Weekly Publication of

Cotton Association of India

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COTTON STATISTICS & NEWS

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Frequently Asked Questions About Biotech Cotton II

The bollworm complex caused more damage to cotton than any other group of pests during the 1980s and the first half of 1990s. Insecticide use had reached its peak in many countries and the consequences of insecticide resistance had also become evident in cotton producing countries, big and small. The only exception to the impact of bollworms was in the Americas and, more particularly, the Central American countries, where the greatest damage was not attributable to the bollworm, but to the boll weevil, Anthonomus grandis.

The US boll weevil eradication program proved to be effective and was expanding to the west, but the Central American countries could not afford to continue increasing the use of insecticides to control that pest. Ultimately, the Central American countries succumbed to the combined impact of the high cost of insecticides and the consequences of frequent spraying. The environmental impact was, of course, a concern.

However, at that time, the cotton industry was not as aware as it is today, after having witnessed the disastrous effects of insecticide use. So, the cessation of cotton production in Central American, showed how destructive resistance to insecticides could be, and the bollworm complex emerged as the major threat to cotton production. There could not have been a more suitable moment than the early 1990s for the introduction of a new technology, such as biotech cotton.

The pesticide industry could not cope with demands from the field, even though target-specific pesticides employing softer chemicals were soon to be introduced, along with measures to avoid the resistance problem. According to ICAC data, in 2011/12 biotech cotton was planted on 65% of the world cotton area. Biotech cotton accounted for 69% of global production and 64% of the cotton traded internationally that same year. Biotech cotton is still commercialized in only 12 countries, and most of them have already reached their peak in terms of area planted to such varieties. Unlike Australia, South Africa and the US, the countries in the process of adopting biotech cotton are not expected to devote 90-95% of their cotton area to biotech varieties. There are only a few countries expected to commercialize biotech cotton within the next few years. The rate of adoption, in terms of the number of countries, has certainly slowed, but this has nothing to do with the promise of the technology. This issue and other related questions are discussed herein. (This article supersedes the article 'Commonly Asked Questions about Transgenic Cotton' published in the June 2002 issue of THE ICAC RECORDER.)

What is the Correct Term for a Product Developed Using Biotechnology?

Biotechnology is a science and it is a very broad field that can encompass various techniques, not only for the transformation of living organisms but also for a great many other uses. The techniques used and products developed may be different, but in every case there must be a living organism involved in the improvement of another living organism. Biotechnology is also defined as the application of scientific and technical advances in life sciences to the development of new products.

Biotechnology is not limited to genetic engineering, tissue culture, DNA studies, and the like; it applies to a much broader field and its possibilities are still far from being exhausted. Neither is biotechnology limited exclusively to transgenic plants, as the transfer of genes may take place within species, among species or across species. It is true that the early products developed through biotechnology, particularly in cotton, were transgenic and genetically engineered, which means that cross-species genes were used and recombinant DNA technology was employed selectively to develop insect-resistant and herbicide-tolerant cotton varieties. Cotton products developed using biotechnology have been saddled with so many incorrect names, including GMO cotton, genetically engineered cotton, transgenic cotton and Bt cotton.

But none of these terms encompasses the sort of product that is not genetically modified, genetically engineered, or transgenic and does not carry a Bt gene. It is true that no such product is on the market yet, but it may very well be developed and commercialized soon. The International Cotton Advisory Committee constituted an expert panel in 2003 comprising nine members, mostly researchers. The Expert Panel published a report in November 2004 wherein they commented that the implementation of the tools of modern biotechnology is resulting in an expanding number of products best described by the term 'biotech.' The term 'biotech cotton' covers all the currently available biotech varieties and also leaves a margin for the new products hopefully to be developed through biotechnology. 'Biotech cotton' is the right term and since 2004, ICAC has encouraged its use by the cotton community.

Does Biotech Cotton Have a Higher Yield Potential?

Insect-resistant and herbicide-tolerant biotech cottons have specific objectives. The addition of a non-hirsutum gene (responsible for producing a specific toxin) from soil bacterium Bacillus thuringiensis in no way enhances the genetic ability of a plant to produce higher yields than its otherwise isogenic line. The inherent ability of the plant to produce buds, flowers and bolls remains the same as in the case of an isogenic line without the Bt gene. The same is true in herbicide-tolerant biotech cotton. Whether genetic potential can be improved through biotechnology is not at all certain. Yield is the most attractive character in cotton as well as in other agricultural crops, but there are no reports of successful work that might directly improve the genetic ability of the plant to give higher yields. The non-determinate nature of the cotton plant even makes it difficult to achieve yield-enhancing features devised through biotechnology.

Cotton Yields in India Increased by Over 80% in Five Years: Was it All Due to Biotech Cotton?

India commercialized biotech cotton in 2002/03, when the average yield was 302 kg/ha. The average yield in India increased to 554 kg/ha in 2007/08, an 83% increase in only five years. Of the 12 countries that have commercialized biotech cotton, none has achieved more than a 25-30% increase since adopting biotech cotton. Many reports about India, local and international, assigned all the credit to biotech cotton, but the fact is that a number of other factors also contributed to increases in yields in India. Cotton yields in India were stagnant for about 15 years, and the main reasons for low yields were poor adoption of technology and ineffective control of insects. India had reached a stage where cotton farmers were losing the economic viability of cotton production. Insecticides were used, but not as recommended by experts, and this led to mixed results. Poor insecticide use was rooted in poor extension services.

The Government of India recognized the problem and launched its Technology Mission on Cotton. There were four components, some focused on research and ginning, but the most expensive component focused on transfer of technology. The project required that grants provided by the Federal Government were to be matched by the state governments. The Federal Government provided so much money that state governments were not able to draw down the full amounts of the grants. Those cotton growers, who had already reached a level of sophistication, were assisted by the technology mission to improve future. Having been so low and stagnant for over 15 years, cotton yields in India, unlike in other countries, had a broad margin for increase. None of the other countries adopting biotech cotton at that time was in a similar situation. So increases in yields over the short span of 6 years reflected the combined effects of many factors, including the introduction of biotech cotton.

(To be continued....)

Source: ICAC Recorder

This article will be continued in the subsequent issues. Look forward to this space to know more about Biotech Cotton II.

SAD DEMISE

Shri Vasantrao M. Unchagaonkar

The Cotton Association of India deeply mourns the sad demise of Shri Vasantrao M. Unchagaonkar, its ex-Secretary, who passed away on 2nd June 2013.

Shri Unchagaonkar served the Association in various capacities since 9th June 1970 to 31st March 1989 and he was the Secretary of the Association since 1st July 1986 to 31st March 1989.

The Association conveys its sympathies and condolence to all the members of the bereaved family. May his soul rest in eternal peace!

Shri V.M. Unchagaonkar interacting with Shri J.K.S. Nicholson and other members of the Assciation on the occasion of an All India Cotton Trade Associations' meeting held on 19th December 1987

International Textile Machinery Shipment Statistics - ITMSS

PRESS RELEASE

New Textile Machinery shipments Down in 2012 But New Record in Circular Knitting Machines

After a sharp reduction in global shipments of new textile machinery in 2008 and 2009 as a result of the global financial and economic crisis in 2008/2009, deliveries of new textile machinery jumped in 2010 and 2011, in most cases to new record highs. In 2012 shipments of new textile machinery fell in most segments in comparison to 2011. Looking at the past few years shipments remained relatively high. In comparison to 2011 global shipments of new short-staple spindles and open-end rotors decreased by -27% and -21%, respectively, whereas shipments of long-staple spindles increased by +29%. Shipments of new draw-texturing spindles declined by -13%, of new shuttle-less looms by -44%, and of new electronic flat-knitting machines by -34%. On the other hand worldwide shipments of new large circular knitting machines increased in 2012 by +27%.

These are the main results of the 35th annual International Textile Machinery Shipment Statistics (ITMSS) just released by the International Textile Manufacturers Federation (ITMF). The report covers six segments of textile machinery, namely spinning, draw-texturing, weaving, large circular knitting, flat knitting and finishing machinery. The 2012 survey has been compiled in cooperation with some 122 textile machinery manufacturers, representing a comprehensive measure of world production.

Spinning Machinery

After shipments of new short-staple spindles plummeted in 2008 (-33%) and 2009 (-17%) they soared in 2010 (+75%) to pre-crisis levels and increased in 2011 by a further +15% reaching 14.33 million, an all-time high. In 2012 shipments of short-staple spindles fell by -27% to 10.51 million spindles. In 2012 94% of all shipped short-staple spindles were destined for Asia (9.91 million), with China alone absorbing 6.39 million or 65% of global shipments, followed by India as distant second (1.97 million spindles or 19%), Indonesia (594,000 or 5.7%), Turkey (441,000 or 4.2%) and Bangladesh (231,000 or 2.2%).

Global shipments of long-staple (wool) spindles soared in 2012 by +29% to 146,400. Europe was the main recipient (77,000 or 53%), followed by Asia (65,600 or 45%), the Americas (3,300 or 2.3%) and Africa (430 or 0.3%). The single biggest investor in long-staple (wool) spindles was Turkey (60,300), followed by Thailand (29,100), China (27,300), Italy (9,400) and Iran (6,800).

Investments in open-end rotors fell in 2012 by -21% to 451,200. Asia was once again by far the biggest investor in this spinning technology installing in total 408,260 new rotors or 90% of global shipments. By country, China was again by far the biggest single investor in rotors absorbing 363,950 or 81% of global shipments. India was again distant second with a total of 19,400 new open-end rotors (4.3%), followed by Turkey with 17,500 rotors (3.9%), Brazil with 11,100 rotors (2.5%), Uzbekistan with 8,900 rotors (2.0%) and Malaysia with 6,800 rotors (1.5%).

Texturing Machinery

In 2012 there were no shipments of single heater draw-texturing spindles (mainly used for polyamide filaments). From 2010 to 2011 shipments fell from 13,200 to 1,824 (-86%).

In the segment of double heater draw-texturing spindles (mainly used for polyester filaments) investments dropped from an all time high of 826,500 texturing spindles in 2011 to 717,800, a decrease of -13%. 90% of all shipments went to Asia.

By far the biggest single investor of this type of draw-texturing machinery was again China where 489,600 new spindles or 68% of global shipments were installed, followed by distant second India with 44,400 or 6.2%, Thailand and Japan with 36,500 or 5.1% each, and Turkey with 17,000 or 2.4%.

Weaving Machinery

Worldwide shipments of shuttle-less looms plummeted in 2012 to 86,450 machines, a fall of -44% from last year's record of 153,750. The main reason behind this development is the decline in shipments of water-jet looms. After a skyrocketing jump of +537% to 73,250 in 2010 and to 112,930 in 2011, which was partially due to the fact that more weaving machinery manufacturers reported for the first time in 2010, global deliveries of water-jet shuttle-less looms dropped by -65% to 39,920 machines in 2012. In the shuttle-less loom segment of rapier/projectile looms shipments increased from 19,250 in 2011 to 23,250 in 2012, an increase of +20%. Also deliveries of shuttle-less air-jet looms increased from 21,500 in 2011 to 23,300 in 2012 (+8%). As in previous years the main destination of shuttle-less looms was Asia, where 80,600 or 93% of all new shuttle-less looms were installed. Country-wise the biggest global investor was again China with 58,900 looms (68%), of which 34,400 were water-jet looms, 16,000 air-jet looms and 8,500 rapier/projectile looms. With 10,200 looms (12%) of global shipments India was the second biggest investor, followed by Indonesia with 3,730 (4.3%), Turkey with 2,570 looms (3.0%), Bangladesh with 1,600 (1.9%) and Korea with 1,350 looms (1.6%).

Circular & Flat Knitting Machinery

Global shipments of large circular knitting machines increased by +27% from 28,900 in 2011 to 36,650 in 2012 which set a new record. Also in this segment Asia was the main regional investor in this type of machinery absorbing 33,600 units or 92% of all machines shipped in 2012. The biggest single investor was once more China with a total of 28,280 (a global market share of 77%) followed by Turkey with 1,420 (or 3.9%), Indonesia with 1,350 (or 3.7%), India with 1,200 (or 3.3%) and Bangladesh with 735 (or 2.0%).

In the segment of electronic flat knitting machines, global shipments in 2012 dropped by -34% to 46,100 machines. The bulk of global shipments of electronic flat knitting machines was delivered to Asia (40,940 or 89%), while Europe's share (including Turkey) reached 10% (= 4,670 machines). The biggest single investor in 2012 was again China, where 33,040 new machines (72%) were installed, followed by Bangladesh with 4,360 (9.5%), Turkey with 2,660 (5.8%), Hong Kong with 1,090 (2.4%) and Italy with 826 (1.8%).

Finishing Machinery

The 2012 edition of ITMF's International Textile Machinery Shipments Statistics included for the eight time also data on finishing machinery (wovens and knits continuous machinery).

(Source: International Textile Manufacturers Federation)

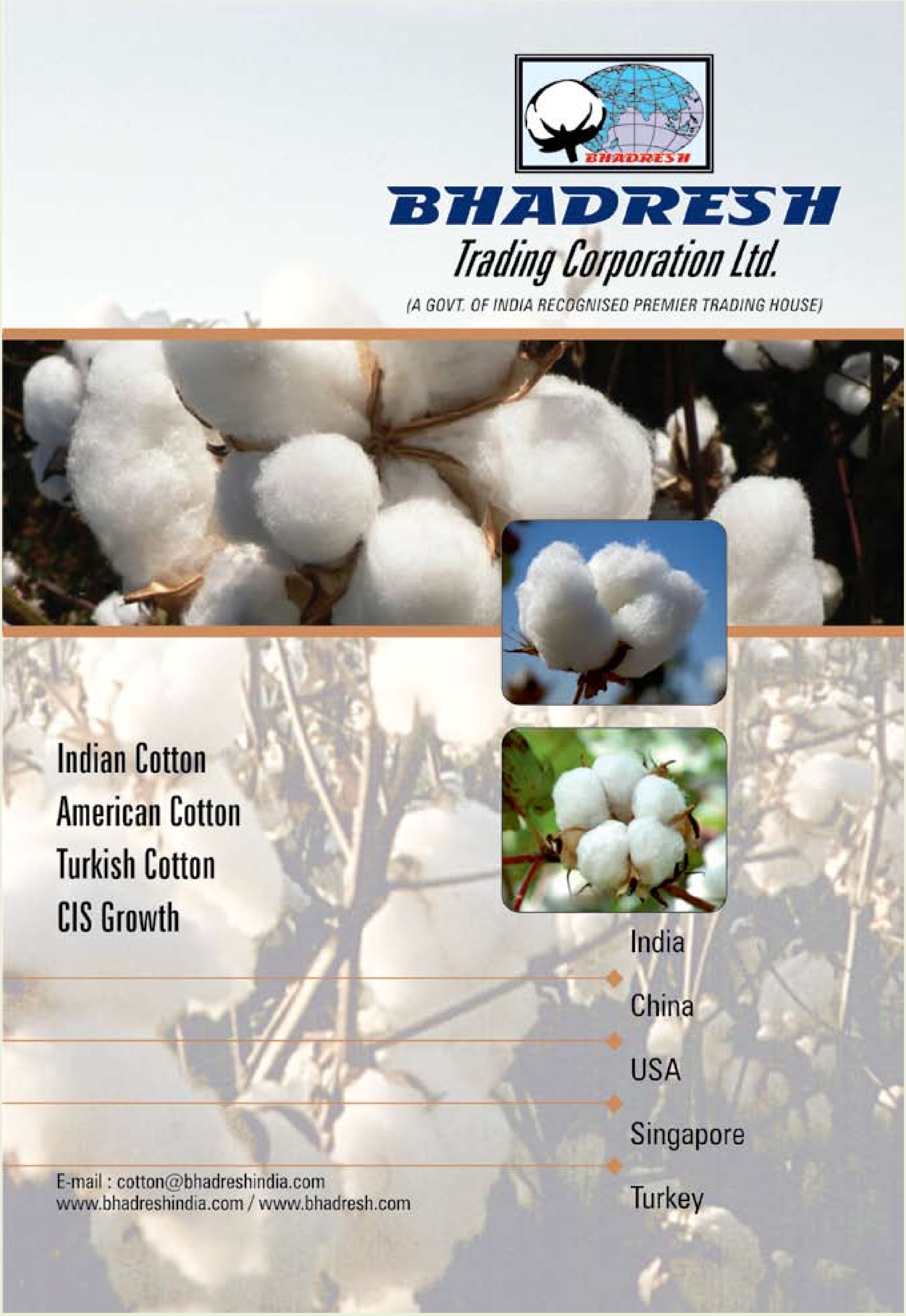
Update on Cotton Acreage (as on 13/06/2013)

Sl. No	States	Normal of Year*	Normal on Week**	Area Sown (During the corresponding week in)	
				2013	2012
1	2	3	4	5	6
1	Andhra Pradesh	20.09	0.4	1.53	0.21
2	Gujarat	26.97	1.63	0.42	0.92
3	Haryana	5.82	5.01	4.86	5.15
4	Karnataka	5.28	0.77	1.26	0.83
5	Madhya Pradesh	6.55	0.66	0.27	0
6	Maharashtra	40.71	0.9	0	0.85
7	Orissa	0.98	0.03	0	0
8	Punjab	5.24	5.5	5.03	5.16
9	Rajasthan	4.18	2.23	2.25	2.3
10	Tamil Nadu	1.28	0.05	0	0
11	Uttar Pradesh	0	0.23	0.23	0.3
12	West Bengal	0	0	0	0
13	Others	0.43	0	0	0
TOTAL		117.53	17.41	15.85	15.72

* *Normal area mentioned above is average of last three years*

** *It is average of last three years*

(Source: Directorate of Cotton Development, Mumbai)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Cotton Consumption - Cotton Year-wise

(In Lakh Bales)

Month	2006-07	2007-08	2008-09	2009-2010	2010-11	2011-12	2012-13 (P) Oct-Apr
October	17.33	18.32	16.54	18.13	22.09	17.77	21.95
November	17.81	16.94	16.94	18.47	21.09	18.34	20.94
December	18.49	18.86	17.98	19.49	22.57	20.13	22.75
January	18.22	18.54	16.93	19.54	22.1	20.33	22.95
February	17.11	18.14	16.23	18.81	20.23	20.31	22.08
March	18.39	18.45	17.51	20.01	21.77	20.38	23.34
April	18.06	17.98	17.12	20.53	20.17	20.31	22.83
May	17.89	18.95	17.83	20.93	18.64	21.27	
June	17.85	18.55	18.01	20.71	18.23	21.17	
July	18.42	18.5	18.98	22.11	19	22.14	
August	18.58	17.62	18.59	21.73	18.64	22.08	
September	18.03	16.9	18.29	21.42	21.71	21.46	
Total	216.18	217.75	210.96	241.88	246.23	245.47	156.84

(Source: Office of the Textile Commissioner)

UPCOUNTRY SPOT RATES (Rs./Qtl)

(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) 2012-13 Crop June 2013					
Sr. No.	Growth	Grade/ Standard	Grade	Staple	Micronaire	Strength /GPT	10th	11th	12th	13th	14th	15th
1	P/H/R	ICS-101	Fine	Below 22mm	5.0 – 7.0	15	10545 (37500)	10686 (38000)	10686 (38000)	10686 (38000)	10826 (38500)	10826 (38500)
2	P/H/R	ICS-201	Fine	Below 22mm	5.0 – 7.0	15	10798 (38400)	10939 (38900)	10939 (38900)	10939 (38900)	11079 (39400)	11079 (39400)
3	GUJ	ICS-102	Fine	22mm	4.0 – 6.0	20	7424 (26400)	7592 (27000)	7733 (27500)	7874 (28000)	7958 (28300)	8014 (28500)
4	KAR	ICS-103	Fine	23mm	4.0 – 5.5	21	8605 (30600)	8605 (30600)	8605 (30600)	8745 (31100)	8858 (31500)	8858 (31500)
5	M/M	ICS-104	Fine	24mm	4.0 – 5.5	23	9645 (34300)	9645 (34300)	9701 (34500)	9842 (35000)	9954 (35400)	10011 (35600)
6	P/H/R	ICS-202	Fine	26mm	3.5 – 4.9	26	10686 (38000)	10798 (38400)	10854 (38600)	10967 (39000)	11023 (39200)	11079 (39400)
7	M/M/A	ICS-105	Fine	26mm	3.0 – 3.4	25	9814 (34900)	9926 (35300)	9983 (35500)	9983 (35500)	10039 (35700)	10039 (35700)
8	M/M/A	ICS-105	Fine	26mm	3.5 – 4.9	25	10179 (36200)	10292 (36600)	10348 (36800)	10348 (36800)	10404 (37000)	10404 (37000)
9	P/H/R	ICS-105	Fine	27mm	3.5 – 4.9	26	10826 (38500)	10939 (38900)	10995 (39100)	11107 (39500)	11164 (39700)	11220 (39900)
10	M/M/A	ICS-105	Fine	27mm	3.0 – 3.4	26	10039 (35700)	10151 (36100)	10208 (36300)	10348 (36800)	10404 (37000)	10404 (37000)
11	M/M/A	ICS-105	Fine	27mm	3.5 – 4.9	26	10461 (37200)	10573 (37600)	10629 (37800)	10714 (38100)	10770 (38300)	10770 (38300)
12	P/H/R	ICS-105	Fine	28mm	3.5 – 4.9	27	10939 (38900)	11051 (39300)	11107 (39500)	11220 (39900)	11276 (40100)	11332 (40300)
13	M/M/A	ICS-105	Fine	28mm	3.5 – 4.9	27	10939 (38900)	11051 (39300)	11107 (39500)	11164 (39700)	11360 (40400)	11360 (40400)
14	GUJ	ICS-105	Fine	28mm	3.5 – 4.9	27	10854 (38600)	10967 (39000)	11023 (39200)	11079 (39400)	11276 (40100)	11276 (40100)
15	M/M/A/K	ICS-105	Fine	29mm	3.5 – 4.9	28	11023 (39200)	11135 (39600)	11192 (39800)	11192 (39800)	11389 (40500)	11389 (40500)
16	GUJ	ICS-105	Fine	29mm	3.5 – 4.9	28	10995 (39100)	11107 (39500)	11164 (39700)	11164 (39700)	11360 (40400)	11360 (40400)
17	M/M/A/K	ICS-105	Fine	30mm	3.5 – 4.9	29	11164 (39700)	11276 (40100)	11332 (40300)	11332 (40300)	11389 (40500)	11389 (40500)
18	M/M/A/K/T/O	ICS-105	Fine	31mm	3.5 – 4.9	30	11304 (40200)	11417 (40600)	11473 (40800)	11473 (40800)	11529 (41000)	11529 (41000)
19	K/A/T/O	ICS-106	Fine	32mm	3.5 – 4.9	31	11585 (41200)	11698 (41600)	11838 (42100)	11838 (42100)	11895 (42300)	11895 (42300)
20	M(P)/K/T	ICS-107	Fine	34mm	3.0 - 3.8	33	13638 (48500)	13779 (49000)	13919 (49500)	13919 (49500)	14060 (50000)	14060 (50000)

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