

## Value addition of Extra-Long Staple (ELS) Cotton

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Principal Scientist as (Technical Textiles) Head and Quality Evaluation and Improvement Division, ICAR-Central Institute for Research on Cotton Technology, Mumbai. He has more than 35 years of experience in evaluation of textile fibres, yarns and fabrics development and of various value-

products

various

added

from



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natural fibres. He has contributed many research articles in national and international journals, popular articles, training manuals, reports, etc. He is also the Principal Investigator (Quality Research) of All India Co-ordinated Research Project - on Cotton of Ministry of Agriculture and Farmer's welfare. He is member of Central Variety Identification Committee for cotton. He is also member of Board of Studies of DKTE Institute of Engineering and Textiles, Ichalkarnji. He is member of various Sectional Committees of Bureau of Indian Standards.

Shri. Pankaj Mepani, CEO, Shree Corporation, has more than 43 years of experience in the cotton industry, having worked in both trading and textile companies. Starting his career with Gill & Co. Ltd. in 1974; he went on to work with Bhaidas Cursondas & Co. Then served his longest tenure with M/s. Forbes Gokak for 27 years.

> He has been member of various committees and is currently a Director of the Cotton Association of India. He is as an Executive Council Member of the Indian Fibre Society and Indian Society for Cotton Improvement at CIRCOT in Mumbai. He is also associated with the International Cotton Association,

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Liverpool, as member of the Value Difference Committee.

Shri. Pankaj Mepani

**CEO**, Shree Corporation

Cotton value chain as depicted in Figure 1 remains the same for different staple length of cotton. Each part of the cotton plant like lint, cottonseed and biomass such as cotton stalks are being commercially used. However, cotton lint is a very important commercial product in comparison with its by-products.



Figure 1. Cotton, By-product and Biomass

About 95 % of world cotton produced is being used by the textile industries. Textile manufacturing is a major industry where fibre is converted into yarn and after that into fabric. Cotton fibre quality requirement varies for different spinning systems with the rise of new development in the machines. Currently the major spinning systems used to produce spun yarns are ring, rotor, and air-jet/vortex spinning.

Indian spinning Industry is the most modern and efficient in the world. With 47 million spindles and 0.75 million open-end rotors, India possesses the world's second largest spinning capacity after China.

Figure 2. Value Addition to Cotton Lint



In each stage of processing of cotton fibre, like spinning, weaving and garment making, the value of cotton increases manifold. Primarily staple length of the cotton determines the spinnable count of the yarn. To produce yarn with different counts, different quality of cotton is required.





### Figure 4. Value Addition to Extra-Long Staple (ELS) Cotton



Figure 3 and 4 show the value addition to long staple and extra-long staple cotton. It can be undeniably said that value addition to the ELS cotton category is very high compared to the long cotton category.

The United States is the leading supplier of medium to long staple (average staple length of 28 mm) cotton to India over the past few

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#### Extra Long Staple (ELS) Production, Supply and Demand Data Statistics:

PSD Table - ELS COTTON (1-3/8" or 35mm staple length)											
	Units: 480 lbs. bales										
	2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/2021										
Beginning Stocks	9,422	5,521	7,384	6,961	5,971	4,866	6,427				
Production	179,586	163,970	140,546	136,642	113,217	114,779	113,217				
Imports	109,316	150,217	327,518	295,718	300,287	312,324	288,900				
Total Supply	298,325	319,708	475,447	439,321	419,476	431,969	408,544				
Exports	-	-	-	-	-	-	-				
Domestic Consumption 292,804 312,324 468,486 433,350 414,610 425,541 3											
Ending Stocks 5,521 7,384 6,961 5,971 4,866 6,427 10,3											
Total Distribution	298,325	319,708	475,447	439,321	419,476	431,969	408,544				

Source: (USDA, Report Number: IN2020-0011, Date: March 30, 2020)

years. The United States is also the leading supplier of Pima cotton (ELS) to India since 2015, surpassing Egypt. Indian mills importing U.S. Pima and upland cotton, recognise its quality and consistency and are ready to pay a premium over competing origins. However, U.S. cotton faces competition from suppliers such as Brazil, Egypt and Australia due to occasional freight advantages and shorter delivery periods.

#### **Table 2: The Market Price of ELS Cotton**

ELS Cotton Variaty		Market price (INR/kg of lint)						
ELS Cotton Variety	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21		
Egyptian ELS cotton (Giza 45, Giza 92, Giza 87, Giza 88)			281.51	259.00	346.20	375.96		

Source: Source: USDA & TexPro

https://www.fibre2fashion.com/industry-article/8410/booming-egyptian-cotton-trade

American ELS cotton (US Pima)220.72	246.94	225.38	221.32	208.24	206.08
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Source: Cotton outlook, 2019

https://www.cotlook.com/wp-content/uploads/2020/01/Long-Staple-Annual-review-2019.pdf https://supima.com/industry-resources/market-reports

#### **Table 3: MSP of Indian ELS Cotton**

Variates			kg of seed cott	on	
variety	2015-16	2016-17	2017-18	2018-19	2019-20
MCU-5 /Surabhi	43	43.6	45.2	56.5	57.5
DCH-32 South	45	45.6	47.2	58.5	59.5
DCH-32 MP	45	45.6	47.2	58.5	59.5
Suvin	53	53.6	55.2	66.5	67.5

Source: The Cotton Corporation of India Ltd.

https://cotcorp.org.in/statistics.aspx

#### Table 4: Monthly Average Prices Of Selected Varieties (Rs./Quintal)

MONTH	DCI M(P) ICS 34 mm 3	H-32 /K/T -107 (3.0-3.8) 3	MC (A/K, ICS 32 mm 3	U-5 /T/O) -106 (3.5-4.9) 1	DCI M/N ICS 34 mm	H-32 A(P) -107 (2.8-3.7) 3	MC SA/TL/I ICS 32 mm 3	CU-5 K/TN/O -106 (3.5-4.2) 31		
	2017-18	2018-19	2017-18	2018-19	2019-20	2020-21	2019-20	2020-21		
October	14175	16259	11911	13683	-	15345	-	11782		
November	14137	16230	11628	13197	14891	15653	12041	12061		
December	15260	16230	12035	12940	15192	16348	12053	12466		
January	15840	15586	12322	12772	15755	17946	12198	12969		
February	15652	14566	12005	12485	15677	18659	12203	13389		
March	15159	15106	12167	12756	15255	19845	11792	13685		
April	15208	15681	12339	13643	14990	20724	11432	13702		
May	15773	15520	12618	13601	14510	21266	10727	13930		
June	16693	15412	13515	13658	14719	22486	10596	14967		
July	17368	15377	14152	13380	14746	24842	10473	15868		
August	17022	15070	14300	12837	14792	26275	10603	16432		
September	16502	15218	14056	12737	14884	26164	10831	-		
Average of the Season	15732	15521	12754	13141	15037	20463	11359	13750		

Country	Variety	Span Length	Micronaire	Strength (g/tex)
	Shankar-6	27-30	3.5-4.4	26-29
	H-4/MECH-1	27-29	3.5-4.4	26-28
India	DCH 32	33-36	2.8-3.3	32-34
	MCU-5	31-33	3.4-4.0	30-32
	Jayadhar	22-24	4-5.5	20-22
China	Upland	27.8-29.1	3.6-4.9	26.0-30.9
China	Long staple	38-40.9	3.6-4.2	39.0-43.9
Delister	CRIS-533	28.8	4.0	97.8* (48.5)
Pakistan	CRIS-510	28.2	4.0	92.8* (46)
Iran	Varamin	30.0	4.1	27.5
Turkey	Gloria	30-32	4.1-4.4	33-36
Uzbekisten	An-Bayont	28.1	4.7	30.4
OZDEKISTAN	Bukhara-6	28.7	4.5	30.4
Forunt	GIZA 87 (ELS)	34.5	3.0	43.3
Egypt	GIZA 86 (LS)	31.8	3.9	42.6
Australia	Sicot 746B3F	30.7	4.5	31.0
Brazil	FM 975WS	28.6	3.9	32.1
Mali	STAM 59A	29.1	4.1	29
	Upland	29.2	4.3	29.7
USA	American Pima	38-39	3.8	42.4
	American Pima	39-39.6	4.2	43.7
Sudan	Barakat	33-37	3.6-4.2	30-40
Ivory Coast	R 405-5	26.9-28.57	3.6-4.0	29
Greece	ST 402	28.5-29.0	4.4-4.7	28-30

[ICA Bremen. (2018). Cotton varieties by origin 2017/18]

\* Pressley strength values, in parentheses stelometer value in g/tex at zero gauge length

Table 5 compares the fibre quality parameters of notable world cotton varieties with Indian cotton. It is evident that Indian ELS cotton lacks in strength and micronaire attributes. The Uniformity Index of the cotton is also one of the major factors, which determines the outcome of the product as well as processing efficiency.

The required quality of cotton depends upon the type of yarn to be produced to achieve desired

	Count Range	Range of UHML (mm)	Minimum value of UI	Minimum Tenacity (g/tex) (HVI mode)	Micronaire Range	Type of Cotton
	<14s	<24 mm	-	-	Above 5.0	Short
	14s-18s	24-25	81	27.5	3.9-4.7	Medium
	20s-24s	25-26	82	28.0	3.8-4.2	Madium Long
25s-30s 26-27		83	29.1	3.4-4.2	Medium Long	
	31s-40s	27-29	84	29.3	3.3-4.1	
	41s-50s	29-31	84	31.3	3.3-4.0	Long
	51s-60s	31-33	86	33.6	3.2-3.9	
	61s-80s	33-34	86	36.6	3.2-3.8	
	81s-100s	34-36	87	38.3	3.1-3.4	Extra Long
	101s-120s	36>	88	40.0	2.9-3.2	

#### Table 6: Provisional Norms for The Cotton Quality Requirement to Produce Different Counts of Yarn

#### Table 7: Requirement of Cotton and its Availability

Count	Requirement of cotton (million bales of 170 kg)	Type of Cotton required	% of total requirement	Production (%)	
1s-10s	4.7	Short	15	1	
11s-20s	5.5	Medium	42	20	
21s-30s	7.2	Medium Long	42	52	
31s-40s	8.9	Lana	29	(F	
41s-60s	2.8	Long	56	60	
61s-80s	0.9	Extra Long	5	2	

end product. Although fibre quality per se cannot be improved during processing, improper handling or processing can adversely affect the quality. Poor quality cotton in terms of its physical properties, not only raises the processing costs at the initial input and intermediate stages, but also reduces the output and quality of the final product such as yarns, fabrics and apparels.

As depicted in Table 7, there is short supply of short and extra-long category to the Indian spinning industries. Shortage in short staple cotton is managed to some extent, by utilising the comber noil, which is obtained from spinning of cotton with higher UHML. Currently, extralong short supply is managed by import from countries like Egypt, USA, etc. The availability of fibres with optimum properties to achieve a targeted end product needs to be ensured.

#### Sustainability Challenges

• New and improved G.hirsutum cottons: Improved fibre properties and advent of fabric finishes and chemical treatments that will attain improved looks and feel equivalent to ELS cotton. The technically advanced spinning equipment that will allow LS cottons to be spun at higher yarn counts with improved yarn qualities.

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- Consumer demand: A certain percentage of consumers are willing to pay a higher price for a product that offers more. The ELS cottons of the world would continue to satisfy this demanding role.
- Cotton contamination: Because of upgradation of ginning process, cotton contamination has reduced in India, but not stopped. The main source of contamination is foreign matter like dust, dirt and plastic items.
- Problem of admixtures: Different types of cottons have a huge differences in terms of their physical parameters like strength, length, micronaire, colour and reflectance. In industry these different types of cottons are mixed together.

- Branding initiatives: The proposal to implement measures envisaged under the draft policy for improving the marketing and branding of cotton are extremely beneficial. Such measures should also include boosting the production and promoting the consumption of cotton in the country.
- Need for stronger Indian arbitration for imported cotton: The Indian textile mills importing cotton encounter onerous problems, because foreign buyers invariably stipulate arbitration by International Cotton Association (ICA), Liverpool, in the sale contracts. India has been a regular importer of cotton and imports will continue in future.

(The views expressed in this column are of the authors and not that of Cotton Association of India)

### Revival in World Cotton Production Expected in 2021/22 Season

The coronavirus might have won the battle in 2020/21, driving down global cotton production to 24.2 million tonnes, a decline of 7% from the season before. But the industry is responding well and production is expected to rise by 3% in 2021/22 to reach 25 million tonnes.

The increase will be led by:

- 1. The USA, which is projected to reach 3.8 million tonnes, up 22% from the season before,
- 2. India, whose production is expected to remain high in 2021/22 (5.9 million tonnes), and



3. Brazil, which hasn't publicly announced its production area and forecasts yet because sowing won't begin until November but still should reach about 2.3 million tonnes.

On the bright side, global cotton consumption and trade have seen a welcome recovery in the 2020/21 season, with consumption increasing by 12.4% to reach 25.5 million tonnes, with a similar trajectory projected for 2021/22. But Covid-19 has proven itself to be very stubborn; recent reports from Bangladesh and Vietnam indicates that Covid infections are on the rise, so lockdown-induced factory closures and shipping

> problems are still major threats, leaving manufacturers scrambling to fill their orders.

> The Secretariat's current price forecast of the season-average A index for 2021/22 ranges from 73 cents to 125 cents, with a midpoint at 95.43 cents per pound.

> > Source: ICAC Cotton This Month, June 01, 2022

# Supply and Distribution of Cotton 01 June 2022

Seasons begin on August 1				Million	Metric Tons	
	2017/18	2018/19	2019/20	2020/21est.	2021/22 proj.	2022/23 proj.
BEGINNING STOCKS	40.00	40.49	40.04	00.40	<b>0</b> 0 (1	<b>2</b> 0 <b>2</b> 4
WORLD IOTAL	18.88	19.43	19.34	22.12	20.61	20.34
China	10.35	9.03	8.88	9.02	9.30	8.99
DEPENDENCE	0.60	0.82	0.83	1.23	0.26	0.56
WORLD TOTAL	27.00	25.08	26.27	24.29	25.80	26.12
China	27.00 5.80	<b>25.96</b>	<b>20.2</b> 7	<b>24.30</b> 5.01	<b>25.09</b> 5.72	<b>20.13</b> 5.74
India	6.35	0.04 5.66	5.80 6.20	5.91 6.02	5.73	5.74
	4.56	4.00	0.20	3.18	3.81	3.59
Brazil	<b>1</b> .50 <b>2</b> .01	2.78	3.00	2 36	2.82	2.80
Pakistan	1.80	1.67	1.46	0.96	1.02	1.58
Uzbekistan	0.96	0.64	0.53	1.03	0.94	0.94
Others	5 44	5 20	4 94	4 93	5.95	6.12
CONSUMPTION	0.11	0.20	1.71	1.70	0.50	0.12
WORLD TOTAL	26.35	26.01	23.05	25.66	26.16	26.09
China	8.50	8.25	7.23	8.40	8.31	8.24
India	5.42	5.40	4.45	5.70	5.59	5.73
Pakistan	2.35	2.36	2.34	2.15	2.45	2.40
Europe & Turkey	1.73	1.82	1.60	1.70	1.74	1.77
Bangladesh	1.66	1.58	1.50	1.64	1.73	1.73
Vietnam	1.51	1.51	1.45	1.52	1.68	1.60
Brazil	0.68	0.73	0.57	0.69	0.70	0.66
USA	0.70	0.63	0.47	0.52	0.56	0.51
Others	3.80	3.73	3.44	3.35	3.40	3.44
EXPORTS						
WORLD TOTAL	9.14	9.28	9.21	10.62	10.09	10.03
USA	3.64	3.37	3.47	3.63	2.96	3.14
Brazil	0.91	1.31	1.95	2.40	2.21	1.96
CFA Zone	1.06	1.16	1.07	1.19	1.23	1.39
Australia	0.85	0.79	0.30	0.34	0.81	1.17
India	1.13	0.76	0.70	1.33	1.10	0.62
Uzbekistan	0.22	0.16	0.10	0.01	0.01	0.01
IMPORTS				10.00	10.00	10.00
WORLD TOTAL	9.04	9.22	8.77	10.39	10.09	10.03
China	1.32	2.10	1.60	2.80	2.30	2.29
Bangladesh	1.67	1.54	1.50	1.69	1.72	1.75
Vietnam	1.52	1.51	1.41	1.55	1.70	1.66
Iurkey	0.96	0.79	1.02	1.16	1.17	1.20
TRADE IMPALANCE +	0.77	0.66	0.55	0.50	0.54	0.54
STOCKS ADJUSTMENT +	-0.10	-0.06	-0.44	-0.23	0.00	0.00
ENDING STOCKS	0.00	0.00	-0.01	0.00	0.00	0.00
WORLD TOTAL	19.43	19 3/	22.12	20.61	20.34	20.28
China	9.03	8.88	9.02	9 30	20.34	20.38
USA	0.82	0.83	1 23	0.26	0.59	0.50
ENDING STOCKS/MILL USE (%)	0.02	0.05	1.25	0.20	0.00	0.50
WORLD-LESS-CHINA *	58.29	58.86	82.72	65.46	63.62	65.15
CHINA **	106.27	107.69	124.82	110.77	108.17	106.24
COTLOOK A INDEX***	87.98	84.35	71.33	84.96	200127	

The inclusion of linters and waste, changes in weight during transit, differences in reporting periods and measurement error account † for differences between world imports and exports. Difference between calculated stocks and actual; amounts for forward seasons are anticipated.

‡

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

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\*\*\* U.S. Cents per pound. Average price for a given season, August 1 to July 31 or average-to-date.

Source: ICAC Cotton This Month, June 01, 2022

	UPCOUNTRY SPOT RATES (Rs./Qtl)												
	Standard Descriptions with Basic Grade & Staple in Millimetres based on Upper Half Mean Length [ By law 66 (A) (a) (4) ]									(Upcou June	ntry) 202 2022	21-22 Cr	rop
Sr. No	. Growth	Grade Standard	Grade	Staple	Micronaire	Gravimetric Trash	Strength /GPT	6th	7th	8th	9th	10th	11th
1	P/H/R	ICS-101	Fine	Below 22mm	5.0 - 7.0	4%	15	19796 (70400)	19796 (70400)	19881 (70700)	19965 (71000)	20021 (71200)	20078 (71400)
2	P/H/R (SG)	ICS-201	Fine	Below 22mm	5.0 - 7.0	4.5%	15	19993 (71100)	19993 (71100)	20078 (71400)	20162 (71700)	20218 (71900)	20274 (72100)
3	GUJ	ICS-102	Fine	22mm	4.0 - 6.0	13%	20	16169 (57500)	16169 (57500)	16310 (58000)	16478 (58600)	16619 (59100)	16759 (59600)
4	KAR	ICS-103	Fine	23mm	4.0 - 5.5	4.5%	21	18278 (65000)	18278 (65000)	18362 (65300)	18419 (65500)	18503 (65800)	18559 (66000)
5	M/M (P)	ICS-104	Fine	23mm	4.5 - 7.0	4%	22	20528 (73000)	20387 (72500)	20387 (72500)	20387 (72500)	20387 (72500)	20387 (72500)
6	P/H/R (U) (SG)	ICS-202	Fine	27mm	3.5 - 4.9	4.5%	26	25308 _(90000)	25308 (90000)	25308 (90000)	25589 (91000)	25786 (91700)	26067 (92700)
7	M/M(P)/ SA/TL	ICS-105	Fine	26mm	3.0 - 3.4	4%	25	20668 (73500)	20809 (74000)	20949 (74500)	21090 (75000)	21231 (75500)	21371 (76000)
8	P/H/R(U)	ICS-105	Fine	27mm	3.5 - 4.9	4%	26	25898 (92100)	25898 (92100)	25898 (92100)	26067 (92700)	26208 (93200)	26405 (93900)
9	M/M(P)/ SA/TL/G	ICS-105	Fine	27mm	3.0 - 3.4	4%	25	21371 (76000)	(76500)	(77000)	(77500)	(78000)	(78500)
10	M/M(P)/ SA/TL	ICS-105	Fine	27mm	3.5 - 4.9	3.5%	26	23902 (85000)	23902 (85000)	23902 (85000)	23902 (85000)	23902 (85000)	23902 (85000)
11	P/H/R(U)	ICS-105	Fine	28mm	3.5 - 4.9	4%	27	26292 (93500) 26714	26292 (93500)	26292 (93500) 26714	26461 (94100) 26005	26601 (94600) 2712(	26826 (95400)
12	M/M(P)	ICS-105	Fine	28mm	3.7 - 4.5	3.5%	27	26714 (95000) 26770	26714 (95000) 26770	26714 (95000) 26770	26995 (96000) 27051	27136 (96500) 27102	(97000) (97222
13	SA/ IL/ K	ICS-105	Fine	28mm	27 45	2.5%	27	(95200)	(95200)	(95200)	(96200) 26714	(96700) 26855	(97200) 26005
14	B(I.)	ICS-105	Fine	20mm	27 45	2 5%	2/	20433 (94000) 27126	20433 (94000) 27126	20433 (94000) 27126	(95000) 27276	28855 (95500) 27417	(96000) 27558
15	K(L)	ICS-105	Fine	29mm	27 45	3.3 %	28	27136 (96500) 27070	(96500) 27070	(96500) 27070	(97000)	(97500) 28120	(98000)
10		ICS 105	Fine	29mm	37 45	3.3 %	20	27979 (99500) 28036	(99500) 28036	(99500) 28036	(100000) (28176)	28120 (100000) 28176	(100500) (28317)
17		ICS-105	Fine	29mm	37-45	3%	20		28030 (99700) 27417	(99700) 27/17	(100200) 27558	(100200) 27698	(100700)
10	M/M(P)	ICS-105	Fine	30mm	37-45	3.5%	20	(97500)	(97500)	(97500)	(98000)	(98500) 29526	(99000) 29526
20	SA/TL/K/O	ICS-105	Fine	30mm	37-45	3%	29	(105000) 29666	(105000) 29666	(105000) 29666	(105000) 29666	29520 (105000) 29666	(105000)
20	M/M(P)	ICS-105	Fine	31mm	37-45	3%	30	(105500) 30510	(105500) 30510	(105500) 30510	(105500) 30510	(105500) 30510	(105500) 30510
22	SA/TL/	ICS-105	Fine	31mm	37-45	3%	30	(108500) 30651	(108500) 30651	(108500) 30651	(108500) 30651	(108500) 30651	(108500) 30651
23	K / TN/O SA/TL/K/	ICS-106	Fine	32mm	3.5 - 4.2	3%	31	(109000) N.A.	(109000) N.A.	(109000) N.A.	(109000) N.A.	(109000) N.A.	(109000) N.A.
24	TN/O M/M(P)	ICS-107	Fine	34mm	2.8 - 3.7	4%	33	(N.A.) 30510	(N.A.) 30510	(N.A.) 30510	(N.A.) 30510	(N.A.) 30510	(N.A.) 30651
25	K/TN	ICS-107	Fine	34mm	2.8 - 3.7	3.5%	34	(108500) 31635	(108500) 31635	(108500) 31635	(108500) 31635	(108500) 31635	(109000) 31635
26	M/M(P)	ICS-107	Fine	35mm	2.8 - 3.7	4%	35	(112500) 31775	(112500) 31775	(112500) 31775	(112500) 31775	(112500) 31775	(112500) 31916
27	K/TN	ICS-107	Fine	35mm	2.8 - 3.7	3.5%	35	(113000) 32760	(113000) 32760	(113000) 32760	(113000) 32760	(113000) 32760	(113500) 32760
								(116500)	(116500)	(116500)	(116500)	(116500)	(116500)

(Note: Figures in bracket indicate prices in Rs./Candy)