the irrigation projects. If actually realized, a total of 1.04 million hectares of land will be irrigated by 2014 which could eventually increase cotton planting and production in the region. In the first Master Plan of GAP, 25% of irrigated land thought to be as a cotton growing area and then it was switched to 45%. In GAP region, the ratio of cotton planting area in the new open irrigated land would be up to 90% depends on cotton price. Even half of the irrigated land will be advocated to cotton, this means that cotton planting area in the GAP would be over 500 000 ha in the future.

In Cukurova region, cotton production area is gradually decreased from 350 000 to 103 000 ha last three decades. The increased cost of production and high insecticide usage against to whitefly (*Bemisia tabaci* Genn.) and competition from other crops forced the cotton growers to switch to citrus orchards, soybean, wheat/corn double crop rotations. In Antalya, cotton areas are under residential and tourism development, horticulture and citrus orchards pressures. Depends on competition with other crops in terms of returns, cotton planting area has fluctuated between 80 000 and 250 000 hectares in Aegean for last three decades. Except for GAP region, in all regions cotton production will fluctuate in accordance with the return of alternative crops and the cost of production. Expansion in the GAP region will be able to compensate for the decreasing in traditional growing areas.

In Cukurova region, farmers had a difficult time deciding between corn and cotton production. Corn is profitable in terms of high yields, low cost, ready buyers and relatively high prices. There is one big irrigation project in the region called Yedigoze dam which will irrigate 75.000 ha of land in the Imamoglu Valley. Farmers in the region will switch from wheat to first season corn and cotton. The project will be finished in 2014. The government sets targets for every sector up to 2023. In terms of agriculture, Adana agriculture will be much different in 2023 than today. Corn and Cotton will be the dominant crops for the first season crop. Sunflower and Canola area will increase (USDA a, GAIN Report, 2012).

The Hatay region was flooded in January and February by extensive rain and opening of a dam door. Almost 15,000 ha of wheat area were badly affected by these floods. Wheat most probably will be replaced by cotton and corn in April 2012 (USDA a, GAIN Report, 2012). Even though farmers are not happy with the returns on cotton, recent floods in the Hatay region destroyed wheat fields, which will leave farmers with no other choice than to plant cotton (USDA b, GAIN Report, 2012).

Corn is one of the main crops compete with cotton in terms of planting area. A major increase in corn planting area was observed in several areas. In Cukurova it was due to farmers' heavy investments loss on cotton planting in MY 2011, In the Aegean region, it was due to a dramatic increase in the number of livestock farms. In the Marmara region, it was due to increased demand from the broiler industry (USDA a, GAIN Report, 2012).

In South East Anatolia region heavy rainfall in autumn prevented farmers from harvested second season corn in some regions and some farmers allocated land to cotton planting (USDA a, GAIN Report, 2012). Excessive rains in the GAP region also prevented wheat planting last fall. This left cotton as the only option for some farmers. Similarly in the Hatay region, floods destroyed wheat fields, which are expected to be replaced by cotton. Hot summers in the GAP region adversely affect corn production, which creates risks and also makes cotton more attractive than corn (USDA a, GAIN Report, 2012).

In MY 2011, cotton area increased at the expense of the wheat area but due to subsequent price shocks in the cotton sector, many farmers decided to grow either wheat or corn in MY 2012. In MY 2011, cotton farmers couldn't find enough seeds to plant and even went to cotton ginning premises to collect seeds. Similarly, in MY 2012 farmers demand for corn seed was higher than expected, and global and local seed companies are almost out of corn seed stocks. High cotton premiums in MY 2012 will not be enough to attract farmers to grow more of these crops. In MY 2011, cotton farmers couldn't find enough seed to plant and even went to cotton ginning premises to try to collect some seed. In MY 2012, farmers demand for corn seed was higher than expected and global and local seed companies are almost out of corn seed stocks. Since, corn is profitable in terms of high yields, low cost, ready buyers and relatively high prices. (GAIN Report, 2012).

Cotton is profitable due to record high prices and a government subsidy (420 TL/MT). In MY 2011, there was a rush to purchase cotton seed due to incredibly high cotton prices. In MY 2012, a similar rush occurred for purchasing corn seed. The government was late

announcing 2012 commodity premium. Farmers have already decided on either planting corn, cotton, oilseed plants or forage crops. The government premium has been a very important factor in farmers' planting decisions. In the past two years, the government made a point of announcing premiums in time to influence planting decisions but in MY 2012, farmers had to decide on crops according to market conditions or anticipated premiums because premiums were announced later. The Government's main target is to encourage production of more oilseed crops and cotton by increasing the sunflower seed premium from 230 to 240 TL/MT, and the cotton premium from 420 to 460 TL/MT in 2012, whereas the corn premium was kept the same as the previous year (USDA a, b,GAIN Report, 2012). On the other hand Farmer leaders argue that this year the bonus should be 600 TL/MT per kilogram due to increased production costs (USDA b, GAIN Report, 2012). All the cotton growing regions have received adequate rains and irrigation water is reported to be sufficient in all regions. But in spite of availability of irrigation water, higher input prices such as seed, fertilized, fuel and electricity continue to be concerns for cotton farmers (USDA a, GAIN Report, 2012).

Table 4: Cotton Planting Area, Production and Yield at Southeastern Anatolia (GAP), Aegean, Cukurova, and Antalya Regions.

	Southeastern Anatolia (GAP)			Aegean			Cukurova			Antalya		
Years	Area (1000 h)	Production (1000 MT)	Yield (Kg h^{-1})	Area (1000 h)	Production (1000 MT)	Yield (Kg h^{-1})	Area (1000 h)	Production (1000 MT)	Yield (Kg h^{-1})	Area (1000 h)	Production (1000 MT)	Yield (Kg h^{-1})
1980/81	51 (8%)	26 (5%)	504	218 (32%)	185 (37 %)	852	369 (55%)	253 (51%)	687	35 (5%)	36 (7%)	1039
1990/91	141 (22%)	142 (22%)	1014	258 (40%)	285 (44%)	1102	211 (33%)	190 (29%)	900	32 (5%)	38 (6%)	1192
2000/01	317 (48%)	427 (49%)	1346	208 (32%)	286 (33%)	1375	116 (18%)	153 (17%)	1315	13 (2%)	14 (2%)	1108
2001/02	298 (43%)	422 (46%)	1212	236 (34%)	269 (29%)	1146	152 (22%)	218 (24%)	1427	11 (2%)	11 (1%)	1072
2002/03	320 (46%)	454 (46%)	1422	224 (32%)	305 (31%)	1359	141 (20%)	212 (22%)	1482	9 (1%)	12 (1%)	1360
2003/04	300 (47%)	444 (48%)	1478	203 (32%)	266 (29%)	1311	126 (20%)	196 (21%)	1276	8 (1%)	12 (1%)	1520
2004/05	325 (51%)	476 (51%)	1463	176 (28%)	254 (27%)	1445	130 (20%)	192 (20%)	1474	9 (1%)	14 (2%)	1600
2005/06	295 (54%)	448 (52%)	1517	144 (26%)	219 (25%)	1524	103 (19%)	187 (22%)	1823	5 (1%)	10 (1%)	1902
2006/07	310 (52%)	503 (51%)	1436	151 (26%)	225 (23%)	1058	126 (21%)	241 (25%)	1626	4 (1%)	8 (1%)	1810
2007/08	292 (55%)	472 (54%)	1480	119 (22%)	166 (19%)	951	115 (22%)	223 (26%)	1750	4 (1%)	6 (1%)	1590
2008/09	313 (63%)	423 (63%)	1169	83 (17%)	95 (14%)	830	95 (19%)	150 (22%)	1372	4 (1%)	5 (1%)	1330
2009/10	236 (56%)	349 (55%)	1273	81 (19%)	114 (18%)	982	100 (24%)	170 (27%)	1470	3 (1%)	5 (1%)	1530
2010/11	288 (60%)	464 (57%)	1614	84 (17%)	114 (18%)	1206	105 (22%)	201 (25%)	1884	4 (1%)	7 (1%)	1770

Source: Republic of Turkey Ministry of Food. Agriculture and Livestock, Turkish Statistical Institute.

Average fiber quality parameters of three regions were given Table 5. Aegean cotton generally is considered to be the best quality and is preferred by the local textile industry.

Table 5. Average Fiber Quality Parameters of Cotton Growing Regions

Cotton Growing Regions	Fiber Length (mm)	Fiber Strength (g/tex)	Mic.	UI (%)	Short Fiber Index	Reflectance (% Rd)	Yellowness (b)	Trash Count (g/number)
Aegean	29.8	31.5	4.59	84.7	8.9	70.8	7.9	35.3
Cukurova	28.8	29.8	4.79	83.1	9.5	68.5	8.2	49.4
Southeastern Anatolia (GAP)	29.2	30.4	4.44	84.4	8.8	69.3	7.8	72.8

During MY 2011, local cotton prices moved along with world prices. A sudden drop in world cotton prices following record high prices and continuing low domestic prices disappointed farmers and persuade some of them plant other crop such as wheat, corn and soybean in the cotton growing regions. Prices declined forty-six percent last spring from the previous year's highs (GAIN Report b, 2012).

Last three years cotton prices fluctuated in Turkey from US$ 1.79 in 01.2010 to US$ 4.66 in 03.2011. The decline in prices during 2011/12 has driven cotton planting down this year in many countries including Turkey. Local Standard 1 Aegean cotton was US$ 2.26 per kilogram in October 2011 and went down to US$ 1.95 per kilogram in January 2012. A cotton export ban in India raised hopes of local producers for a recovery of domestic prices, but the ban was removed quickly. Local cotton is presently (09.2012) quoted for US$ 1.91 per kilogram, compared to US$ 2.49 per kilogram a year ago.

Table 6: World Cotton Prices during 2009, 2010, 2011 and 2012.

		WORLD COTTON PRICES US $/Kg.		
Years	Month	Cotlook A Endeks	USA Memphis	ICE Std. Guarantee
2009	1	1,27	1,32	1,14
2009	2	1,22	1,25	1,20
2009	3	1,13	1,14	1,17
2009	4	1,25	1,29	1,30
2009	5	1,37	1,45	1,50
2009	6	1,36	1,38	1,55
2009	7	1,42	1,45	-
2009	8	1,42	1,52	-
2009	9	1,41	1,53	1,57
2009	10	1,47	1,61	1,54
2009	11	1,56	1,72	1,63
2009	12	1,69	1,79	1,73
2010	1	1,72	1,79	1,77
2010	2	1,77	1,82	1,79
2010	3	1,90	1,97	2,04
2010	4	1,95	1,98	2,22
2010	5	1,99	2,00	2,22
2010	6	2,05	2,02	2,29
2010	7	1,89	1,89	
2010	8	1,71	1,75	2,35
2010	9	2,30	2,34	2,55
2010	10	2,77	2,80	3,04
2010	11	3,39	3,37	3,71
2010	12	3,71	3,70	3,74
2011	1	3,94	3,86	3,94
2011	2	4,70	4,65	4,43
2011	3	5,06	5,02	4,66
2011	4	4,71	4,73	4,42
2011	5	3,66	3,92	3,63
2011	6	3,66	4,01	3,43
2011	7	-	-	2,54
2011	8	2,52	2,65	2,57
2011	9	2,58	2,73	2,49
2011	10	2,44	2,55	2,26
2011	11	2,31	2,40	2,07
2011	12	2,09	2,26	1,94
2012	1	2,23	2,42	1,95
2012	2	2,22	2,32	2,15
2012	3	2,19	2,24	2,10
2012	4	2,21	2,27	2,07
2012	5	1,98	2,04	1,96
2012	6	1,81	1,87	1,90
2012	7	1,85	1,90	1,92
2012	8	1,86	1,88	1,91
2012	9	1,86	1,89	1,91

Source: Izmir Commodity Exchange

Classification, Harvesting and Ginning

The ginning rate averages about 41 percent in the Aegean region, about 39 percent in the GAP and 38 percent in Cukurova. Ginners generally purchase seed cotton directly from growers. Lint generally is graded and certified by the government–regulated inspectors at the gins, using a green card system. The government started a project about three years ago to introduce a mechanized HVI testing system and has sent technicians to the United States for training at USDA's Memphis facilities. Accordingly, there was going to be HVI measurement centers in Izmir, Adana and Urfa and Turkey will eventually move to the HVI testing system in the next five years (USDA, GAIN Report b, 2012).

The Ministry of Foreign Trade undertook a program to establish HVI machine classification of Turkish cotton. They planned to create facilities furnished with HVI machines in Izmir, Urfa and Adana. The initial plan was to start the project in 2011 but due to budget problems the new system is expected to be functional in five years. When active, the system will collect data for each bail in a national database. The new system was intended to facilitate making production support payments according to quality, and also allowing cotton trade in a futures market (USDA, GAIN Report b, 2012).

Because of cheap labor cost, mechanical harvest equipment was not extensively used by the farmers. Mechanical harvesting became popular after 2000 because of the significantly increased labor costs. Currently, about one-fourth of the Turkey's cotton is hand-picked. The primary development in the next five years will likely be the adoption of present harvesting technology. Mechanical harvesting has reduced the cost of picking by %25 (Sarsu and Yucer, 2011). The total number of harvesters in Turkey increased with great speed reaching approximately 1,000. The great majority, about 680 of them, are new modern harvesters. About 220 are secondhand and about 100 are old tractor-pulled harvesters. The demand for harvesters has increased particularly during the last season when a delay in planting caused cotton fields to mature at the same time and a lack of harvesters and labor caused delays and losses (USDA, GAIN Report b, 2012).

In Turkey the number of gins is estimated to be around 500 and all of them are privately owned. The majority of the gins in the Aegean region are roller gins, more suitable for longer staple cotton, while about half of the gins in Cukurova and the Southeast are roller gins and half are saw gins. However the recent increase in machine harvesting has triggered construction of new saw gins. The agricultural cooperatives Taris and Cukobirlik have invested in new saw gins to meet the needs of their members. There are saw gin projects in the GAP region as well by private groups (USDA, GAIN Report b, 2012).

Organization of the cotton trade

Commodity Exchanges are established for bringing purchasers and suppliers together, registering and announcing the prices and ensuring the well functioning of the market mechanism. The reference prices in the cotton markets constitutes in the commodity exchanges. Cotton is purchased by the cooperatives and ASCUs, ginning plants and traders. These institutions have important roles in the domestic trade of cotton. Almost all of the cotton producers have been organized within the framework of the 89 agriculture sales cooperatives and 4 Unions. Total number of members of Tariş, Antbirlik and Çukobirlik is around 123.693. The Agriculture Sales Cooperatives and ASCUs operating under the Law No.457211 have purchased, processed, stored and sold the products of their members and if necessary products of the other producers. These Cooperatives and ASCUs have important ginning-pressing, fibre, storehouse and oil factories enterprises. Cooperatives and ASCUs supply the substantial amount of the production inputs of the producers and distribute it.

Generally, they give the inputs, which they supplied, to the producers as in rem credit. In order to be eligible to use their voting rights, members of the cooperatives have to submit minimum 50% of their products, which they commit to the cooperatives. The remaining part is sold to other purchasers. Cooperatives and ASCUs can also give cash credit to their partners according to their financial situation. Another important aspect worth mentioning is the significantly weakened positions of the Agricultural Sales Cooperatives and their Unions, such as Tariş, Çukobirlik and Antbirlik, can also be regarded as a major factor for the limited interest to cotton growing because these ASCUs used to be very powerful in the past, also in charge of implementing government support policies. They even continued giving such supports from their own resources at times when "the premium levels" had fallen short of their members' expectations. These cooperative unions had long been regarded as "good shelters" for most of the small to medium sized growers. However, their recently weakened financial positions greatly deprived them being of significant use (ICAC, 2010). Cotton purchase ratio of The Agriculture Sales Cooperatives were given in Table 7. Agriculture Sales Cooperatives and the Agricultural Sales Cooperatives Unions (ASCUs) (namely Tariş Pamuk Birliği, Çukobirlik, Antbirlik and GAP Birlik) purchased approximately 20% of the total cotton production between 1998-2002 in Turkey. Then the ratio declined to 4% in 2010 due to the their recently weakened financial positions. It is worth to remember that price supports on behalf of the government through the Agricultural Sales Cooperatives Unions have ceased to be practiced and seed cotton purchases of these unions have been solely on their own accounts, especially since the 2000/01 season. The amount of cotton the ASCUs get from their members depends largely on the procurement prices they announce, payment conditions and the prices offered by the ginners, traders, and other intermediaries in relation to market realities (ICAC, 2010). Those ASCUs, especially Tariş, which had overlooked the market realities during the recent years and offered their members prices much higher than the prevalent market prices, have put themselves under big losses as well as under severe shortages of finance for their upcoming cotton procurements. Çukobirlik, the second largest ASCU, which operates in the Mediterranean and the South Eastern regions, has been more cautious when announcing their procurement prices of seed cotton. Since the ASCU's have not sufficient finance, their role in price setting will not be significant under the present market circumstances.

Cotton is freely traded in the market and prices are determined by domestic supply and demand conditions, as well as by the international market prices. Seed cotton trading market is consisted mainly of the Agricultural Sales Cooperatives Unions (ASCUs), the individual cotton producers, traders and cotton ginners, while the main players in the lint cotton market are again the ginners, spinning mills, directly or through their commission agents, and finally the domestic and foreign trading cotton companies. Private sector involvement in the seed cotton market is mainly through the ginners or traders/ginners. Local intermediaries buy seed cotton and sell to ginners charging them a small profit margin. Imported cotton prices also affect the formation of prices in the domestic market (ICAC, 2010).

Organic Cotton Production

The first serious attempt for organic cotton production started in 1980 in Turkey to include cotton as a rotation crop and also to prove that organic farming should not be limited to only food production. Organic cotton production in Turkey was several hundred tons during early 1990's and reached several thousand tons by early 2000's. Turkey was the world leader for organic cotton production but domestic production has declined 18.000 ton in 2010.

Organic cotton is still in a stage at growth, being cultivated in 24 countries worldwide with the top three producers India, China and Turkey (Sarsu and Yucer, 2011; Özüdoğru, 2011)

Table 7. Cotton Purchase Ratio of Agricultural Sales Cooperatives Unions

Years	Tariş (%)	Çukobirlik (%)	Antbirlik (%)	Total (%)
1997	8.1	3.1	2.0	13.2
1998	11.8	9.0	2.4	23.2
1999	12.2	6.9	2.6	21.7
2000	8.6	5.5	1.6	15.7
2001	10.9	6.5	1.2	18.6
2002	12.1	4.8	1.2	18.1
2003	10.6	2.8	1.2	14.6
2004	11.1	4.8	0.6	16.5
2005	7.2	3.3	0.4	10.9
2006	6.5	3.4	0.5	10.4
2007	5.2	3.6	0.4	9.2
2008	5.1	3.6	0.5	9.2
2009	1.7	0.5	0.6	2.8
2010	2.4	0.6	1.0	4

Improvement New Cotton Varieties

The Seed Registration and Certification Center was established within the Ministry of Agriculture in 1959 and has been officially functioning within the Ministry of Food, Agriculture and Livestock since then. Almost all of the cotton seeds are renewed every year in Turkey. The rate of certified seeds utilization has rapidly increased in all cotton productions areas and reached to 100% (Sarsu and Yucer, 2011). Variety registration studies started in 1964, however it accelerated after 1990. Four varieties were developed in 1970s, 5 varieties were developed in 1980s, 23 varieties were developed in 1990s, 66 varieties were developed in 2000s. The increase in developed varieties is expected to continue in 2010s.

Public sector started cotton breeding in 1959 and private sector started cotton breeding in 1995 (Sarsu and Yucer, 2011). Between 2002 and 2007 total 34 new cotton variety was registered and the ratio of private sectors in registered cotton variety (16 new cotton variety) was 47% during this period. Last five years total 37 new cotton varieties improved and 26 of that was registered by private sectors. Between 2008 and 2012, the ratio of private sectors in registered new cotton varieties were increased to 70%. The major innovation in variety development was carried out by private sectors. However majority of registered cotton varieties were introduced from other countries as a breeding line or new cotton variety. A few of private sectors have own breeding or research and development program. The amount of cotton seed supply by public and private sectors were given Table 8. The amount of cotton seed supply by public and private sectors were varied from 7.662 (2003) to 26.809 (1995) tons. Until 2000, the majority of cotton seed (75%) was provided by public sectors, however the ratio of private sectors in cotton seed production gradually increased and reached 100 % in 2010.

Table 8. Cotton seed supply by public and private sectors

	Public Sector		Private Sector		Total
	MT	%	MT	%	
1995	26.457	99	352	1	26.809
1999	14.343	85	2.514	15	16.857
2000	11.936	77	3.666	23	15.602
2001	15.204	81	3.572	19	18.776
2002	19.286	77	5.846	23	25.132
2003	1.512	20	6.150	80	7.662
2004	910	8	9.858	92	10.768
2005	4.144	21	15.432	79	19.576
2006	2.542	13	16.314	87	18.856
2007	1.750	12	12.572	88	14.322
2008	79	1	10.907	99	10.986
2009	0	0	10.811	100	10.811
2010	104	1	15.574	99	15.679
2011	20	0	16.890	100	16.910

Cotton Supply and Distribution in Turkey

Consumption: Cotton supply and distribution of Turkey is given Table 9. Domestic cotton consumption is expected to be 1.250 and 1.325 MMT in 2011/12 and 2012/13. Turkey is the fourth largest consumer of cotton in the world behind China, India, and Pakistan. MY 2012 cotton consumption is now projected to 1.325 MMT 6% higher than 2012 (USDA, GAIN Report a, b, 2012)

Table 9. Supply and Distribution of Cotton in Turkey

	2009/10	2010/11	2011/12* (ICAC Est.)	2012/13* (ICAC Proj.)
Area Planted (1000 ha)	420	481	542	407
Yield (Kg ha^{-1})	1.520	1.700	1.384	1550
Production (1000 MT)	638	817	750	630
Beginning Stocks (1000 MT)	331	290	275	267
Imports (1000 MT)	957	729	519	765
Total Supply (1000 MT)	1.926	1.836	1.544	1.662
Domestic Cons. (1000 MT)	1.603	1.508	1.250	1.325
Export	33	32	7	7
Total Domestic Consumption (1000 MT)	1.636	1540	1.257	1.332
Ending Stocks (1000 MT)	290	296	287	350
Stock to Use (%)	18	20	23	26

***** ICAC, Cotton This Month, October 1st, 2012

Turkey's cotton imports fluctuated between 493 000 (2002/03) and 960 900 tons (2009/10) during last decade (Table 10). Turkey continued to be a major market for cotton of foreign origin because the domestic production was not sufficient to meet the demand of its textile industry. Turkey continued to import about a third of its cotton supply in 2011/12. Turkey is the third largest cotton importer country after China and Bangladesh. Turkey imported 729.4 MT cotton in 2010/11 and the U.S., Greece, Turkmenistan, Brazil, and Tajikistan was the first five supplier countries in descending order. The United States was the leading supplier with 476 000 tons (66%). During the first eleven months of MY 2011 Turkey imported 465.292MT, which is a thirty-four percent decline compared to the same period last marketing year and is due to high local production. Although the US was the leading supplier with 195,889 MT, its market share declined from the usual sixty percent to forty-two percent. Rapid fluctuations in the global cotton price during the last two seasons have caused millers to prefer small orders from domestic sources, or from sources near-by, such as Greece. Marketing year-end imports are expected to remain at about 520,000 MT compared to 730,000 MT last year. Cotton imports are expected to increase in MY 2012 to about 620,000 MT due to a projected decrease in domestic production. During MY 2011 USA and Greece countries were the traditional suppliers, but Brazil, Argentina and Australia are emerging as new cotton suppliers for Turkey (Table 11) (USDA, GAIN Report a, b, 2012).

Table 10. Turkey Cotton Import During Last Decade

Years	Imports (1000 MT)	US $ (Milyon $)
2001/02	648.5	592.3
2002/03	493.8	549.1
2003/04	516.9	761.5
2004/05	748.4	882.8
2005/06	762.3	960.8
2006/07	877.3	1,137.9
2007/08	711.4	1,099.8
2008/09	630.2	866.4
2009/10	960.9	1,570.2
2010/11	729.4	2,044.1

Source: Turkish Statistical Institute.

Table 11. Turkey Cotton Import in 2010/11 and 2011/12

	2010/11		2011/12	
Countries	Imports (1000 MT)	**%**	Imports (1000 MT)	**%**
U.S.	476,9	65,4	195,9	42,1
Greece	87,3	12,0	80,7	17,3
Turkmenistan	51,2	7,0	23,2	5,0
Brazil	27,8	3,8	72,9	15,7
Tajikistan	21,1	2,9	11,4	2,5
Uzbekistan	16,7	2,3	6,9	1,5
India	11,1	1,5	6,0	1,3
Australia	0	0	8,4	1,8
Argentina	6,2	0,8	10,6	2,3
Egypt	5,2	0,7	4,5	1,0
Burkina Fasoo	3,6	0,5	0	0,0
Others	22,1	3,0	38,9	8,4
TOTAL	729,4	100,0	465,2	100,0

Source: USDA, GAIN Report b, 2012).

Cotton Industry in the Future

Cotton production :Cotton planting area gradually drop in all production regions at varying degrees in Turkey. It is expected that increase in cotton growing area in the Southeastern Anatolia, may no longer be seen in the near future. High production costs, unattractive prices and better returns from alternative crops such as corn and wheat, have generally discouraged the cotton growers from growing cotton even in this region. In the Çukurova region, there will not be significant increases in area since farmers in this region have switched to alternative crops, mainly to maize, soybeans or cereals. Cotton planted area in Antalya region is also experiencing a gradual decrease. The Aegean region, where the best quality "upland" cotton is being grown, cotton growers has also been experiencing significant diversion to other crops, mainly to maize, simply because of higher cost of cotton production (ICAC, 2011). Machine picking has become common all cotton growing regions owing to high cost and severe shortages of labour in hand picking. This development also contributed to the significant reduction in contamination. The ginning industry, which is largely composed of roller-ginning plants, has also adopted itself in dealing with machine-picked cotton by incorporating pre and post ginning cleaners as well as using higher capacity roller ginning equipment (ICAC, 2011).

Cotton consumption prospects: In a quota-free world, the domestic textile industry will be affected by low priced imported textile products, and also the demand for domestic yarn, raw and finished fabric would be reduced. Therefore it will not be difficult to foresee a drop in cotton consumption, which will affect not only the domestic cotton production but also the consumption of imported cotton. A similar outcome is also foreseen following the recent move by many textile companies (spinners, weavers, knitters, etc.) to relocate themselves in the neighbouring countries, where most of the production factors (labour, energy, finance, etc) are comparatively cheaper than they are in Turkey (ICAC, 2011).

5.3 Cotton export/import prospects: Turkey was a net cotton exporting country until 1992. From 1993 onwards Turkey has become a net cotton importing country, with steady increases in cotton imports being realized during the last decade. This situation made Turkey the third largest cotton importing country in the world (ICAC, 2011).

Textile Industry in Turkey

With the gradual development of the textile and clothing sectors during the last three decades, cotton has become important to the industrial sector as well as to the internal and external trade of Turkey. However, significant drops in the domestic production have continued to necessitate imports of cotton of considerable magnitude, making the country the third largest importer of cotton after China and Bangladesh (ICAC, 2010).

Textiles and clothing are among the most important sectors of the Turkish economy and foreign trade. Accounting for about 6-7% of the (gross domestic product) GDP together, these two sectors are the core of Turkish economy in terms of GDP contribution, share in manufacturing, employment, investments and macroeconomic indicators.

In 2011, Turkey's textile exports were valued at 7.709 billion US$, and Turkey's clothing and apparel exports were valued at 15.666 billion US$, for a total value of 23.373 billion US$. These sectors had a 17,3% share in total export volume in 2011 (Table 12).

Higher prices and labor force problems in some of the major manufacturing countries such as China have played a part in Turkey's receipt of increased orders from the United States and the EU. In 2011, textile exports to Ukraine, USA, UK, Italy, Iran, Poland, France and Russia saw the highest percentage increase over 2010 exports; and clothing and apparel exports to Ukraine, UAE, Poland, Iraq, Netherland and Spain saw the highest percentage increase over 2010 exports. Turkey's top ten textile export destinations included Russian Fed., Italy, Germany, Iran, United Kingdom, Poland, Romania, United States, Bulgaria, and Egypt. Turkey's top ten clothing and apparel export destinations included Germany, United Kingdom, Spain, France, Netherland, Italy, Denmark, United States, Belgium, and Russian Fed. (Table 13).

There are more than 40,000 textile and clothing companies in Turkey with an estimated workforce of 750,000 employees. Turkey is one of the main actors in the world clothing industry. Turkey ranks 8th in world cotton production and 4th in world cotton consumption. The Turkish clothing industry is the 7th largest supplier in the world, and the 2nd largest supplier to the EU behind China. It has a share of 4% in knitted clothing exports and it ranks 5th among the exporting countries. With a share of 2,6%, Turkey ranks 10th among the woven clothing exporters in the world.

The Turkish textile industry, which is listed in the world's top ten exporters, is also the second largest supplier to the EU. The Turkish textile and clothing industry has a significant role in world trade with the capability to meet high standards, and can compete in international markets in terms of high quality and a wide range of products (Ministry of Economy, 2012). Since Istanbul is becoming a fashion and shopping center, most of the companies have shifted their production facilities to the inner provinces. Izmir, Bursa, Ankara, Denizli, Gaziantep, Kayseri, Tekirdag, Adiyaman, Kahramanmaras and Adana are now major cities for textile and clothing production (Ministry of Economy, 2012).

EU is the most important market for Turkey's clothing exports. In 2011 Turkey exported clothing of US$ 11 billion to the EU, which was equivalent to 81,6% of Turkey's total clothing exports. Main markets among the members of EU were Germany and the UK. Clothing exports to these countries were US$ 5.2 billion, which was nearly half of Turkey's clothing exports to the EU With its fashion-oriented and quality products, Turkey has been increasing her share in the main markets, especially in the European market which has high standards and sophisticated customer needs. In 2011, Turkish companies exported to more than 170 countries in the world (Ministry of Economy, 2012).

Despite all the bleak economic developments around the world, Turkish textile and garment exporters managed to increase exports in both categories during MY 2011 Higher cotton prices and production costs in China helped Turkish textile exporters to compete against Chinese products in the international markets and prevented declines in textile

exports. Experts indicate that economic problems in the main Turkish textile export market, the EU, and political problems in neighboring countries will eventually have an adverse affects on exports and the domestic economy.

Machinery Investments. According to the Switzerland-based International Textile Manufacturers Federation (ITMF), during the period of 1990-2009, Turkey ranked second globally in investments in large circular knitting machinery as well as open-end rotors; third in long-staple spindles; fourth in short-staple spindles; and fifth in shuttleless looms. ITMF's 2009 and 2010 International Textile Machinery Shipment Statistics reports indicate that Turkey invested in a significantly greater amount of textile machinery in 2010 over 2009, particularly in spinning machinery: Imports of false-twist spindles increased by 633 percent; long-staple spindles, 607 percent; open-end rotors, 587 percent; and short-staple spindles, 234 percent. In addition, Turkey's imports of large-diameter circular knitting machinery increased by 348 percent; flat-knitting machinery, 192 percent; and shuttleless looms, 284 percent (www.fibre2fibrefashion.com/industry-article).

Firms invested profits heavily into machine capacity. For example, by 2008, Turkey has advanced to own 7.3% of OE rotor, 5% of long staple spinning, and 5.1% of wool weaving looms capacity of the world. In 2011, Turkey was the 4th rank and imported 628 000 short-stable spindles. The single biggest investor in long stable spindles was Turkey (32.500) followed by China, Iran, UA Emirates and Italy. In terms of investments in open-end rotors and in the segment of double heather draw-texturing spindles Turkey was the 3th country (35.250 for open-end rotors, 20.000 for double heather draw-texturing spindles) after China and India. Turkey was the 4th investor country in the segment of circular (900 machines) and electronic flat knitting machines (2.150 machines) (www.fibre2fibrefashion.com/industry-article).

Table 12. Turkey's Textiles, Clothing and Apparel Exports Compared to Total Exports (billion US$)

	2007	%	2008	%	2009	%	2010	%	2011	%
Textile (Cotton Products) *	3.010	2.8	2.514	1.9	2.090	2.0	2.866	2.5	3.693	2.7
Textile * (cotton, synthetic, Wool, silk and other fibers)	6.363	5.9	6.640	5.0	5.374	5.3	6.352	5.6	7.709	5.7
Clothing and Apparel **	15.563	14.5	15.234	11.5	12.854	12.6	14.205	12.5	15.664	11.6
Sub-Total	21.926	20.4	21.874	16.6	18.228	17.8	20.557	18.1	23.373	17.3
Total Export **	107.271		132.027		102.164		113.883		134.954	

*: Mediterranean Exporter Associations www.akib.org.tr

**Istanbul Textile and Apparel Exporters' Associations (ITKIB) www.itkib.org.tr/itkib/istatistik

Table 13. Leading Countries for Textile and, Clothing and Apparel Export of Turkey in 2011

	Textile Export			Clothing and Apparel Export	
Countries	(million US$)	Ratio %	Countries	(million US$)	Ratio %
Russian Fed.	1.004	13.0	Germany	3.884	24.8
Italy	778	10.1	UK	2.036	13.0
Germany	458	5.9	Spain	1.347	8.6
Iran	294	3.8	France	1.254	8.0
UK	288	3.7	Netherland	856	5.5
Poland	288	3.7	Italy	817	5.2
Romania	283	3.7	Denmark	460	2.9
USA	273	3.5	USA	429	2.7
Bulgaria	237	3.1	Belgium	414	2.6
Egypt	207	2.7	Russian Fed.	295	1.9
Spain	201	2.6	Sweden	286	1.8
France	176	2.3	Iraq	269	1.7
Morocco	168	2.2	Poland	165	1.1
Tunisia	168	2.2	UAE	160	1.0
Ukraine	167	2.2	Romania	152	1.0
Netherland	151	2.0	Israel	150	1.0
Greece	145	1.9	Austria	144	0.9
China	142	1.9	Switzerland	139	0.9
Belgium	127	1.7	Czech Rep	133	0.9
MFZ	118	1.5	Ukraine	117	0.8
Sub-Total	5.681	73.7	Sub-Total	13.518	86.3
Total	7.709		Total	15.664	

Source: Istanbul Textile and Apparel Exporters' Associations (ITKIB), 2012.

Geographic Concentration of Turkish Textile Sector

According to employment numbers, number of companies and the export figures, textiles and apparel production is mainly concentrated in three geographic regions in Turkey: Marmara Region, Aegean Region and Cukurova region (Porter, et al., 2012)..

a) Marmara Region: The textile activity within the Marmara region is concentrated in the Tekirdağ, Istanbul and Bursa provinces. Marmara Region constitutes the largest textile cluster within Turkey's economy, responsible for 56% of the total textile employment in the country. The region accommodates around 67 % of the total textile related companies (Ministry of Labor and Social Security Statistics), and performs 71% of the total textile exports within the Turkish economy (Turkstat). The major production activities are garment manufacturing, yarn production, knitting and textile finishing (Porter, et al., 2012)..

b) Aegean Region: Aegean region has concentrated on home textiles, mainly towels and bathrobes. It has a share of 12% of the textile employment within Turkey, is responsible from 10% of the total of the total textile exports and accommodates 11% of the total textile companies (Porter, et al., 2012)..

c) Cukurova Region: Last but not the least, Cukurova is an up and coming region for textiles production in Turkey. This region observes higher growth in terms of the textile exports, textile employment and textile related companies than any other. The major products for the region are machine carpets, rugs, yarn production and weaving and finishing of cotton.

The export performances of these regions differed significantly during the last decade. Although all increased total exports numbers between 2002 and 2011, only Cukurova was able to increase its share in total textile exports (Table 14) (Porter, et al., 2012)..

Table 14. Relative Export Performance of the Regions.

	% of total textile exports of Turkey	
Regions	2002	2011
Marmara	78	71
Aegean	12	11
Cukurova	5.4	11.7

Since (Agreement on Textiles and Clothing) ATC became effective in 2005, overall Turkish textile sector has been in stagnation or decline. Despite this trend, Cukurova region managed to grow its textile employment(Porter, et al., 2012). Due to international market pressures, as textiles lost its competitiveness in Marmara and Ege regions, labor and capital moved to relatively more profitable sectors, such as automotive. However, Cukurova offers many benefits to textile producers that make the region promising and uniquely positioned to compete internationally and reach significantly higher GDP and export figures (Porter, et al., 2012).

Although the region has a diversified economy, textile is among main sources of employment. Local cotton production and closeness of provinces to ports has made a significant contribution to the development of textile sector within the region. During the last decade, more than 500 companies entered in textile industry in Cukurova. Not only the number of firms has increased, but also the firms have started to grow in their exports and sizes. For example, in year 2010, 12 of the textile companies that are operating in the Çukurova region have ranked in the top 500 firms in Turkey (Porter, et al., 2012).

Some Advantages of Cukurova Region

1. Cukurova is very well connected to Mersin and Iskenderun ports and the rest of the country,
2. Cukurova's proximity to the Mediterranean and Middle Eastern markets provides an important advantage.
3. The second largest airport of Turkey is under construction in closely Mersin, to be finished by 2014.
4. Geographical proximity to main cotton production area (GAP)
5. Labor in Cukurova, relative to western part of Turkey, is cheaper, and this gives the region a competitive advantage in textiles over Marmara and Aegean
6. Adana is the 4th biggest city in Turkey with a population of 1.8 million people and Cukurova region is densely populated overall.

Industry Future:

The industry, today, has become one of the most important components of the Turkish economy with its total export value of 23.4 billion US dollars (Textile: 5.7, clothing and

apparel: 15.6 billion US$). Turkish clothing manufacturers must create and market their own brands, produce higher value-added apparel abroad to compete with the China and India. Competitiveness of the sector needs to be significantly enhanced and strategically planned, since being a low cost producer is not enough anymore to reach sizable export figures. Turkey has the production capacity to meet almost all the raw material needs of clothing industry. Turkey has also gained valuable experience in fabric design and it is started to present its special design with fashion shows in prominent markets. Turkish textile industrialist, most of whom has created their own trademark together with the patent rights, provide the most important foreign home textile and clothing companies with their fabric (ITKIB, 2011).

Many pattern design competitions that make important contributions to development of fabric design in Turkey are organized by different institutions leading to emergence of young designers and creations of product diversity. Turkey either takes part in many famous international textile fairs or organize international textile fairs. Turkey's potential shown successfully all over the world (ITKIB, 2011).

The main goals of the sector under the current world conjuncture are to produce high value added, original and high quality products and to sell them at a reasonable price level. On the other hand, as parallel to the current trend in the world, Turkey has shown great success in the technical textile products in cooperation with the university-industry and government institutions and by giving importance to R&D.

Main advantages of Turkish Textile Industry:

1. Use modern technology,
2. Existence of a well-developed textile finishing industry,
3. Talented designers and creations of product diversity,
4. Marketing of highly value added, fashionable and quality products
5. Richness in basic raw material
6. Geographical proximity to main markets, especially European markets
7. Short logistics period due to the geographical proximity,
8. Qualified and well-educated labor force,
9. Liberal trade policies,
10. Giving importance to quality, environment and human health, sensitivity on working conditions of workers,
11. Custom Union agreement with European Union and free trade agreements with many other countries (ITKIB, 2011).

Turkey is aiming to achieve $500 billion in total exports and rank among the top 10 economies in the world by 2023, the 100th anniversary of the founding of the Republic. The textile and apparel industry certainly will play a role in helping Turkey attain this goal, as it is a leading force in the economy. The industry has invested more than US$100 billion in integrated and advanced technology; accounts for 25 percent of its export revenue and 11 percent of the national gross income; and provides direct employment for more than two million people. Turkey's textile and apparel industry aims to achieve US$80 billion in exports by 2023 - with apparel accounting for US$60 billion; and textiles, US$20 billion (textileworldasia, 2012).

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ICAC
International Cotton Advisory Committee

11th Meeting of the Inter-Regional Cooperative Research Network on Cotton for the Mediterranean and Middle East Regions

Nowember 05-07.2012

ANTALYA

TURKEY

TURKEY COTTON REPORT

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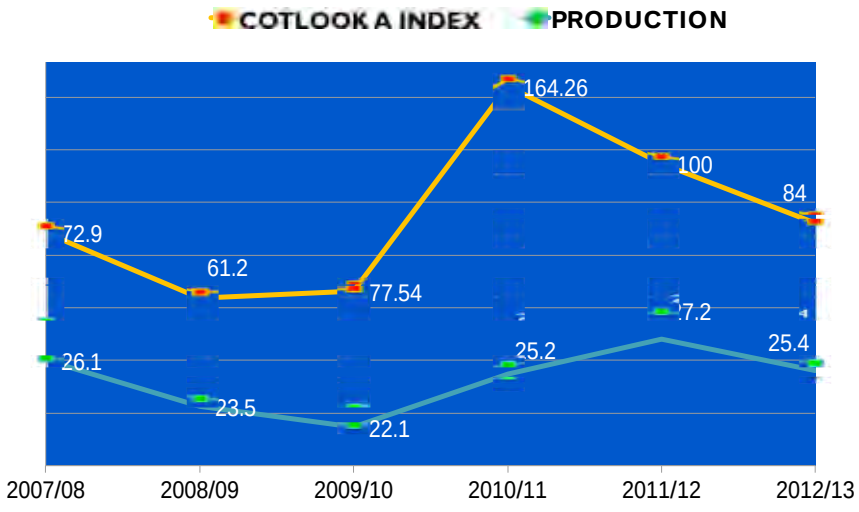
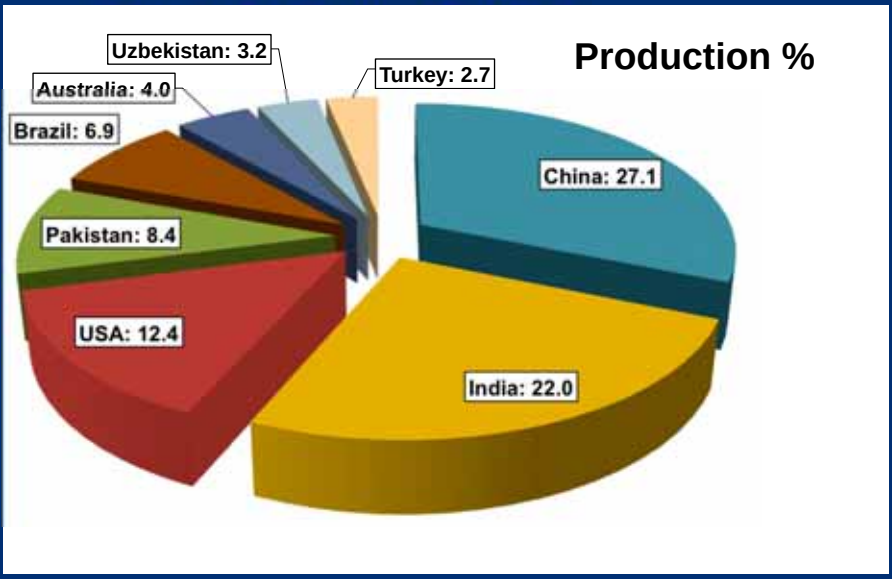
World Cotton Supply and Distribution

	2010/11		2011/12		2012/13	
	Million Tons	Changes (%)	Million Tons	Changes (%)	Million Tons	Changes (%)
Production	25.1	+13.0	27.3	+8.76	25.5	-6.59
Consumption	24.5	-	22.7	-7.34	23.5	+3.52
Import	7.67	-2.72	9.60	+25.2	7.58	-21.0
Export	7.62	-2.36	9.71	+27.4	7.58	-21.9
Ending Stocks	9.31	+7.75	13.78	+48	15.72	+14.07
	U.S. cents per pound					
COTLOOK A INDEX	164.26		100		84	

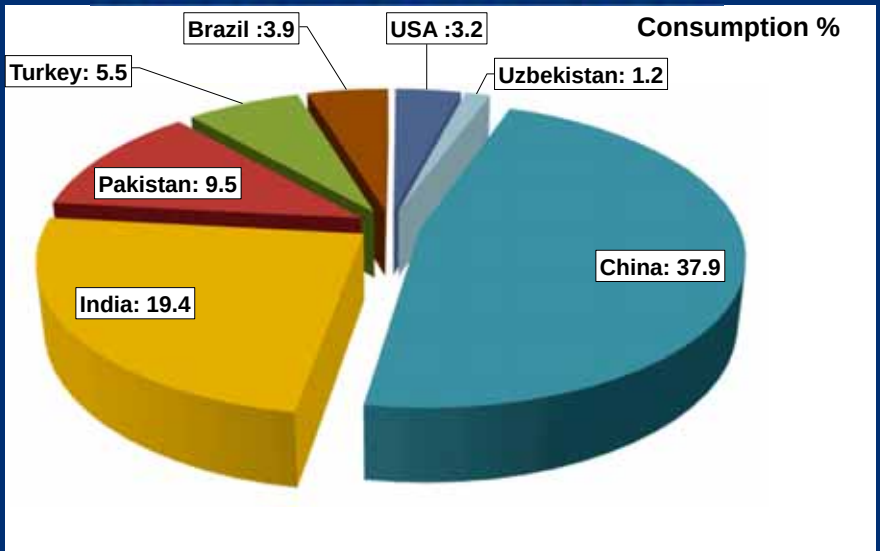
World Cotton Production (MMT) and Price (U.S. cent per pound)



World Cotton Production 2011/12
Total Production : 27.2 MMT

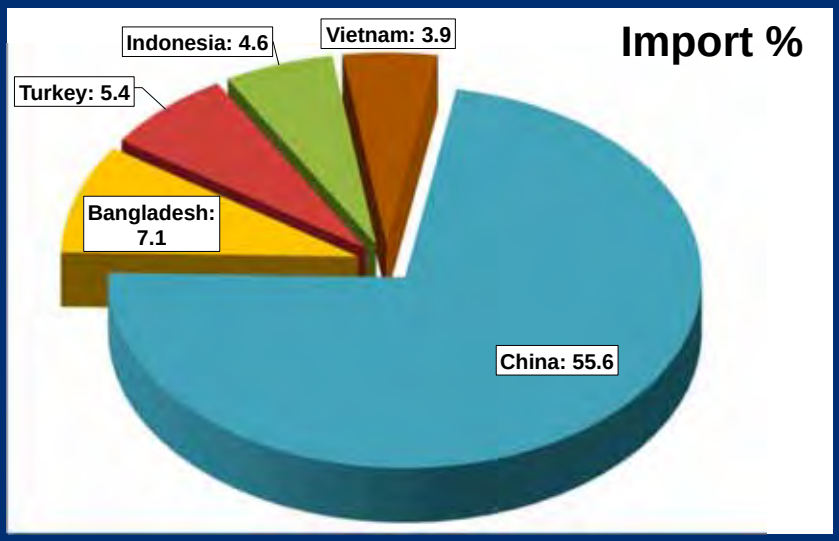


World Cotton Consumption 2011/12
Total Consumption : 22.7 MMT



World Cotton Trade 2011/12

World Total Cotton Import: 9.6 MMT

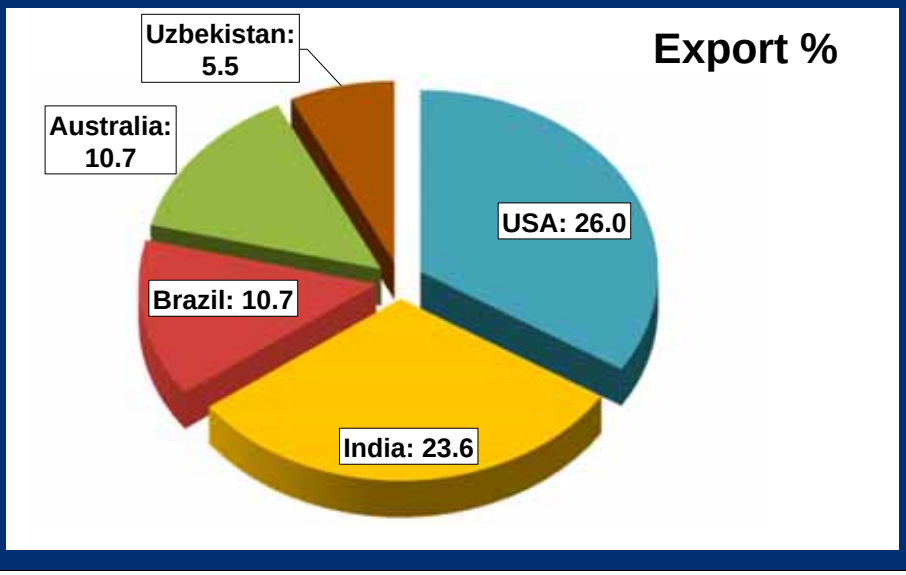


Turkey Cotton Import in 2010/11 and 2011/12

Countries	2010/11 Import %	2011/12 Import %
U.S.	65.4	42.1
Greece	12.0	17.3
Turkmenistan	7.0	5.0
Brazil	3.8	15.7
Tajikistan	2.9	2.5
Uzbekistan	2.3	1.5
India	1.5	1.3
Australia	0	1.8
Argentina	0.8	2.3

World Cotton Trade 2011/12

World Total Cotton Export: 9.7 MMT

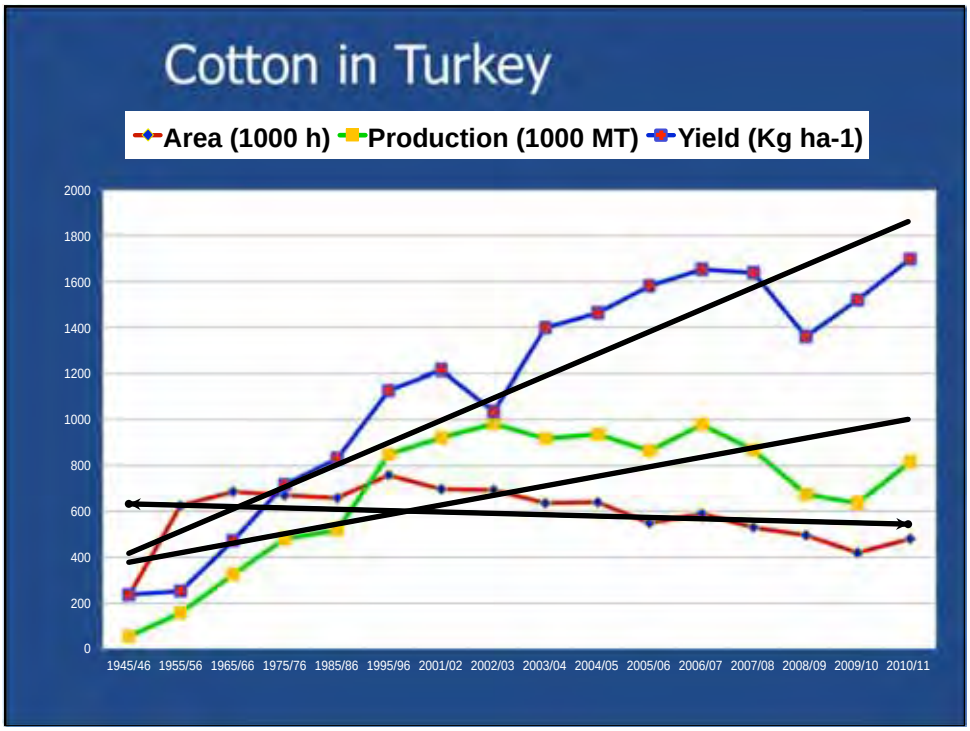


Cotton Production in Turkey

	Average of Last Decade	2011/12
Planted Area (1000 ha)	573	542
Yield (kg/ha)	1.456	1.384
Production (1000 mt)	859	750
Consumption. (1000 mt)	1.382	1.250
Import (1000 mt)	708	519

Cotton Production in Turkey

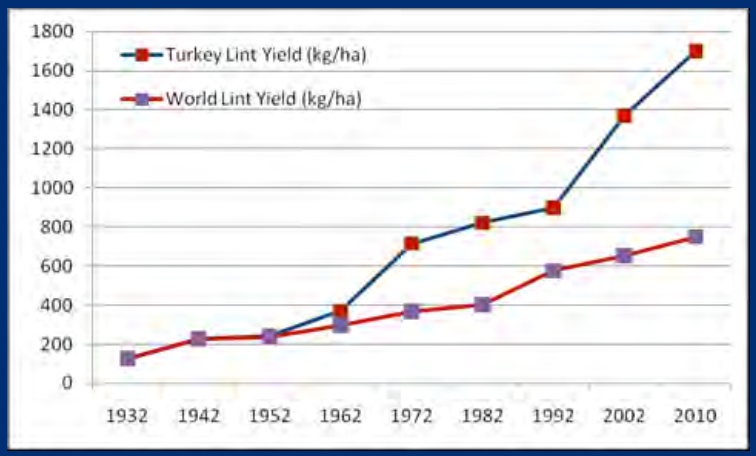
- Cotton area and production are projected to decrease about **17%** and **27%** to in 2011/12.
- Turkey used to be ranked as the sixth largest cotton producing country in the world,
- The decrease is expected to occur due to
  - **low cotton prices,**
  - **decreasing competitiveness of cotton in relation to wheat, corn and soybeans**



The five highest yielding countries in 2011/12

	Yield Kg/ha	Area (1000 ha)
Israel	1930	9
Australia	1800	600
Mexico	1407	195
Turkey	1384	542
Brazil	1352	1393

Increase in Lint Yield



- (Adapted from Sarsu and Yucer, 2011)

Increase in Yield

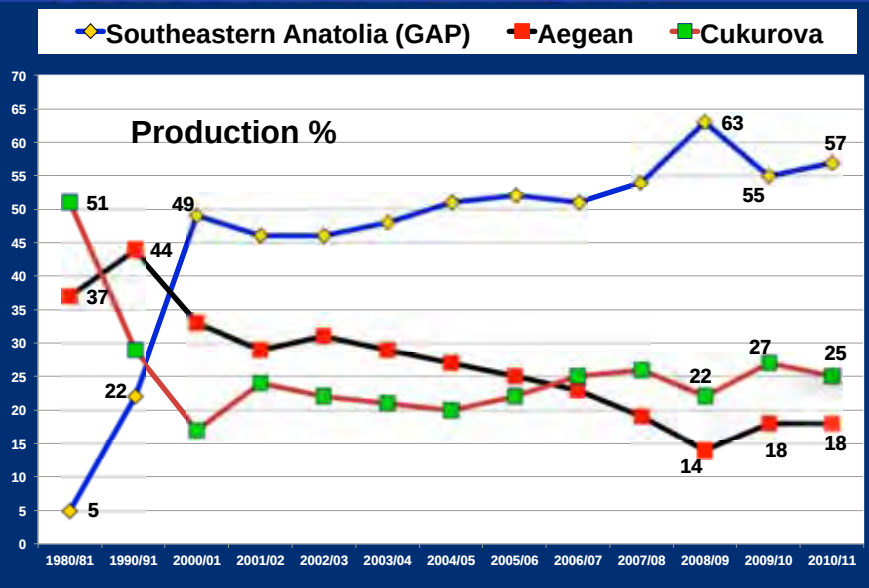
- Last three decades yield increased from average 700 Kg/ha to 1600 Kg/ha due to the;
- The variety potential,
- Agro-climatic conditions,
- Availability water (irrigation) during the growing season,
- The investment of modern equipment,
- Improvement in plant protection and agronomical applications, and fertilizers,
- Increased use of certificated seeds,
- The farmers have experienced well equipped and have larger fields. Turkish Government is also increasing its efforts to unite small and divided farms.

Cotton Planting Regions

- The cotton is produced in three major areas,
  - Southeastern Anatolia (GAP),
  - Aegean,
  - Cukurova, and
    - Small amounts of cotton also are produced around Antalya.

Cotton Planting Regions

Cotton Production Regions



The Southeastern Anatolia (GAP)

- With the expansion of irrigation during last three decades,
  - Cotton planting area has climbed from 50 000 ha to 300 000 ha,
  - Cotton yield rose from 500 Kg/ha to 1500 Kg/ha,
  - Cotton production increased from 26,000 tons to 450,000 tons,
  - GAP produces over 50% of Turkey's total cotton production.

Aegean Region

- Cotton planting area, and production decreased:
- Planting area: 220 000 to 80 000 hectares.
- Production: 280 000 to 100 000 ton
- Yield increased from 850 to 1400 kg/ha
  - Depends on competition with other crops, wheat, corn, and wheat/corn double crop rotations.

Cukurova Region

- Cotton planting are gradually decreased from 350 000 to 100 000 ha, and during last three decades.
  - The increased cost of production,
  - Competition from other crops forced the cotton growers,
    - to switch to citrus orchards,
    - wheat/corn double crop rotations,
    - Soybean.

Average Fiber Quality Parameters of Cotton Growing Regions

- Aegean cotton generally is considered to be the best quality and is preferred by the textile industry.

Cotton Growing Regions	Fiber Length (mm)	Fiber Strength (g/tex.)	Mic.	UI (%)
Aegean	29.8	31.5	4.59	84.7
Cukurova	28.8	29.8	4.79	83.1
Southeastern Anatolia (GAP)	29.2	30.4	4.44	84.4

Classification, Harvesting and Ginning

Classification:

- Lint generally is graded and certified by the government–regulated inspectors at the gins.
- The government started a project about three years ago to establish HVI machine classification of Turkish cotton.
- They planned to create facilities furnished with HVI machines in Izmir, Urfa and Adana.
- The new system is expected to be functional in five years.
- When active, the system will collect data for each **bail in a national databas**e.
- The new system was intended to facilitate making production support payments according to quality, and also allowing cotton trade in a futures market

Harvesting

- Because of cheap labor cost, mechanical harvest equipment was not extensively used by the farmers.
- Machine picking has become common all cotton growing regions because of the
  - significantly increased labor costs and,
  - severe shortages of labor in hand picking.
- This development also contributed to the significant reduction in contamination.
- Currently, **about one-fourth** of the Turkey's cotton is hand-picked.
- The total number of harvesters is in Turkey increased with great speed reaching approximately 1,000.
- The great majority of them are new modern harvesters.

The ginning industry,

- The **number of gins is estimated to be around 500** and all of them are privately owned.
- **Aegean region:** The majority of the gins are roller gins,
- **Cukurova and the Southeast :** About half of the gins are roller gins and half are saw gins.
- However the recent **increase in machine harvesting** has triggered construction of new saw gins.
- The agricultural cooperatives Taris and Cukobirlik have **invested in new saw gins** to meet the needs of their members.
- The ginning industry, which is largely composed of roller-ginning plants, has also adopted itself in dealing with machine-picked cotton by incorporating **pre and post ginning cleaners** as well as using higher capacity roller ginning equipment

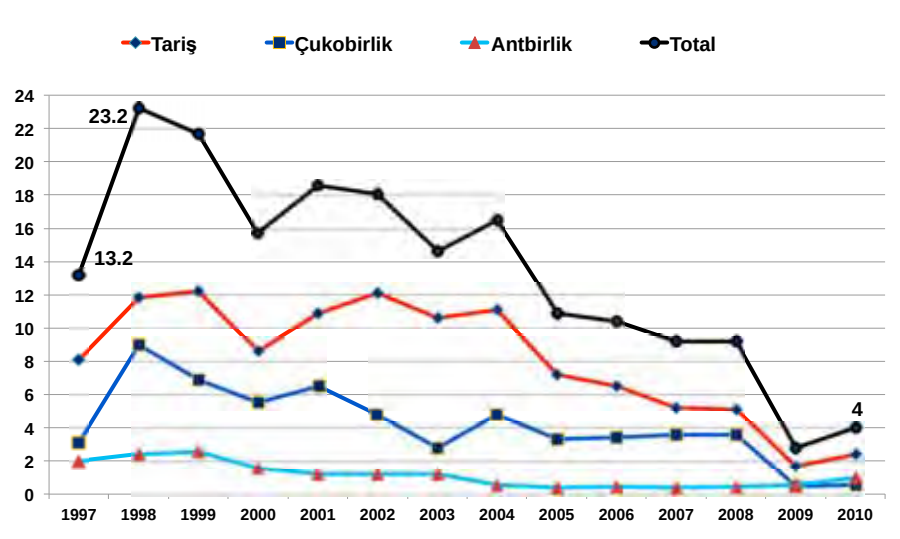
Cotton Trade

- **Cotton is freely traded in the market and,**
- **Prices are determined by**
  - **domestic supply,**
  - **Imported cotton prices,**
  - **demand conditions,**
  - **as well as by the international market prices**
- **Seed cotton trading market is consisted mainly of**
  - **the Agricultural Sales Cooperatives Unions (ASCUs),**
  - **the individual cotton producers, traders and cotton ginners,**
- **The main players in the lint cotton market are**
  - **the ginners,**
  - **spinning mills,**
  - **directly or through their commission agents, and**
  - **finally the domestic and foreign trading cotton companies.**

Agricultural Sales Cooperatives Unions (ASCUs)

- Total number of members of ASCUs (namely Tariş,Çukobirlik, Antbirlik) is around 123.693.
- They supply the production inputs
- They can also give cash credit to their partners according to their financial situation.
- ASCUs used to be very powerful in the past,
- ASCUs purchased approximately 20% of the total cotton production between 1998-2002 in Turkey.
- Then the ratio declined to 4% in 2010 due to the their recently weakened financial positions.

Cotton Purchase Ratio of Agricultural Sales Cooperatives Unions

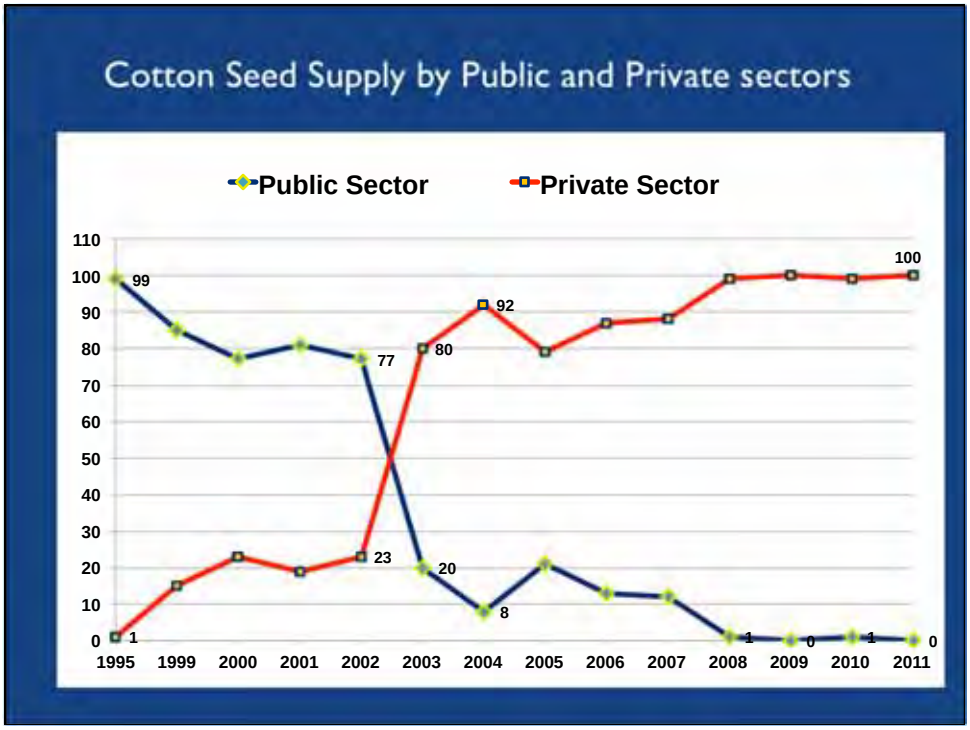


Improvement New Cotton Varieties

- **Between 2002 and 2007;** total 34 new cotton varieties were registered and the ratio of **private sectors** in registered cotton variety was **47%** (16 new cotton variety) during this period.
- **Between 2008 and 2012;** total 37 new cotton varieties were improved the ratio of **private sectors** in registered new cotton varieties were **increased to 70%** (26 new cotton variety) .

Cotton Seed Supply by Public and Private Sectors

- Until 2000, the majority of cotton seed (75%) was provided by public sectors,
- However, the ratio of private sectors in cotton seed production gradually increased and reached 100 % in 2010.



Textile Industry in Turkey

- Textiles and clothing are among the most important sectors of the Turkish economy and foreign trade.
- Accounting for about 6-7% of the (gross domestic product) GDP together,
- These two sectors are the core of Turkish economy in terms of
  - GDP contribution,
  - share in manufacturing,
  - employment,
  - investments and,
  - macroeconomic indicators.

Textile Industry in Turkey

- In 2011, Turkey's textile exports were valued at 7.7 billion US$, and Turkey's clothing and apparel exports were valued at 15.666 billion US$, for a total value of 23.373 billion US$. These sectors had a 17,3% share in total export volume in 2011

	2011 (billion US$,)	%
Textile (Cotton Products)	3.693	2.7
Textile (cotton, synthetic, Wool, silk and other fibers)	7.709	5.7
Clothing and Apparel	15.664	11.6
Sub-Total	23.373	17.3
Total Export	134.954	

Textile Industry in Turkey

- There are more than 40,000 textile and clothing companies in Turkey with an estimated workforce of 750,000 employees.
- The Turkish clothing industry is the **7th largest supplie**r in the world, and the **2nd largest supplier** to the EU behind China,
- The Turkish textile industry, which is listed in the **world's top ten exporters,** is also the second largest supplier to the EU.
- The Turkish textile and clothing industry has a significant role in world trade with the capability to meet **high standards**, and can compete in international markets in terms of **high quality and a wide range of products.**
- In 2011, Turkish companies exported to more than **170 countries** in the world.

Textile Industry in Turkey

- Turkey's top ten textile export destinations.
- Turkey's total textile exports value: 7.7 billion US$,

Countries	Textile Export Ratio %
Russian Fed.	13,0
Italy	10,1
Germany	5,9
Iran	3,8
UK	3,7
Poland	3,7
Romania	3,7
USA	3,5
Bulgaria	3,1
Egypt	2,7

Textile Industry in Turkey

- Turkey's top ten clothing and apparel export destinations.
- Turkey's clothing and apparel exports were valued at 15.6 billion US $.
- In 2011 Turkey exported clothing of US$ 11 billion to the EU.
- Main markets among the members of EU were Germany and the UK

Countries	Clothing and Apparel Export Ratio %
Germany	24.8
UK	13.0
Spain	8.6
France	8.0
Netherland	5.5
Italy	5.2
Denmark	2.9
USA	2.7
Belgium	2.6
Russian Fed.	1.9

Geographic Concentration of Turkish Textile Sector

- According to employment numbers, number of companies and the export figures, textiles and apparel production is mainly concentrated in three geographic regions in Turkey:
- Marmara Region,
- Aegean Region and,
- Cukurova region

Geographic Concentration of Turkish Textile Sector

- The export performances of these regions differed significantly during the last decade.
- Although all increased total exports numbers between 2002 and 2011, only Cukurova was able to increase its share in total textile exports

	% of total textile exports of Turkey	
Regions	**2002**	**2011**
Marmara	**78**	**71**
Aegean	**12**	**11**
Cukurova	**5.4**	**11.7**

Geographic Concentration of Turkish Textile Sector

- During the last decade, more than 500 companies entered in textile industry in Cukurova.
- Not only the number of firms has increased, but also the firms have started to grow in their exports and sizes.

Machinery Investments in Textile Industry

- Turkey invested in a significantly greater amount of textile machinery
- Firms invested profits heavily into machine capacity.
- According to the Switzerland-based International Textile Manufacturers Federation (ITMF), during the period of 1990-2009,
- Turkey ranked second globally in investments in large circular knitting machinery as well as open-end rotors;
- third in long-staple spindles;
- fourth in short-staple spindles;
- and fifth in shuttleless looms.

Machinery Investments in Textile Industry

- **Based on ITMF's 2011 statistics in 2011,**
- **Turkey was;**
  - the single biggest investor in long stable spindles,
  - the 3th country In terms of investments in open-end rotors and in the segment of double heather draw-texturing spindles
  - the 4th rank in short-stable spindles.
  - 4th investor country in the segment of circular and electronic flat knitting machines.

Main advantages of Turkish Textile Industry:

- Use modern technology,
- Existence of a well-developed textile finishing industry,
- Talented designers and creations of product diversity,
- Marketing of highly value added, fashionable and quality products
- Richness in basic raw material
- Geographical proximity to main markets, especially European markets
- Short logistics period due to the geographical proximity,
- Qualified and well-educated labor force,
- Liberal trade policies,
- Giving importance to quality, environment and human health, sensitivity on working conditions of workers,
- Custom Union agreement with European Union and free trade agreements with many other countries

Textile Industry Future

- Competitiveness of the sector needs to be significantly enhanced and strategically planned,
- Since being a low cost producer is not enough anymore to reach sizable export figures.
- The main goals of the sector under the current world conjuncture are to produce
  - high value added,
  - original and high quality products and,
  - to sell them at a reasonable price level.

Textile Industry Future

- Turkey is aiming to achieve $500 billion in total exports and rank among the top 10 economies in the world by 2023, the 100th anniversary of the founding of the Republic.
- Turkey's textile and apparel industry aims to achieve US$80 billion in exports by 2023 –
- with apparel accounting for US$60 billion;
- and textiles, US$20 billion

THANK YOU FOR YOUR ATTENTION