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Effective And Practical Use Of Cottonseed And Its By-Products

GUEST COLUMN

Shri. Sandeep Bajoria
Chairman, All India Cottonseed Crushers' Association

He has been Past President, The Central Organisation for Oil Industry & Trade, New Delhi and Past President of the Solvent Extractors' Association of India, Mumbai. He has been on the Reserve Bank of India Sub-Committee on inventory norms on oilseed industry. He was Chairman of Organising Committee of IASC's Global Conference of Vegetable & Oilseed Industry, Mumbai in 2005. He has lead oil industry delegations to various parts of the world and chaired the Globoil International Conference, Dubai, 2008. Shri Bajoria has represented vegetable oil industries on the Confederation of Indian Industries (CII) and Federation of Indian Chamber of Commerce & Industry (FICCI) committee. He was also on the Managing Committee of Indian Merchants Chamber.

He was declared "Oil Man of the Year" at the Globoil International Conference, Mumbai, 2001. He was nominated by the Government of India as a Member of the Managing Committee of "National Oilseeds & Oils Development Board" from 2005 to 2008 and was also nominated on Consultative Committee of "Cotton Advisory Board" consecutively for four years by the Ministry of Textiles, Government of India.

Cottonseed obtained during ginning is the by-product of the cotton crop, the king of natural fibres. Cottonseed is an important source of edible oil, cake, linter and hull, all of which have several industrial and other applications. Though cotton is mainly cultivated for lint, which is the most eco-friendly, affordable and desirable textile fibre till date, the cottonseed and its other by-products have no less significance, as will be evident from the contents of this article.

Cottonseeds

Like other oilseeds, cottonseed is not grown exclusively for production of oil. The principal product is cotton lint, a textile fibre, while cottonseed is considered a secondary product. Therefore, the seed production follows the production trend of cotton.

In estimating cottonseed production in India, a uniform average ginning percentage of 33-.1/3% is being used. The fuzz left over on the seed coming out of the gins is called the linters and this term has been used in this article

India now ranks number one in the world production of cotton (pushing China to second position) and cottonseed followed by China, USA and Pakistan. The acreage of about 12 million hectares under cotton in India now is more than one third of the total world acreage (31.20 million hectares). Cotton production in India reached a record figure of398 lakh bales (170 kg. each) during the year 2013-14. Of course, in the last year i.e. 2014-15 and the current year i.e 2015-16 production has declined via-a-vis 2013-14.

Indian Cotton Production Scenario

The Cotton Advisory Board of the Ministry of Textiles, Government of India, a representative body of almost all organisations associated with production, consumption and trade of cotton, in its meeting held on 3rd November, 2015, has estimated the area and production of cotton for the last three years as follows.

Estimated Area and Production of Cotton (State wise)

Area: in lakh hectares/Production: in lakh bales of 170 kg. each)

STATES	AREA			PRODUCTION		
	2013-14	**2014-15**	**2015-16**	**2013-14**	**2014-15**	**2015-16**
PUNJAB	4.46	4.20	4.50	21.00	12.00	11.00
HARYANA	5.36	6.47	5.86	24.00	20.50	19.00
RAJASTHAN	3.93	4.87	4.06	14.00	17.00	16.00
TOTAL NORTH ZONE	13.75	15.54	14.42	59.00	49.50	46.00
GUJARAT	25.19	30.10	27.61	124.00	108.00	105.00
MAHARASHTRA	41.92	41.92	38.24	84.00	78.00	80.00
MADHYA PRADESH	5.14	5.74	5.47	19.00	18.00	18.00
TOTAL CENTRAL ZONE	72.25	77.76	71.32	227.00	204.00	203.00
ANDHRA PRADESH & TELANGANA	23.89	8.20 17.20	6.62 16.89	78.00	27.00 57.00	23.00 59.00
KARNATAK	6.62	8.69	5.87	23.00	31.50	24.00
TAMIL NADU	1.52	1.86	1.05	5.00	5.00	5.00
TOTAL SOUTH ZONE	32.03	35.95	30.43	106.00	120.50	111.00
ODISHA	1.24	1.27	1.25	4.00	4.00	3.00
OTHERS	0.33	0.31	2.00	2.00	2.00	2.00
ALL INDIA	119.00	130.53	117.63	398.00	380.00	365.00

(10 lakhs = 1 million)

(Cotton Advisory Board, Ministry of Textiles, Government of India, Estimates, Dated. 3-11-2015)

Although cottonseed processing had started as early as 1936 in undivided India, more than 90 per cent of the cottonseed presently processed in the country is through traditional crude method. This results in an annual loss of about 5 to 6 lakh tonnes of precious cottonseed oil valued at about Rs. 3600/- crores. The country cannot afford to bear such heavy loss, especially when we are importing huge quantity of edible oil at the cost of precious foreign exchange to meet our domestic demand.

Production of Cottonseed/Cottonseed Oil

Based on the latest production estimates of cotton, the production of cottonseed and cottonseed oil for 2013-14, 2014-15 and 2015-16 is estimated as follows

Production of Cottonseed and Cottonseed Oil in India

(Unit lakh tonnes)

Years	Cottonseed	Cottonseed Oil
2013-14	132.53	15.30
2014-15	126.54	14.58
2015-16	121.55	14.00

(10 lakhs = 1 million)

Very few people are aware that the production of cottonseed has crossed 'one crore tons' mark as early as in 2007-08 and has been increasing every year.

Cottonseed Oil

The production of cottonseed oil during 2014-15 was 14.6 lakh tonnes as against 12.47 lakh tonnes during 2010-11 i.e. an increase of 12.8 percent in four years. The cottonseed contains about 18-25% oil depending on the quality of seeds and the species. Refined cottonseed oil is very well accepted as a cooking medium in States like Gujarat, Maharashtra, Andhra Pradesh, Madhya Pradesh and Punjab. Further, refined cottonseed oil has now become the second preferred oil for frying in India, as the shelf life of food prepared in cottonseed oil is much longer than other oils. This oil is presently contributing about 15 lakh tonnes every year to India's edible oil production (India is now meeting about 2/3rd of its vegetable oil requirement of 200 lakh tonnes through imports as per latest data) and the size of production is no mean achievement.

Cottonseed oil is one of the most important edible oils and is much superior in its nutritional value as compared to many of the traditional oils. The nutritional value of cottonseed oil is around 9 kcal/g, and the average digestibility is around 98%, as per scientists of Central Institute for Research on Cotton Technology (CIRCOT), Mumbai and could be compared with other edible oils like soybean, safflower and sunflower. This oil with practically

no gossypol is pale yellow in colour and rich in vitamin E and as stated above can be used directly as a cooking medium and also for the manufacture of Vanaspati. The shelf life of this oil is also quite good and is comparable with other edible oils.

Cottonseed Utilisation Pattern

Cottonseed is generally utilised for the following purposes:

i) Feeding whole cottonseed to the cattle
ii) Sowing purpose
iii) Processing for obtaining oil as well as by-products like linters, hulls, cottonseed oilcake, (U.D.Cake) and cottonseed extraction (meal)

Systematic studies on the quantum of cottonseed used for direct feeding to the cattle and for sowing purposes have not been carried out by any organisation so far. However, roughly it is estimated that about 5.00 lakh tonne of cottonseed is utilised in the country for direct cattle feeding and sowing purposes every year. This volume marginally varies in tune with the size of production. Small quantity of cottonseed is also exported occasionally. There have been discreet enquiries for export of cottonseed from India by some of the developed countries. After meeting the requirement for seed/direct cattle feeding, the remaining quantity of cottonseed is utilised for processing by the cottonseed processing industry. In 1950, it was estimated that only five percent of the cottonseed was crushed for production of oil. Today, we are able to process the entire production of cottonseed in spite of the fact that India had produced record production of cottonseed in recent years.

Availability of Cottonseed for Processing and Estimated Production of Oil

The availability of cottonseed for processing and the estimated production of cottonseed oil for three years are indicated below:

(In lakh tonnes except cotton)

Particulars	2013-14	2014-15	2015-16
Cotton production (lakh bales)of 170 kgs. Each	398.00	380.00	365.00
Cottonseed production (@333kg/bales) in lakh tones	132.53	126.54	121.55
Retained for sowing & direct consumption	5.00	5.00	5.00
Marketable surplus available	127.53	121.54	116.55
Production of washed cottonseed oil	15.30	14.58	14.00

lakhs = 1 million)

(Source – All India Cottonseed Crushers' Association, Mumbai)

The trend in demand and supply of cottonseed for last five years is given in the following Table:

Trend in Demand and Supply of Cottonseed in India

(000 M T)

	2010-11	2011-12	2012-13	2013-14	2014-15 (P)
Opening stock	373	413	597	496	594
Production	11548	12312	12100	12950	12700
Exports	8	2	2	2	2
Consumption	11500	12126	12199	12850	12800
End Stocks	413	597	896	594	492

(Source: USDA.) *(P= Projections)*

Cottonseed Processing in India

About 95% of the cottonseed is processed in the country through the traditional method which is primitive in nature and yields only 12-13% crude oil and results in loss of valuable by products. Whereas scientific processing not only yields more oil, but also helps in recovering valuable by-products like linters, hull, etc. Hence this Association has been propagating scientific processing of cottonseed for past so many years.

Cottonseed By-products:

The major cottonseed by-products used extensively in the trade and industry are mentioned below:

Oil	Extracted from kernel
Linters	Short fibres still clinging to the seeds after ginning
Hulls	Although protective covering of the kernel
(Meal)	Residue after extraction of oil.
(U. D Cake)	Undercorticated cottonseed cake

Cottonseed Oil

The Trend in demand and supply of cottonseed oil for past five years is shown below:

Demand and Supply of Cottonseed Oil in India

(000 M T)

	2010-11	2011-12	2012-13	2013-14	2014-15
Opening Stock	54	83	66	48	58
Production	1150	1210	1220	1305	1335
Consumption	1121	1227	1238	1295	1330
End Stocks	83	66	48	50	63

(Source: USDA.)

Cottonseed oil has been termed as "Heart Oil" as it contains about 50% essential poly unsaturated fatty acids against about 30% in traditional oil. This prevents coronary arteries from hardening. It is one of the few oils in the American Heart Association's

(AHA) list of "O.K Food". It has also been termed as a house wife's friendly aid. Cottonseed oil is also cholesterol free, as the oil is extracted from plants. Its other attributes like light, non-oily consistency and high smoking point make it most desirable for cooking.

Why Should Not Cottonseed Oil be Comparable with Other Edible Oils?

According to CIRCOT scientists, even though cottonseed oil is darker in colour, as compared to soybean, groundnut and other traditional edible oils, the pigments and impurities can be easily removed by modern refining and bleaching techniques to produce light colour. Further, the numerous facts about cottonseed oil widely publicised by the American Cottonseed Processing Industry make this oil even superior to other edible oils.

Cotton Linters

Even after employing the most efficient ginning process for recovery of lint from seed cotton, a certain amount of fuzz (very short fibres unsuitable for spinning) remains on the cottonseeds. The fuzz is known as "cotton linters"

Based on the removal of fuzz in a single or two or three passage recovery, the linters are known as 1st cut linters, 2nd cut linters or even 3rd cut linters.

Recovery of linters from cottonseed is about 5 to 8 percent at present at the plant level.

Uses of Linters

Cotton linters is the prized raw material from cottonseed and has extensive uses. The linters are used in the manufacture of high grade bond paper, currency paper, low grammage tissues, filter paper, low grade absorbent cotton and in the mattress industry. Bleached cotton linters are being used by our ordnance factories for production of propellants used for gun ammunition. For production of propellants, one of the basic explosive is Nitrocellulose made from bleached cotton linters.

India produces about 50,000 tonnes of cotton linters every year in the organised sector out of which about 5,000 tonnes is consumed by our ordnance factories and the remaining quantity is available for other uses including export. China, Japan, Sri Lanka and Vietnam are important importing countries of India cotton linters. The present rate of linters in the international market is about US $350 per MT.

Production and export trend of cotton linters for last five years, both in term of quantity and value are given in the table below:

Production and Export of Cotton Linters

Year	Production		Export	
	Qty (M.T)	Value (Rs. crore)	Qty (M.T)	Value (Rs. crore)
2010-11	28691	127.00	-----	-----
2011-12	31185	75.68	47017	127.92
2012-13	35935	76.14	80645	182.81
2013-14	43443	102.28	75654	183.42
2014-15	47928	82.93	81166	182.67

(Source: Production AICOSCA) (Data Pertain to organised sector) Export: Director General, Commercial Intelligence and Statistics, Kolkata)

Cotton Hulls and its Uses

As stated earlier, cotton hulls are the outer covering of cottonseeds. It is used as roughage in cattle feed, for diluting high protein cakes and extraction in the manufacture of compound cattle feed, uses in petroleum drilling operations for filling the drilled holes to avoid caving in, for production of chemicals like furfural, etc. while white hulls are also used in special seed fermentations. The recovery of hulls is about 20 to 25% from cottonseeds

Good quality cottonseed hulls are also being exported from the country by the cottonseed processors.

Cottonseed Cake

Decorticated cottonseed extraction (meal). This type of cottonseed cake is obtained when cottonseed is processed through scientific method i.e delinting, decortications, separation of hull, expelling and solvent extraction of oil from meal. Such cake contains most negligible oil and has very high by-pass type protein content of 40 to 42%.

Internationally, it is decorticated cottonseed extraction (meal) that is traded generally, and not undecorticated cottonseed expellers oil cake, which is major product in India at present.

Corrective measures for exploiting the effective use of cottonseed by-products

As stated earlier, cottonseed by-products viz cottonseed oil, linters, hulls and cottonseed meal have great potential for generating additional income to all those involved in the production and processing of cottonseed. But is a sad fact that we are losing a major portion of these by-products, due to unscientific processing which the country can ill afford. Hence, we are suggesting corrective measures that we have been pleading loudly for the past so many years, so that we may avoid enormous loss of these by-products estimated to be about Rs. 6000 to 7000 crores.

(i) Statutory measures:

It is difficult to ban the traditional (crude) method of cottonseed processing in one go. However, concrete steps need to be taken to change over from traditional to scientific processing over a reasonable period of time, through statutory and fiscal measures.

(ii) Intensification of extension activities

There is hardly any extension support from the specialised Central and State Governments agencies. In the Krishi Darshan programme etc. of Doordarshan, propagation of scientific processing of cotton seed can be highlighted. Private/Public partnership can also be tried. Our Association will come forward to shoulder such responsibility.

(iii) Make scientific processing economically viable

At present scientific processing of cottonseed is not economically viable. Hence, some monetary incentives are needed from the Government in the initial years to encourage the change over from traditional processing to scientific processing.

(iv) In-built system of ginning/pressing and delinting of cottonseed in a single processing unit as in China

China follows the above pattern in a single processing unit. This single measure would generate huge amount of benefit. But this delinting machine is presently costly and also consumes more power. Therefore, if some financial support, as was extended for modernisation of ginning and pressing factories under the Technology Mission on Cotton (TMC) is provided, the cottonseed processing units can adopt this China pattern and benefit.

(v) Research activities

Most of the research work so far has been confined to cotton lint which forms only 1/3rd portion of the seed cotton. There is hardly any significant research work on cottonseed cake and cottonseed extraction, especially for its utility as poultry and fish feed. There is need to carry out need based research on these activities by our National Research Institutes like National Dairy Research Institute, Karnel or Central Fisheries/Poultry Institutes.

(vi) Modernisation of processing machinery

At present, since the return from scientific processing does not commensurate with additional investment, processing is carried out either with traditional method or with old machines (Delinters) of say 30 years old. Hence, old technology needs to be upgraded with the latest equipment which will not only improve the yield, but will also reduce power requirement.

Conclusion:

At the end, it may suffice to say that by utilising all the cottonseed by-products effectively (which has high value), pressure on lint prices would be reduced without any loss to the cotton farmers as well as the processors. Besides, the loss of 5 to 6 lakh tonnes of much needed cottonseed oils would be added to our edible oil production.

Courtesy : Cotton India 2015-16
(The views expressed in this column are of the author and not that of Cotton Association of India)

Rainfall Distribution (01.06.2016 to 29.07.2016)

Sr. No.	State	Day 29.07.2016				Period 01.06.2016 to 29.07.2016			
		Actul (mm)	Normal (mm)	% Dep.	Cat.	Actul (mm)	Normal (mm)	% Dep.	Cat.
1	Punjab	0.9	6.6	-87%	S	188.2	217.2	-13%	N
2	Haryana	10.3	4.5	129%	E	172.3	198.8	-13%	N
3	West Rajasthan	6.6	2.2	202%	E	101.4	126.4	-20%	D
	East Rajasthan	15.3	5.4	183%	E	360.2	272.4	32%	E
4	Gujarat	8.9	8.8	1%	N	178.9	342.9	-48%	D
	Saurashtra & Kutch	7.8	6.3	24%	E	117.2	265.4	-56%	D
5	Maharashtra	7.1	11.2	-37%	D	635.2	520.7	22%	E
	Madhya Maharashtra	4.7	8.3	-43%	D	406.1	372.0	9%	N
	Marathwada	3.6	7.8	-54%	D	403.2	314.5	28%	E
	Vidarbha	3.8	9.8	-61%	S	633.4	458.6	38%	E
6	West Madhya Pradesh	5.4	10.3	-48%	D	534.1	375.7	42%	E
	East Madhya Pradesh	1.2	12.3	-90%	S	629.1	457.0	38%	E
7	Telangana	6.6	8.8	-26%	D	416.8	355.3	17%	N
8	Coastal Andhra Pradesh	2.5	5.3	-53%	D	297.6	253.3	18%	N
	Rayalseema	20.6	2.7	663%	E	250.2	155.4	61%	E
9	Coastal Karnataka	8.1	32.6	-75%	S	1692.2	1960.9	-14%	N
	N.I. Karnataka	16.3	4.9	232%	E	286.4	229.9	25%	E
	S.I. Karnataka	25.0	6.3	296%	E	365.9	344.6	6%	N
10	Tamil Nadu & Pondichery	11.5	2.0	474%	E	151.0	110.4	37%	E
11	Orissa	2.8	11.7	-76%	S	428.8	530.8	-19%	N

Source : India Meteorological Department, Hydromet Division, New Delhi

Pass-Through of Cotton Prices: A Case Study Based Approach

Jon Devine, Senior Economist, Cotton Incorporat

Given the volatility in cotton prices in recent years, there has been understandable interest in the effects of cotton fiber prices on costs downstream in textile supply chains (i.e., yarn, fabric, assembled garments, and retail). In response to questions regarding both the timing and magnitude of changes in downstream prices, a series of analyses have been conducted by Cotton Incorporated and the ICAC. Approaches for estimating the effects of cotton fiber prices have been both theoretical, involving the weight of cotton garments as well as cost structure information, and statistical, through the application of time series methods (Devine and Plastina 2011, Devine 2011).

After the declines registered throughout the spring and summer of 2014, cotton prices have been stable. With this period of relative stability, there likely has been sufficient time for the decreases experienced throughout the 2014 calendar year to be registered throughout supply chains, and it may be appropriate to re-examine relationships among supply chain prices. In this article, an alternative approach to the discussion to the pass-through of fiber prices is presented. This descriptive approach considers various periods of movement in cotton prices as case studies and examines how price relationships may have changed over time.

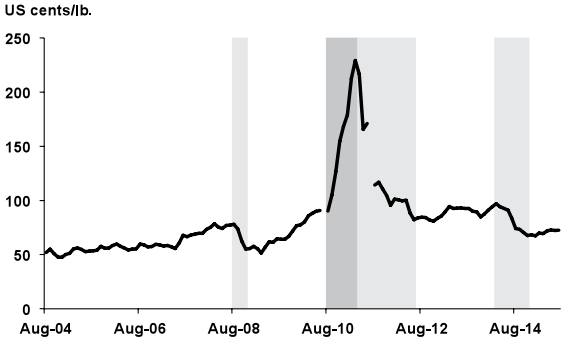
A motivation for this approach stems from complications associated with statistical modelling of the pass-through of fiber prices. The spike in prices experienced during the 2010/11 crop was unprecedented in terms of its magnitude. While this event underlined the fact that fiber prices can significantly influence costs downstream, the size of increase during that single time period overwhelms the statistical relationships in other time periods of comparatively "normal" movement in fiber prices. For this reason, it may be helpful to consider changes in fiber prices on a case by case basis.

To begin such an analysis, it is first necessary to establish a definition of what signifies a move in cotton prices. The definition that was chosen was a change in the A Index of at least 20 cents/lb within a six month period. While this designation is somewhat arbitrary, a move of 20 cents/lb within a six month window was selected since it was considered as large enough in magnitude and short enough in timespan to produce observable responses downstream.

Since the onset of the 2004/05 crop year, there have been four such "swings" in prices (see Figure 1). The first was the decrease that accompanied the onset of the global recession in the fall of 2008. The second was the sharp increase in prices that defined the 2010/11 price spike. The remaining two swings can be seen as part of the process that returned values from the record high back to levels closer to historic averages. This process occurred in two steps, one immediately following the peak in prices and another after the announced reform of Chinese cotton policies in the spring of 2014.

The time periods and changes in price experienced in each price swing are explicitly defined in the leftmost column of Table 1. In that column, the first month indicates the time when the swing began and the second month denotes the time when the swing ended. Correspondingly, the second month also indicates when the peak/trough was reached for the A Index in that particular swing.

Figure 1. Price Swings in the A Index (2004/05 to Present)



Note: Swings defined as a 20 cent/lb move within a six month period. Price increases are denoted with darker shading. Price decreases are denoted with lighter shading.

Table 1. Summary of Movement in Supply Chain Prices Following Swings in the A Index

Swing in Fiber Prices	A Index	Landed Fiber	Yarn Index	Landed Yarn	Landed Garments	Retail Apparel
Aug 08 to Nov 08	-23 €/lb -0.3 39753	-20€/lb -0.27 5 mo. Lag	-0.18 4 mo lag	-0.13 6 mo. lag	-0.06 14 mo. lag	No decrease
Aug 10 to Mar 11	+140 €/lb 154% Mar-11	+44 €/lb 65% 3 mo lag	67% No lag	54% 2 mo. lag	24% 6 mo. lag	6% 9 mo. Lag
Mar 11 to Jun 12	-146 €/lb -0.64 41061	-66 €/lb -0.44 7 mo. lag	-0.44 No lag	-0.36 5 mo. lag	-0.1 3 mo lag	No decrease
Mar 14 t Nov 14	-22 €/lb -23% Nov-14	-23 €/lb -24% 4 mo. lag	-19% 3 mo. lag	-14% 4 mo. lag	-4% 6 mo. lag	-4% Simultaneous

Data Sources

With price swings defined, it is possible to describe the changes in supply chain prices that followed. Price data are available at the yarn, garment, and retail stages (insufficient data are available at the fabric stage). As in previous analyses, the data selected are considered to represent the global supply chain that provides for the U.S. retail market. Since the U.S. apparel market can be considered price competitive, it may be possible to make inferences for other retail markets.

The A Index, widely accepted as the best representation of a world price for cotton, is used to describe fiber prices. The A Index is an average derived from offers made by the world's cotton merchants for shipments to the Far East. Since these prices are offers, they are not necessarily transactional. During time periods of extreme volatility, such as the 2010/11 spike, there may be a separation between the offers made by merchants and the actual prices paid by mills (i.e., mills may refuse to pay the prices being offered). For this reason, an alternate fiber price series based on import values is presented and discussed. This alternate price, called landed fiber price throughout this article, is derived as a volume-weighted average of global cotton fiber imports. Since this describes values for cotton as it is being delivered, it can be considered representative of transaction prices.

Cotlook's yarn index, which is a trade weighted average of 20s and 30s offered for export, is used to represent global yarn prices. Similar to the A Index, these values are representative of offered values and therefore may not describe actual transactions. For that reason, an average of global yarn prices was also created. This price series is referred to as the landed yarn price and represent a volume-weighted average of global import prices for cotton yarn (HS 5205).

Sourcing costs for assembled garments are described by the average landed cost for cotton-dominant apparel imported into the U.S. and represent seasonally-adjusted prices per square meter equivalent (SME). Retail apparel prices are approximated by using the U.S. CPI for garments and are also seasonally-adjusted.

Summary Table

For each of the downstream stages, the peak/trough that followed the peak/trough in the A Index can be identified and the corresponding change in supply chain prices over that time period can be quantified. A summary of these findings is shown in Table 1. Each cell of the table includes data describing the magnitude and timing of changes of supply chain prices following different swings in the A Index.

To illustrate how the entries in Table 1 can be interpreted, consider the changes in fiber prices that accompanied the August 2008 to November 2008 decrease in the A Index. During this price swing, the A Index decreased 23 cents/lb or 30% (from 78 cents/lb in August 2008 to 55 cents/lb in November 2008). The decrease in average import prices that followed was of a similar magnitude (20 cents/lb, from 75 cents/lb in August 2008 to 56 cents/lb in April 2009), but there was a lag of five months between the time when the A Index (November 2008) reached its low point and when in landed prices (April 2009) stabilized at lower levels. Values in the other rows and columns can be interpreted in the same way, with the percentage change referring to the increase/decrease in costs that followed the change in the A

Table 2. Ratios of the Percentage Change in Supply Chain Prices Relative to the Percentage Change in the A Index

Swing in Fiber Prices	A Index	Landed Fiber	Yarn Index	Landed Yarn	Garment Imports	Retail Apparel
Aug 08 to Nov 08	n/a	90.0%	60.0%	43.3%	20.0%	n/a
Aug 10 to Mar 11	n/a	42.2%	43.5%	35.1%	15.6%	3.9%
Mar 11 to Jun 12	n/a	68.8%	68.8%	56.3%	15.6%	n/a
Mar 14 t Nov 14	n/a	104.3%	82.6%	60.9%	17.4%	1.7%

Index and the lag indicating the temporal difference between peaks/troughs.

Discussion

When we take a look at the data in Table 1, there are several findings that can be derived across price swings. One of them is that the effects of cotton fiber prices diminish and take longer to develop as we look further downstream. Offered yarn prices reacted with the least amount of lag relative to the A Index and were either simultaneous to the A Index or lagged 3-4 months. This indicates that spinners attempt to pass on changes in offered fiber prices (A Index) in the prices they are offering for future delivery (yarn index).

Movement in landed fiber prices ranged from 3 to 7 months, which was similar to the lag in landed yarn prices. Changes in garment prices took longer, with the lag in peak/troughs between 3 and 14 months. Retail prices were not consistently affected by changes in fiber prices. This is not surprising given that retail prices involve costs for many non-fiber factors, including advertising, floor space, wages for sales people, as well as all of the costs associated with design, logistics, and planning.

An outlier relative to timing cost changes is the coincident movement in the A Index and retail apparel prices in 2014. With the many non-fiber costs associated with retail, it likely is difficult to attribute the changes in the CPI between the spring and fall of 2014 to the changes in the A Index over the same time period. In addition to costs associated with bringing goods to market, retail prices are also a function of consumer demand. Weaker than expected sales volumes, such as those that occurred in early 2014, can also affect prices offered to consumers. Correspondingly, there can be reductions in retail prices that result from demand-related issues. The declines retailers' need to move merchandise rather than a decrease in sourcing costs associated with cotton prices.

If we consider the changes in retail prices in 2014 as being a result of demand-related factors, it leaves only one time period, when cotton prices more than doubled in 2010/11, that a possible causal relationship between fiber prices and retail prices could be drawn. The inconsistency in the relationship between swings in the A Index and any lagged changes in retail prices explain why it is difficult to identify a statistical relationship between cotton prices and retail apparel prices outside of the price spike.

For garment prices, where cotton prices represent a larger proportion of costs, the direction of change during each of the price swings was consistent with movement in the A Index. Simple ratios (Table 2) of the percentage change in garment sourcing costs relative to the percentage change in the A Index were contained within a relatively tight range between one-fifth and one-sixth the magnitude of the percentage change in the A Index. These back-of-the envelope elasticities suggest a 20% change in the A Index could be expected to result in 3-4% change in sourcing costs.

However, these simple ratios do not control for other cost factors such as possible changes in country of origin, labor costs, or exchange rates that could influence future relationships between the A Index and garment sourcing costs. The importance of -fiber costs to landed garment prices may be evident in the much longer time period it took for a bottom in garment prices to be reached after the decrease in the A Index that accompanied the onset of the global financial crisis in the fall of 2008. The prolonged impact that the recession had on demand, in terms of increasing the level of competition among manufacturers for limited order volumes, may have eroded manufacturers' pricing power. This could have kept downward pressure on prices and kept sourcing costs at lower level for a longer time period.

(To be continued)

Source : COTTON : Review of the World Situation – Volume 68 – Number 6 – July-August 2015

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Production Of Man-Made Filament Yarn

(In Mn. kg.)

Month	Viscose Filament yarn	Polyester Filament yarn	Nylon Filament yarn	Poly propylene Filament yarn	Total
2010-11	40.92	1462.26	33.45	13.14	1549.77
2011-12	42.36	1379.51	27.94	13.19	1463.00
2012-13	42.78	1287.80	23.03	17.26	1370.87
2013-14	43.99	1213.07	24.00	12.91	1293.97
2014-15	43.93	1157.41	32.46	12.76	1246.56
2015-16 (P)	45.38	1068.80	37.13	12.67	1163.98
2016-17 (P)	3.78	84.36	3.49	1.03	92.66
Mar.	3.78	98.36	2.44	0.89	105.47
2014-15 (P)					
April	3.74	94.92	2.30	1.12	102.08
May	3.72	100.28	2.63	1.00	107.63
June	3.60	102.29	2.14	1.01	109.04
July	3.83	107.71	2.49	1.12	115.15
August	3.86	103.92	2.82	1.06	111.66
September	3.83	86.20	2.75	0.99	93.77
October	3.68	86.44	2.53	1.02	93.67
November	3.54	92.25	2.68	1.08	99.55
December	3.56	99.93	2.96	1.14	107.59
January	3.59	92.48	3.16	1.08	100.31
February	3.49	92.19	2.93	0.94	99.55
March	3.49	98.80	3.07	1.20	106.56
2015-16 (P)					
April	3.80	95.97	3.22	1.09	104.08
May	3.70	96.03	3.01	0.99	103.73
June	3.69	82.80	2.69	0.96	90.14
July	3.78	82.67	3.11	1.12	90.68
August	3.81	86.94	2.96	1.13	94.84
September	3.81	89.67	2.81	1.00	97.29
October	3.81	89.49	3.18	1.00	97.48
November	3.75	87.58	2.86	1.32	95.51
December	3.82	90.60	3.29	0.91	98.62
January	3.83	93.31	3.36	1.02	101.52
February	3.78	86.91	3.25	1.10	95.04
March	3.80	86.83	3.39	1.03	95.05
2016-17 (P)					
April	3.78	84.36	3.49	1.03	92.66

P - Provisional

Source : Office of the Textile Commissioner

UPCOUNTRY SPOT RATES

(₹\Quintal)

July 2016

2015-16 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	9617	9758	7171	8914	10095	11726	10404	10770	11979	10714	11079	12092	11923	11838	12148	12007	12373	12598	12795	15213
2	9617	9758	7171	8914	10095	11698	10404	10770	11951	10714	11079	12063	11923	11838	12148	12007	12373	12598	12795	15213
4	9617	9758	7171	8914	10095	11810	10461	10911	12063	10770	11220	12176	12007	11923	12232	12063	12457	12738	12935	15353
5	9617	9758	7171	8914	10095	11867	10461	10911	12120	10770	11220	12232	12007	11923	12232	12063	12457	12738	12935	15353
6	9561	9701	7171	8914	10095	11923	10517	10967	12176	10826	11276	12288	12063	11979	12288	12120	12513	12795	12935	15494
7	9645	9786	7396	9139	10320	12148	10770	11220	12401	11079	11529	12513	12317	12232	12541	12373	12766	13048	13188	15635
8	9645	9786	7396	9139	10320	12204	10770	11220	12457	11079	11529	12570	12317	12232	12541	12373	12766	13048	13188	15635
9	9617	9758	7508	9251	10432	12232	10882	11332	12485	11192	11642	12598	12429	12373	12654	12513	12879	13160	13301	15747
11	9617	9758	7592	9336	10517	12317	10967	11417	12570	11276	11726	12682	12513	12457	12851	12710	13048	13301	13441	15832
12	9617	9758	7705	9448	10629	12401	11023	11473	12654	11360	11810	12766	12654	12541	12935	12738	13076	13357	13554	15916
13	9701	9842	7958	9701	10882	12738	11445	11895	12991	11782	12232	13104	13076	12963	13498	13273	13638	13835	14060	15916
14	9758	9898	8014	9758	10939	12879	11529	11951	13132	11838	12317	13244	13160	13048	13582	13385	13723	13919	14144	15916
15	9758	9898	8127	9870	11051	13188	11585	12035	13441	11895	12401	13554	13244	13188	13638	13498	13779	14032	14229	15916
16	9758	9898	8267	10011	11192	13244	11726	12176	13498	12035	12541	13610	13385	13329	13779	13638	13919	14172	14369	15916
18	9786	9926	8323	10067	11248	13301	11923	12457	13554	12232	12823	13666	13441	13385	13779	13638	13919	14172	14369	15916
19	9786	9926	8323	10067	11248	13132	11923	12457	13385	12232	12823	13498	13441	13385	13779	13638	13919	14172	14369	15916
20	9786	9926	8211	9954	11135	12682	11642	12176	12879	11951	12541	12991	13020	12963	13357	13216	13498	13751	13947	15775
21	9786	9926	8099	9870	11051	12598	11585	12176	12795	11895	12541	12907	12935	12823	13216	13076	13498	13666	13863	15775
22	9729	9870	8183	9926	11107	12682	11670	12232	12879	11979	12654	12991	13076	12935	13357	13216	13638	13807	14004	15916
23	9729	9870	8127	9870	11051	12654	11614	12176	12851	11923	12598	12963	13020	12879	13301	13160	13582	13751	13947	15916
25	9729	9870	8014	9870	11051	12598	11670	12176	12795	12063	12598	12907	12963	12879	13244	13160	13498	13751	13947	16028
26	9673	9814	7930	9870	11051	12541	11670	12120	12738	12007	12541	12851	12879	12823	13160	13104	13498	13779	13947	16028
27	9617	9758	8014	9926	11107	12654	11726	12176	12851	12063	12598	12963	12963	12907	13244	13188	13526	13807	13976	16028
28	9617	9758	8014	9926	11107	12626	11726	12176	12823	12063	12598	12935	12963	12907	13244	13188	13526	13807	13976	16028
29	9561	9701	7986	9898	11107	12541	11726	12120	12738	12007	12541	12851	12879	12823	13160	13104	13469	13751	13947	16028
30	9561	9701	7986	9898	11107	12570	11726	12120	12766	12007	12541	12879	12879	12823	13160	13104	13469	13751	13947	16028
H	**9786**	**9926**	**8323**	**10067**	**11248**	**13301**	**11923**	**12457**	**13554**	**12232**	**12823**	**13666**	**13441**	**13385**	**13779**	**13638**	**13919**	**14172**	**14369**	**16028**
L	**9561**	**9701**	**7171**	**8914**	**10095**	**11698**	**10404**	**10770**	**11951**	**10714**	**11079**	**12063**	**11923**	**11838**	**12148**	**12007**	**12373**	**12598**	**12795**	**15213**
A	**9673**	**9814**	**7809**	**9591**	**10774**	**12498**	**11290**	**11754**	**12730**	**11606**	**12115**	**12842**	**12749**	**12669**	**13041**	**12906**	**13262**	**13512**	**13696**	**15786**

H = Highest L = Lowest A = Average

UPCOUNTRY SPOT RATES

(Rs./Qtl)

Sr. No.	Growth	Grade Standard	Grade	Staple	Micronaire	Strength /GPT	Spot Rate (Upcountry) 2015-16 Crop JULY 2016 25th	26th	27th	28th	29th	30th
	Standard Descriptions with Basic Grade & Staple in Millimetres based on Upper Half Mean Length [By law 66 (A) (a) (4)]											
1	P/H/R	ICS-101	Fine	Below 22mm	5.0-7.0	15	9729 (34600)	9673 (34400)	9617 (34200)	9617 (34200)	9561 (34000)	9561 (34000)
2	P/H/R	ICS-201	Fine	Below 22mm	5.0-7.0	15	9870 (35100)	9814 (34900)	9758 (34700)	9758 (34700)	9701 (34500)	9701 (34500)
3	GUJ	ICS-102	Fine	22mm	4.0-6.0	20	8014 (28500)	7930 (28200)	8014 (28500)	8014 (28500)	7986 (28400)	7986 (28400)
4	KAR	ICS-103	Fine	23mm	4.0-5.5	21	9870 (35100)	9870 (35100)	9926 (35300)	9926 (35300)	9898 (35200)	9898 (35200)
5	M/M	ICS-104	Fine	24mm	4.0-5.0	23	11051 (39300)	11051 (39300)	11107 (39500)	11107 (39500)	11107 (39500)	11107 (39500)
6	P/H/R	ICS-202	Fine	26mm	3.5-4.9	26	12598 (44800)	12541 (44600)	12654 (45000)	12626 (44900)	12541 (44600)	12570 (44700)
7	M/M/A	ICS-105	Fine	26mm	3.0-3.4	25	11670 (41500)	11670 (41500)	11726 (41700)	11726 (41700)	11726 (41700)	11726 (41700)
8	M/M/A	ICS-105	Fine	26mm	3.5-4.9	25	12176 (43300)	12120 (43100)	12176 (43300)	12176 (43300)	12120 (43100)	12120 (43100)
9	P/H/R	ICS-105	Fine	27mm	3.5.4.9	26	12795 (45500)	12738 (45300)	12851 (45700)	12823 (45600)	12738 (45300)	12766 (45400)
10	M/M/A	ICS-105	Fine	27mm	3.0-3.4	26	12063 (42900)	12007 (42700)	12063 (42900)	12063 (42900)	12007 (42700)	12007 (42700)
11	M/M/A	ICS-105	Fine	27mm	3.5-4.9	26	12598 (44800)	12541 (44600)	12598 (44800)	12598 (44800)	12541 (44600)	12541 (44600)
12	P/H/R	ICS-105	Fine	28mm	3.5-4.9	27	12907 (45900)	12851 (45700)	12963 (46100)	12935 (46000)	12851 (45700)	12879 (45800)
13	M/M/A	ICS-105	Fine	28mm	3.5-4.9	27	12963 (46100)	12879 (45800)	12963 (46100)	12963 (46100)	12879 (45800)	12879 (45800)
14	GUJ	ICS-105	Fine	28mm	3.5-4.9	27	12879 (45800)	12823 (45600)	12907 (45900)	12907 (45900)	12823 (45600)	12823 (45600)
15	M/M/A/K	ICS-105	Fine	29mm	3.5-4.9	28	13244 (47100)	13160 (46800)	13244 (47100)	13244 (47100)	13160 (46800)	13160 (46800)
16	GUJ	ICS-105	Fine	29mm	3.5-4.9	28	13160 (46800)	13104 (46600)	13188 (46900)	13188 (46900)	13104 (46600)	13104 (46600)
17	M/M/A/K	ICS-105	Fine	30mm	3.5-4.9	29	13498 (48000)	13498 (48000)	13526 (48100)	13526 (48100)	13469 (47900)	13469 (47900)
18	M/M/A/K/T/O	ICS-105	Fine	31mm	3.5-4.9	30	13751 (48900)	13779 (49000)	13807 (49100)	13807 (49100)	13751 (48900)	13751 (48900)
19	A/K/T/O	ICS-106	Fine	32mm	3.5-4.9	31	13947 (49600)	13947 (49600)	13976 (49700)	13976 (49700)	13947 (49600)	13947 (49600)
20	M(P)/K/T	ICS-107	Fine	34mm	3.0-3.8	33	16028 (57000)	16028 (57000)	16028 (57000)	16028 (57000)	16028 (57000)	16028 (57000)

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