Weekly Publication of

Cotton Association of India

COTTON STATISTICS & NEWS

Edited & Published by Amar Singh

2017-18 • No. 5 • 2nd May, 2017 Published every Tuesday

Cotton Exchange Building, 2nd Floor, Cotton Green, Mumbai - 400 033
Phone: 30063400 Fax: 2370 0337 Email: cai@caionline.in
www.caionline.in

Managing Climate & Crop Risk Through New Technologies

Currently working as the Chief Business Head with Skymet Weather Services Company engaged in weather forecasting and agri risk solutions, Shri. Nalin Rawal is an agribusiness professional with over two decades of experience in agri inputs marketing, exports and imports of agro commodities and agriculture risk management. He is a graduate in Agriculture & Animal Husbandry from G.B. Pant University of Agriculture & Technology, Pantnagar and has done his Business Management from IMT Ghaziabad.

He has worked at various strategic positions in reputed Indian and multinational companies such as Rallis (Tata), Chambal Fertilizers (K.K. Birla), Reliance Retail, British Petroleum (UK), Aztec (New Zealand).

His core competencies includes Agriculture & Weather risk management, New Business development, establishing marketing network, brand management, market linkages, strategic tie ups , exports and imports of agro products. He has worked extensively in Indian rural markets and established innovative sales model through CRM. He has successfully demonstrated profitable sales model of Fruits & Vegetables in Mandi's by corporate. He was instrumental in initiating innovative business models in retail cold chain and distributed energy through biomass in India. He is actively associated with various agribusiness forums and colleges where he is a regular, visiting / guest faculty.

GUEST COLUMN

Shri. Nalin Rawal
Chief Business Head,
Skymet Weather Services Company

Farmers in a village may have planted the same crop for centuries, but over time, weather patterns and soil conditions change. Epidemic of pests and diseases add to the worry. Updated information allows the farmers to cope with and even benefit from these changes. But, providing such knowledge can be challenging. Agriculture is a highly localised aspect and thus, information must be tailored to suit specific conditions. The green revolution had greatly improved agricultural productivity. Now there is a demonstrable need for a new revolution that will lower the prices for consumers (through reduced waste and more efficient supply chain management), contribute to "smart" agriculture, and incentivise farmers (through higher income) to increase their production.

New Technologies for Risk Mitigation in Agriculture

Satellite remote sensing is capturing information about different ground features while staying more than 400 kms above the ground. These satellites can take on board a variety of sensors to gather information. These have proved to be very useful in providing fairly accurate data in a very short time on sowing trends, acreages of different crops, stresses on crops during mid-season and areas affected due to this, harvesting trends, yield and production estimates. In India, Kharif is the main cropping season aided by the

monsoon rains. While it is a boon for crops, remote sensing technology finds it challenging to gather information below cloud cover. In last few years, a unique method of capturing images has helped in overcoming this challenge to a great extent. This is by constellation of multiple satellites that can revisit the same area in a very short time, i.e., in about 2 to 5 days. This has significantly improved the capability of getting high resolution cloud free images of the ground. Termed as 'Nano-Satellites', these are constellations of very small satellites, of the size of a shoe box and weigh only 4 to 5 kgs. Another way of overcoming the challenge of cloud cover is to fly below clouds. This is possible either through traditional aerial photography or a handier and easily usable technology of UAVs (unmanned aerial vehicles). They fly very close to the ground (few 100 meters) and can collect very valuable crop related information, which can be readily used by farmers and others.

Precision farming is a localised form of applying technology to gain farm level output through efficient management. Drones have been in use in this domain for a long time now and have been helpful for high value ground crops like grapes. Multiple sensors like Near-Infrared, Thermal and even Hyperspectral sensors are used to find out if every area is receiving optimum irrigation and check for soil nutrition levels and its variation across fields. They also help to detect the spread of localised diseases and optimise fertilizer and insecticide quantity and spread.

Yield estimation is another area where the use of technology is helping in more precise estimation than what had been possible earlier. Horticulture yield estimation is a tricky subject and efforts are still on by various scientific agencies to reach a less field intensive and more accurate estimation of yield of plantation crops like, oranges, pomegranates, mango etc. The techniques being used at present are image processing of field photographs to arrive at fruit count and then model the whole area; selection of representative trees for sampling through UAVs; RFID based tagging of plants for monitoring; and weather and ground based inputs for yield estimation. These are turning out to be helpful in reaching better estimates.

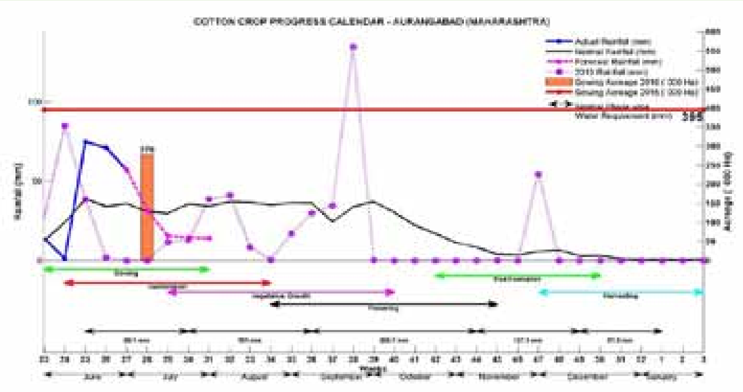
Cotton Production Forecasting Approach

Weather Monitoring

Weather monitoring is required to be done for the target districts on ongoing basis by tracking current weather conditions along with forecasts long range medium range and short range. Actual rainfall is to be monitored on day to day basis along with cumulative rainfall received.

Crop Monitoring (Field Survey & Remote Sensing based)

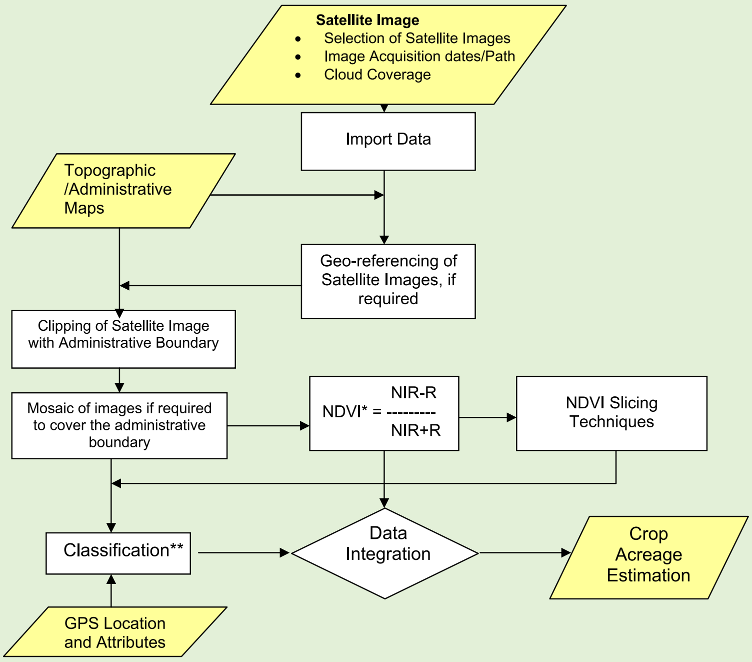
- Crop monitoring shall be done from initiation of sowing till harvesting of the crop,
- Initial crop sowing shall be monitored through field surveys and discussions with government officials, agri input dealers, SRR (Seed Replacement Rates) farmers etc.
- Once the crop germinates and comes to vegetative stage, crop signatures will be taken through GPS and based on Remote Sensing satellite based acreages shall be estimated.
- Weather and Crop conditions shall be monitored on ongoing basis
- Biotic / abiotic stress to be monitored and its impact on production shall be forecasted.
- CCE (Crop cutting experiments) shall be done for estimating yield levels and quality of the produce.



Crop Acreage estimation through Remote Sensing (NDVI*)

Methodology for Crop Acreage Estimation

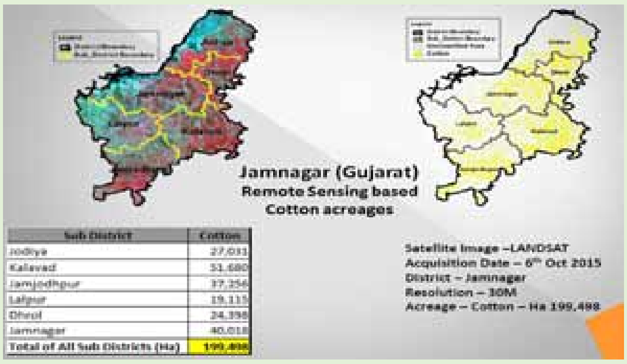
Detailed methodology for acreage estimation has been shown in the figure below.



NDVI Slicing Techniques

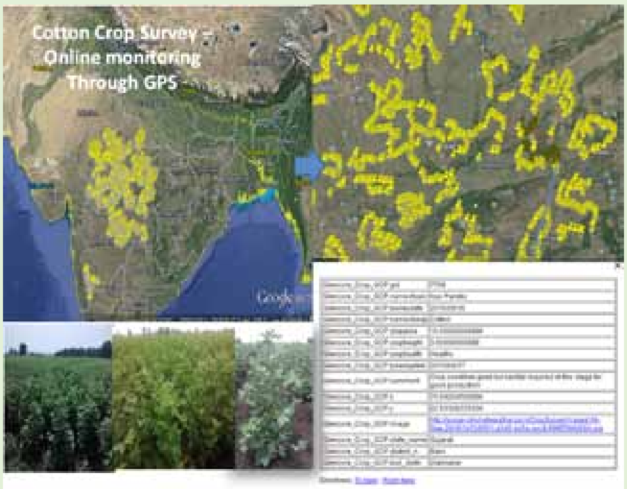
In the areas where no spectral signature is available for the classification of crop, NDVI slicing techniques is found to be very useful for differentiating different crops. In this technique, NDVI is run for the satellite images. The NDVI values are then processed to remove all the negative values to retain data for the vegetation only. Further, based on the general crop vigor ranges and the acreage of crop as reported by different government agencies for the respective years, slicing of NDVI value is done to map the different crops.

Generally, any of the above three methods or all the three methods are used in combination to map different crops.



Field Survey

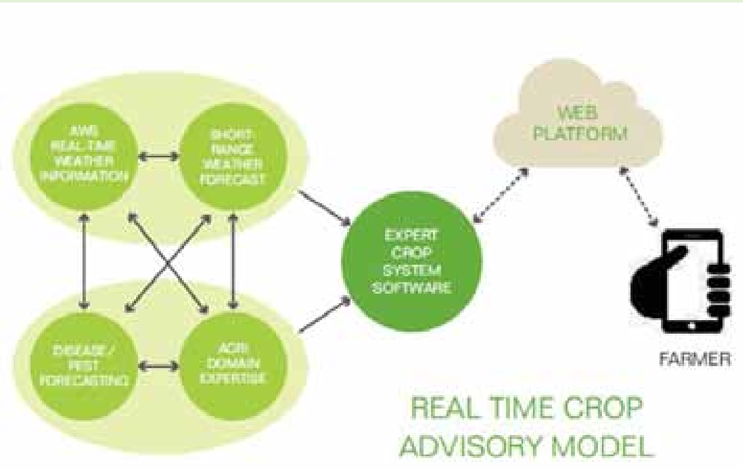
Field survey is one of the essential components of crop mapping. Field surveys are conducted in different parts of the study area to gather primary as well as secondary information about the crop from the field and various related agencies. Global Positioning System (GPS) is used to collect specific ground information which are overlaid with satellite images to classify differentiate one crop from others, intercropping etc., based on their spectral signature. The crop related information gathered during the different surveys act as the training sets for identification and classification of crop fields on the satellite images. During this fieldwork information about the ground scenario



regarding the distribution of different crops and intercropping details are also collected Field staffs record the latitude and longitude of the location along with associated attribute information related to crop type, transplantation date, crop growth stage, NDVI values, etc. A large number of well spatially well distributed GPS points are collected to carry out classification based on spectral signature and crop type discrimination.

Real Time Crop Advisory

Government and many Agri Input companies are attempting various new ways to provide agro advisories based on weather (agromet advisories by GOI, SMS, voice messages, picture messages and etc.) However, these advisories are of little importance to the farmer who requires information specific to his field and relevant for his crop and the variety. This situation is not being addressed till date. If proper and timely advisories are given to the farmer his productivity levels can be raised easily by 20 to 30 percent on an average.



Major challenges

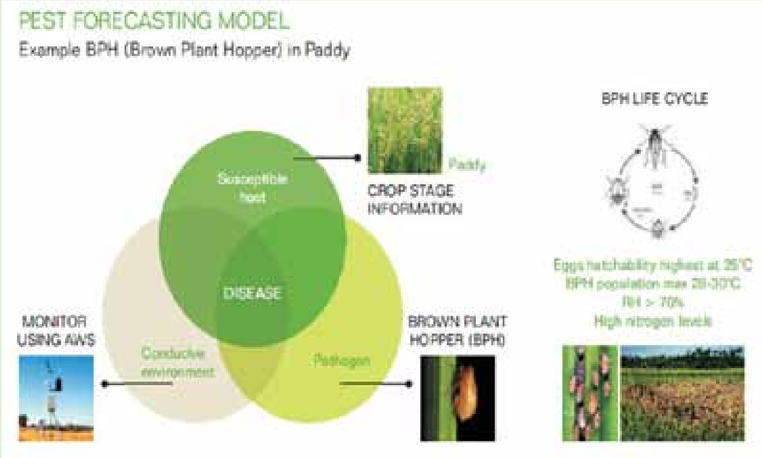
Farmer in a village grow more than 5 to 6 major crops

- Each crop has 4 to 6 major varieties. All of them are not sown together and their sowing period are also different (sowing window is normally 30 to 45 days)

- POP is different for different varieties of a crop, depending on the time of their sowing.

- Impact of weather for the same crop at different stages will be different and therefore, POP also require customisation.

Dynamic system with combination of live weather data, Weather forecast and crop expert



system supported by software can help automatic monitoring of the field on live basis and precise agro advisories can be given to farmer which are field specific.

Weather plays an important role in the growing process of the crop as well as development of pests and diseases. Forecasting systems are based on assumptions of the pathogen's interactions with the host and environment, also known as the disease triangle. In most cases the host can be suitably defined as resistant or susceptible, and the presence of the pathogen may often be reasonably ascertained based on previous cropping history or perhaps survey data.

Pest Forecasting Tool

This tool combines three parameters of disease triangle i.e.

- Host (Crop),
- Pathogen (present in the field) and
- Environment (which is monitored by AWS or Automated Weather Station)

Hourly data is sent by AWS from a geographical land based on crop stage in the area (which can be mapped through GIS mapping or UAV). Thereby, pest and disease forecasting is done on real time basis.

Courtesy: Cotton India 2016-17

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

Production of Fibres

(In Mn. Kg)

As on	Raw Cotton (Oct.-Sept.)	Synthetic			Cellulosic	Sub Total
		PSF	ASF	PPSF	VSF	
2005-06	4097	628.15	107.81	3.08	228.98	968.02
2006-07	4760	791.99	97.13	3.52	246.83	1139.47
2007-08	5219	879.61	81.23	3.43	279.90	1244.17
2008-09	4930	750.12	79.50	3.44	232.75	1065.81
2009-10	5185	872.13	90.45	3.38	302.09	1268.05
2010-11	5765	896.33	79.48	3.74	305.10	1284.65
2011-12	6239	829.74	77.71	4.08	322.64	1234.17
2012-13	6290	848.05	73.59	4.26	337.49	1263.39
2013-14	6766	845.95	96.12	3.71	361.02	1306.80
2014-15	6562	881.56	92.54	4.62	365.17	1343.89
2015-16 (P)	5746	893.95	106.81	4.70	341.91	1347.37
2016-17 (P) (Apr.-Feb.)	--	822.97	89.15	3.22	333.50	1248.84
2015-16						
April	--	73.62	9.45	0.35	28.62	112.03
May	--	75.55	9.50	0.30	18.42	103.77
June	--	67.17	7.88	0.31	19.50	94.86
July	--	70.75	9.15	0.40	29.70	110.00
August	--	74.07	9.35	0.47	30.63	114.52
September	--	74.24	7.95	0.46	30.42	113.07
October	--	76.66	9.23	0.38	31.34	117.61
November	--	74.98	8.15	0.30	30.72	114.15
December	--	76.65	9.36	0.45	31.49	117.95
January	--	79.10	9.40	0.46	31.33	120.29
February	--	73.52	8.58	0.42	28.07	110.59
March	--	77.64	8.81	0.41	31.67	118.53
2016-17 (P)						
April	--	73.56	8.86	0.37	30.32	113.11
May	--	77.07	9.39	0.44	31.72	118.62
June	--	77.46	9.28	0.45	21.87	109.06
July	--	79.32	8.07	0.30	30.41	118.10
August	--	79.92	8.20	0.35	31.96	120.43
September	--	76.96	9.02	0.22	31.14	117.34
October	--	79.51	6.75	0.16	32.46	118.88
November	--	71.06	7.10	0.24	31.18	109.58
December	--	71.65	7.28	0.29	32.09	111.31
January	--	72.68	7.78	0.20	32.11	112.77
February	--	63.78	7.42	0.20	28.24	99.64

(P)= Provisional

Source : Office of the Textile Commissioner

COTTON EXCHANGE MARCHES AHEAD

Madhoo Pavaskar, Rama Pavaskar

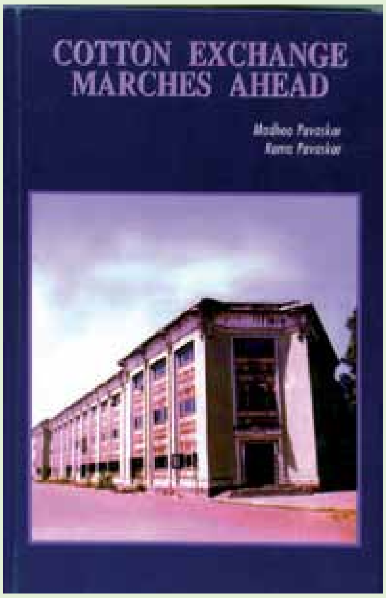
Chapter 6

March To Freedom - II

(Contd. from Issue No.4)

Pin-pricks

Besides limits on stocks and curbs on exports under the Essential Commodities Act, 1955, three major constraints faced by the private cotton trade during the last over three decades were (a) selective credit controls, (b) regulations on delivery contracts and (c) suspension of futures trading. The trade also suffered a number of pin-pricks such as octroi and varying rates of sales tax in different States, which restricted to some extent the free and speedy movement of cotton. But these were not discriminatory in nature and affected equally the private trade as well as the public and co-operative sector agencies. Such levies are imposed on most commodities, and cotton is not an exception.



Although marketmen may have legitimate grievances against its incidence and implementation practices, commodity taxation is universal and the underlying need for it by the State governments or local authorities cannot be denied. Accepting this reality, the cotton trade did not oppose such taxation, but made appeals to the appropriate authorities to bring about uniformity in these taxes among different States, and replace the irksome levies like octroi or entry tax, which delays the movement of cotton, by some other suitable imposts. While the cotton trade is not averse to living with these levies, it hopes that the authorities will usher in rationality in them for smooth and swift movement of cotton.

Yet another irritant confronting the cotton trade and industry for several decades was the obsolete Cotton Transport Act. This legislation enacted in 1923 restricted the movement of cotton into "protected" areas to maintain the quality and reputation of cotton grown in those areas and prevent admixture. Mills in the protected areas were required to obtain licences for bringing from outside full pressed bales/lint for their own consumption. Such licences were not issued to parties other than the mills.

The need for such a legislation was probably felt in the 1920s when India was a major exporter of cotton. It was then feared that admixture with inferior quality cotton from other areas may affect the quality of lint exported from the protected areas. Hence, except the consuming mills, others including merchants were prevented from bringing cotton into the protected areas. But, with 95 per cent of cotton production consumed domestically after Independence, and exports few and far between, the Cotton Transport Act proved to be a needless pin-prick to both the cotton trade and industry for the free movement of cotton into the protected areas.

As Mr. C.H. Mirani in his Presidential address at the 67th Annual General Meeting of the East India Cotton Association held on September 18, 1989 pointed out, "The apprehension entertained in 1923 in the conditions then prevailing no more holds good in respect of full pressed bales or the lint i.e. ginned cotton. The continuation of this restriction is not only causing unnecessary hardships to the consuming mills, but also to the traders in smooth movement of cotton". Mr. Mirani therefore urged upon the government to repeal the Act. It, however, took six more years for the authorities to realise the absurdity of the obsolete Cotton Transport Act. The Act was finally rescinded in May 1995 to the relief of the cotton trade and industry.

These pin-pricks apart, along with the long battle against the Essential Commodities Act for the removal of stock and export restrictions (as described in the previous chapter), the struggle for liberalization by the private cotton trade during the last two decades was aimed at mainly the abolition of selective credit controls and deregulation of delivery contracts, besides the resumption of futures trading. This chapter presents briefly an account of this strenuous march to freedom by the Cotton Exchange to achieve the former two goals. The march towards the revival of futures trading is covered in the next chapter.

A. Abolition of Selective Credit Controls

Instruments of Control

Section 21 of the Banking Regulation Act authorises the Reserve Bank of India (RBI) to impose selective credit controls by giving directions to banks on four major aspects of bank advances or other financial accomodations, namely,

(1) the purpose for which advances may or may not be made;

(2) the margins to be maintained in respect of secured advances;

(3) the maximum amount of advances, or other financial accommodation, which may be made by a bank; and

(4) the rate of interest and other terms and conditions, subject to which advances or other financial accommodation may be granted.

With these 'directive' powers in its armory, RBI imposed from time to time selective credit controls on different commodities by resorting to mainly three instruments. These were

(a) minimum margins (representing a portion of the value of security charged to the bank, which is expected to have been paid for by the borrower out of his own resources) for secured advances against selected commodities;

(b) ceilings on the level of credit; and

(c) minimum rate of interest on advances against specified commodities.

Through these three instruments, RBI controls not only the cost of credit, but also the quantum of credit to the individual borrowers against selected commodities. Among different commodities, cotton attracted credit controls by the RBI for a little over three decades since the mid-1960s, ostensibly with a view to curbing the rise in its prices consequent upon the apprehension of a possible speculative hoarding of stocks.

It was in August 1965 that the selective credit controls were first applied to bank advances against seed cotton and cotton lint. Although lint cotton prices were subject to statutory ceilings then, the market prices were ruling unofficially above the ceilings. It was thought that if bank credit was curtailed, the supposedly hoarded stocks would come out in the market and bring down the prices. A minimum margin of 50 per cent on the advances against seed cotton and cotton lint was therefore prescribed. But the hopes of bringing down the prices were belied. In April 1967 an absolute maximum level was therefore also imposed on the level of total bank credit to each party against its stocks of cotton lint and seed cotton. However, the market prices continued to rule unofficially above the statutory ceilings.

Subsequently, realising the futility of controlling lint cotton prices through statutory fiats, the practice of fixing statutory floor and ceiling prices was discontinued from September 1, 1967. Disappointingly, the RBI continued to resort to selective credit controls in the fond hope of arresting the rise in cotton prices. In 1970 the maximum level of credit was lowered and the minimum margins against advances were raised to as much as 60 per cent. Since then, the severe restrictive credit policy continued almost uninterruptedly for over 25 years, except for a few short-lived breaks, with frequent modifications time and again in all the three parametres, namely, the maximum level of credit, the minimum margin requirement and the rate of interest.

No Relaxation

Thus, on March 29, 1979, the RBI fixed minimum margins on advances against cotton and kapas for parties other than cotton mills(which obviously included the private cotton trade) at 45 per cent of the value of stocks for new and long staple varieties, and at 60-per cent for 'other' varieties. The margin against warehouse receipts was prescribed a shade lower at 50 per cent. For advances against 'other' varieties, an absolute ceiling was also fixed at the peak level of credit in any of the previous three years. The minimum margins for the mills ranged from 20 per cent to 45 per cent, depending on their location and the value of stocks upto three months' consumption and in excess of that. There was no ceiling on the level of credit for the mills. Banks were directed to charge minimum interest rate at 15 per cent for the private trade and 14 per cent for the mills. They were prohibited from discounting the usance bills and opening inland letters of credit against sales of cotton and kapas. On September 13, 1979 the minimum interest rate was raised to 18 per cent for parties other than mills and 17 per cent for mills.

(To be continued)

UPCOUNTRY SPOT RATES

(₹\Quintal)

April 2017

2016-17 Crop

Growth	P/H/R	P/H/R	GUJ	KAR	M/M	P/H/R	M/M/A	M/M/A	P/H/R	M/M/A	M/M/A	P/H/R	M/M/A	GUJ	M/M/A/K	GUJ	M/M/A/K	M/M/A/K/T/O	A/K/T/O	M(P)/K/T
G. Standard	ICS-101	ICS-201	ICS-102	ICS-103	ICS-104	ICS-202	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-105	ICS-106	ICS-107
Grade	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine
Staple	22 mm	22 mm	22 mm	23 mm	24 mm	26 mm	26 mm	26 mm	27 mm	27 mm	27 mm	28 mm	28 mm	28 mm	29 mm	29 mm	30 mm	31 mm	32 mm	34 mm
Micronaire	5.0-7.0	5.0-7.0	4.0-6.0	4.0-5.5	4.0-5.5	3.5-4.9	3.0-3.4	3.5-4.9	3.5-4.9	3.0-3.4	3.5-4.9	3.5-4.9	3.5-4.9	3.5-4.9	3.5-4.9	3.5-4.9	3.5-4.9	3.5-4.9	3.5-4.9	3.0-3.8
Strength/GPT	15	15	20	21	23	26	25	25	26	26	26	27	27	27	28	28	29	30	31	33
1	9673	9954	8295	9533	10798	12373	10657	10882	12541	10854	11220	12598	11895	12007	12120	12260	12373	12682	12963	16310
3	9758	10039	8380	9617	10911	12626	10770	10995	12795	10967	11332	12851	12007	12120	12232	12373	12485	12823	13104	16310
4		...		...			...			HOLIDAY			...			...		...		
5	9729	10011	8380	9617	10911	12485	10770	10995	12654	10967	11332	12710	12007	12120	12232	12373	12485	12823	13104	16310
6	9729	10011	8380	9617	10911	12457	10770	10995	12626	10967	11332	12682	12007	12120	12232	12373	12485	12823	13104	16310
7	9701	9983	8239	9476	10770	12373	10601	10826	12541	10798	11164	12598	11838	11951	12063	12204	12317	12766	13048	16310
8	9589	9870	8183	9420	10629	12232	10461	10686	12401	10657	11023	12457	11670	11782	11895	12035	12148	12710	12991	16310
10	9589	9870	8211	9420	10629	12232	10461	10686	12401	10657	11023	12457	11670	11782	11951	12092	12204	12710	12991	16310
11	9589	9870	8267	9476	10686	12373	10461	10686	12541	10657	11023	12598	11698	11782	11979	12120	12260	12710	12991	16310
12	9589	9870	8239	9476	10686	12345	10461	10686	12513	10657	11023	12570	11698	11782	11979	12120	12260	12654	12991	16310
13	9589	9870	8239	9476	10686	12260	10461	10686	12429	10657	11023	12485	11698	11782	11979	12120	12260	12570	12935	16310
14	9645	9926	8239	9476	10686	12317	10461	10686	12485	10657	11023	12541	11698	11782	11979	12120	12260	12570	12935	16310
15	9645	9926	8211	9448	10657	12317	10320	10545	12485	10517	10882	12541	11642	11726	11923	12063	12204	12513	12935	16310
17	9476	9758	8155	9448	10657	12232	10236	10489	12401	10461	10826	12457	11557	11670	11867	12007	12204	12513	12935	16310
18	9505	9786	8155	9448	10657	12288	10236	10489	12457	10461	10826	12513	11557	11670	11867	12007	12204	12513	12935	16310
19	9505	9786	8155	9448	10657	12288	9814	10095	12457	10095	10376	12513	11529	11670	11810	12007	12148	12457	12879	16169
20	9505	9786	8155	9448	10657	12345	9814	10095	12513	10095	10376	12570	11529	11670	11810	12007	12148	12457	12879	16169
21	9561	9842	8155	9448	10657	12485	9870	10151	12654	10151	10432	12738	11585	11670	11895	12063	12204	12513	12879	16169
22	9561	9842	8155	9448	10657	12429	9814	10095	12598	10095	10376	12682	11585	11670	11867	12063	12204	12485	12879	16169
24	9589	9870	8155	9448	10629	12401	9617	9983	12570	9983	10376	12654	11557	11670	11838	12007	12148	12429	12935	16169
25	9589	9870	8099	9392	10573	12345	9561	9926	12513	9926	10320	12598	11501	11614	11782	11951	12092	12373	12935	16169
26	9589	9870	8042	9336	10517	12345	9505	9926	12513	9926	10320	12598	11473	11585	11754	11923	12063	12345	12935	16169
27	9701	9983	8014	9308	10489	12345	9476	9898	12513	9898	10292	12598	11445	11557	11726	11895	12035	12317	12935	16169
28	9645	9926	8014	9308	10489	12288	9420	9870	12457	9898	10264	12541	11417	11529	11698	11867	12007	12317	12935	16169
29	9645	9926	8014	9308	10489	12288	9364	9870	12457	9898	10264	12541	11417	11501	11698	11838	12007	12288	12935	16169
H	**9758**	**10039**	**8380**	**9617**	**10911**	**12626**	**10770**	**10995**	**12795**	**10967**	**11332**	**12851**	**12007**	**12120**	**12232**	**12373**	**12485**	**12823**	**13104**	**16310**
L	**9476**	**9758**	**8014**	**9308**	**10489**	**12232**	**9364**	**9870**	**12401**	**9898**	**10264**	**12457**	**11417**	**11501**	**11698**	**11838**	**12007**	**12288**	**12879**	**16169**
A	**9612**	**9894**	**8189**	**9452**	**10670**	**12353**	**10141**	**10427**	**12521**	**10412**	**10769**	**12587**	**11653**	**11759**	**11924**	**12079**	**12217**	**12557**	**12962**	**16251**

H = Highest L = Lowest A = Average

COTTON ASSOCIATION OF INDIA

Established 1921

COTTON STATISTICS & NEWS

ADVERTISEMENT RATES

effective from April 2015

RATES PER INSERTION

	For CAI Members	For Non-Members
Full Page	5,000	5,500
Half Page	3,000	3,300

RATES FOR FOREIGN ADVERTISERS

Full Page	US $ 100
Half Page	US $ 60

Special Offer

Pay for	For CAI Members	For Non-Members
8 Insertions, get 12 (Full Page)	40,000	45,000
8 Insertions, get 12 (Half Page)	24,000	26,000
3 Insertions, get 4 (Full Page)	15,000	18,000
3 Insertions, get 4 (Half Page)	9,000	10,000

Mechanical Data:

Full page print area: 172x250 mm (Non Bleed Ad)
210x297 mm (+ Bleed)

Half page print area : 172x125 mm (Non Bleed Ad)
148x210 mm (+ Bleed)

To advertise, please contact:

Shri Divyesh Thanawala, Assistant Manager
Cotton Association of India,
Cotton Exchange Building, 2nd Floor,
Cotton Green (East), Mumbai – 400 033
Telephone No.: 3006 3404 Fax No.: 2370 0337
Email: publications@caionline.in

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)]							Spot Rate (Upcountry) 2016-17 Crop APRIL 2017					
Sr. No.	Growth	Grade Standard	Grade	Staple	Micronaire	Strength /GPT	24th	25th	26th	27th	28th	29th
1	P/H/R	ICS-101	Fine	Below 22mm	5.0-7.0	15	9589 (34100)	9589 (34100)	9589 (34100)	9701 (34500)	9645 (34300)	9645 (34300)
2	P/H/R	ICS-201	Fine	Below 22mm	5.0-7.0	15	9870 (35100)	9870 (35100)	9870 (35100)	9983 (35500)	9926 (35300)	9926 (35300)
3	GUJ	ICS-102	Fine	22mm	4.0-6.0	20	8155 (29000)	8099 (28800)	8042 (28600)	8014 (28500)	8014 (28500)	8014 (28500)
4	KAR	ICS-103	Fine	23mm	4.0-5.5	21	9448 (33600)	9392 (33400)	9336 (33200)	9308 (33100)	9308 (33100)	9308 (33100)
5	M/M	ICS-104	Fine	24mm	4.0-5.0	23	10629 (37800)	10573 (37600)	10517 (37400)	10489 (37300)	10489 (37300)	10489 (37300)
6	P/H/R	ICS-202	Fine	26mm	3.5-4.9	26	12401 (44100)	12345 (43900)	12345 (43900)	12345 (43900)	12288 (43700)	12288 (43700)
7	M/M/A	ICS-105	Fine	26mm	3.0-3.4	25	9617 (34200)	9561 (34000)	9505 (33800)	9476 (33700)	9420 (33500)	9364 (33300)
8	M/M/A	ICS-105	Fine	26mm	3.5-4.9	25	9983 (35500)	9926 (35300)	9926 (35300)	9898 (35200)	9870 (35100)	9870 (35100)
9	P/H/R	ICS-105	Fine	27mm	3.5.4.9	26	12570 (44700)	12513 (44500)	12513 (44500)	12513 (44500)	12457 (44300)	12457 (44300)
10	M/M/A	ICS-105	Fine	27mm	3.0-3.4	26	9983 (35500)	9926 (35300)	9926 (35300)	9898 (35200)	9898 (35200)	9898 (35200)
11	M/M/A	ICS-105	Fine	27mm	3.5-4.9	26	10376 (36900)	10320 (36700)	10320 (36700)	10292 (36600)	10264 (36500)	10264 (36500)
12	P/H/R	ICS-105	Fine	28mm	3.5-4.9	27	12654 (45000)	12598 (44800)	12598 (44800)	12598 (44800)	12541 (44600)	12541 (44600)
13	M/M/A	ICS-105	Fine	28mm	3.5-4.9	27	11557 (41100)	11501 (40900)	11473 (40800)	11445 (40700)	11417 (40600)	11417 (40600)
14	GUJ	ICS-105	Fine	28mm	3.5-4.9	27	11670 (41500)	11614 (41300)	11585 (41200)	11557 (41100)	11529 (41000)	11501 (40900)
15	M/M/A/K	ICS-105	Fine	29mm	3.5-4.9	28	11838 (42100)	11782 (41900)	11754 (41800)	11726 (41700)	11698 (41600)	11698 (41600)
16	GUJ	ICS-105	Fine	29mm	3.5-4.9	28	12007 (42700)	11951 (42500)	11923 (42400)	11895 (42300)	11867 (42200)	11838 (42100)
17	M/M/A/K	ICS-105	Fine	30mm	3.5-4.9	29	12148 (43200)	12092 (43000)	12063 (42900)	12035 (42800)	12007 (42700)	12007 (42700)
18	M/M/A/K/T/O	ICS-105	Fine	31mm	3.5-4.9	30	12429 (44200)	12373 (44000)	12345 (43900)	12317 (43800)	12317 (43800)	12288 (43700)
19	A/K/T/O	ICS-106	Fine	32mm	3.5-4.9	31	12935 (46000)	12935 (46000)	12935 (46000)	12935 (46000)	12935 (46000)	12935 (46000)
20	M(P)/K/T	ICS-107	Fine	34mm	3.0-3.8	33	16169 (57500)	16169 (57500)	16169 (57500)	16169 (57500)	16169 (57500)	16169 (57500)

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