

Is Yield Always a Concern to Indian Cotton?

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translated technological information; yield and income of cotton growers can be enhanced. She has been dedicating since 2000 to the issue of Technology Transfer in Cotton through

conducting nationwide demonstrations and has been involved in studies on usage of Information and Communication tools viz., web portal, mobile phone, social media etc., in dissemination of agricultural technologies and gender mainstreaming in cotton sector.

It is common to consider yield as an indicator of production competitiveness for a country or an indicator of its profitability for the producers (Fok, 1998). The term "yield" refers to the agricultural output or productivity which is a measurement of the amount of crop grown and or seeds/ grains/ fruits /vegetables/ any



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produce obtained per unit of area harvested. The unit by which the yield of a crop is usually

> measured is kilograms per hectare. Usually, crop yield is measured through collecting production data from farmers through their recall, prediction assessment and recordings as well as objective measurements like crop cutting experiments, whole plot harvest, sampling, crop modeling, remote sensing, allometric models and

> > administrative records. Cotton crop in India is no exception for this.

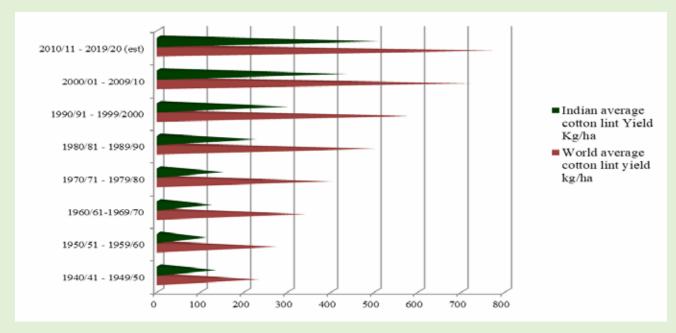
> > Cotton yield is a measurement of the amount of lint yield

(kg) and or seed cotton yield (kg) obtained per hectare. To increase the amount of lint yield acquired per hectare, the country has been endeavoring through various means since its independence. However, the cotton yield in India is always low compared to the world average and being stagnated for many years. Cotton yield in India has always been a concern in spite of introduction of improved cotton varieties/hybrids and transgenic cotton and improved agro techniques. This paper is an attempt of exploration either to justify or nullify the hypothesis that yield is always a concern pertaining to Indian cotton with published and empirical evidences.

Indian Cotton Scenario

India has been growing cotton for hundreds of years. Indian cotton fabric, Calico and Dhaka muslin cotton were world famous once. India has the ideal climate, suitable soil and toiling farmers to cultivate cotton. Every year India cultivates around 12 million hectares of cotton with 1.5 – 2.0 ha as average land holdings. India has the privilege for cultivating all four of the cultivable cotton species. Cotton in India is being cultivated in three different zones / hybrids, cotton production and protection technologies. The well-established extension system of the country has attempted to disseminate these technologies through many well-structured extension programs. Due to all these technological and developmental accomplishments, India could lead in acreage and production at worldwide for many years but not with its productivity. The cotton yield in India is always low compared to the world average and being stagnated for many years (Figure 1).

Figure 1 Decade - wise comparison between world average cotton lint yield and Indian average cotton lint yield



(Source: ICAC, Country Online dated 15.07.2020)

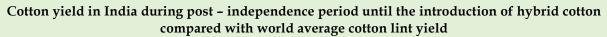
which have diverse agro ecological conditions. Cotton in India does not only satisfy half of the domestic needs of clothing but also earns considerable amount of foreign exchange. It has well-established research institutes, research network and extension wings both at public and private sectors. India has the vast experience of cultivating traditional desi cotton, improved varieties, hybrid cotton and transgenic cotton.

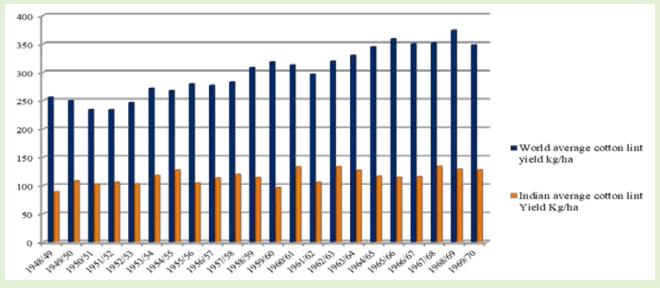
Presently, almost 95% of the cotton in India is hybrid cotton primarily Bt cotton hybrids. Around 40% of the Indian cotton is under irrigated condition predominantly in states like Punjab, Haryana, Rajasthan, Gujarat and Tamil Nadu. The cotton research institutions in India have released many improved varieties

Cotton yield in India during post – independence period until the introduction of hybrid cotton

post-independence During until the introduction of hybrid cotton in India, due to new research and development initiatives, the country witnessed several technology driven changes in quality and quantity of cotton produced. It reflected in the productivity and the average yield rose from 89 kg/ha in 1948 - 49 to 128 kg/ha in 1969-70 to a tune of 44 per cent (Figure 2). Extension campaigns called "Cotton Extension Scheme" and "Grow More Cotton" in the 1950s, development of high yielding varieties and agro chemical based production/protection technologies, Intensive Cotton Cultivation Scheme (ICCS) widely known as "Package

Figure 2





(Source: ICAC, Country Online dated 15.07.2020)

Program" and institutional developments in the 1960s and enabling policy measures, were the main reasons for yield improvement in this period. In spite of everything, Indian cotton lint yield certainly did not improve. The average India cotton lint yield (115 kg/ha) during this period was lesser than not even half of the world average cotton lint yield (300 kg/ha) and was a concern.

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

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Update on Cotton Acreage (As on 23.07.2020)

| | (Area in Lakh I | | | | | | | | | | |
|------------|------------------|----------------|---|--------------------|---------|---------|---------|---------|---------|--|--|
| | | Normal | Normal Area as on Date (2015-2019) | Area Covered (SDA) | | | | | | | |
| Sr. No. | State | Area (DES)* | | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16 | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | | |
| 1 | Andhra Pradesh | 6.56 | 6.45 | 3.42 | 1.55 | 2.29 | 3.10 | 2.27 | 2.04 | | |
| 2 | Telangana | 17.01 | 17.26 | 21.09 | 13.53 | 14.76 | 15.00 | 10.32 | 14.83 | | |
| 3 | Gujarat | 26.04 | 26.32 | 21.48 | 21.43 | 17.23 | 24.47 | 17.61 | 23.45 | | |
| 4 | Haryana | 6.07 | 6.41 | 7.37 | 6.76 | 6.65 | 6.56 | 4.98 | 5.81 | | |
| 5 | Karnataka | 6.47 | 6.58 | 4.20 | 2.17 | 2.58 | 3.55 | 3.62 | 3.46 | | |
| 6 | Madhya Pradesh | 5.65 | 5.85 | 6.22 | 5.73 | 5.24 | 5.57 | 5.24 | 5.31 | | |
| 7 | Maharashtra | 41.48 | 41.53 | 40.78 | 33.22 | 35.01 | 35.53 | 35.52 | 35.28 | | |
| 8 | Odisha | 1.31 | 1.38 | 1.57 | 1.28 | 1.04 | 1.31 | 0.80 | 1.11 | | |
| 9 | Punjab | 3.56 | 3.21 | 5.01 | 4.02 | 2.84 | 3.85 | 2.56 | 4.50 | | |
| 10 | Rajasthan | 4.77 | 5.24 | 6.64 | 6.36 | 4.86 | 5.01 | 3.74 | 3.49 | | |
| 11 | Tamil Nadu | 1.61 | 1.57 | 0.05 | 0.03 | 0.04 | 0.03 | 0.03 | 0.03 | | |
| 12 | Others | 0.43 | 0.46 | 0.22 | 0.27 | 0.17 | 0.29 | 0.17 | 0.21 | | |
| | All India | 120.97 | 122.27 | 118.03 | 96.35 | 92.70 | 104.27 | 86.86 | 99.52 | | |

* Directorate of Economics & Statistics, Ministry of Agriculture and Farmers Welfare, Krishi Bhavan, New Delhi Source : Directorate of Cotton Development, Nagpur

4 • 28th July, 2020

CAI Increases its Crop Estimate for the Cotton Season 2019-20 to 335.50 Lakh Bales

otton Association of India (CAI) has released its June estimate of the cotton crop for the season 2019-20 beginning from 1st October 2019. The CAI has increased its cotton crop estimate for 2019-20 to 335.50 bales of 170 Kgs. each compared to its previous estimate of 330 lakh bales made during the last month. The cotton crop finalised by the CAI for the last year i.e. for the crop year 2018-19 was 312.00 lakh bales of 170 kgs. each. A statement containing the State-wise estimate of the cotton crop and the balance sheet as on 30th September 2020 drawn by the Crop Committee of the CAI with the corresponding data for 2018-19 crop year are given below.

The Crop Committee of the Association has estimated total cotton supply till end of the cotton season i.e. upto 30th September 2020 at 382.50 lakh bales of 170 Kgs. each which consists of the Opening Stock of 32.00 lakh bales at the beginning of the cotton season on 1st October 2019, crop for the season estimated at 335.50 lakh bales and imports estimated by the CAI at 15.00 lakh bales. The imports are estimated to be lower by 17.00 lakh bales compared to the previous year's estimate of 32.00 lakh bales.

Domestic consumption for the entire crop year i.e. upto 30th September 2020 has been estimated at 280.00 lakh bales i.e. at the same level as estimated in the last month. The consumption for the crop year 2019-20 was earlier estimated by the CAI at 331.00 lakh bales but the same was later reduced by 51.00 lakh bales due to the lower consumption of cotton on account of disruptions caused by the COVID-19 Pandemic in the country. The CAI has retained its export estimate for the season at the same level as estimated in the previous month i.e. at 47 lakh bales against 42.00 lakh bales estimated earlier. The increase of 5.00 lakh bales in the export estimate than estimated in the previous year was made looking to the favourable conditions existing for exports of cotton from India. The carryover stock estimated at the end of the season is 55.50 lakh bales.

Highlights of Deliberations held by the Crop Committee of Cotton Association of India on 27th July 2020

Crop Committee of Cotton Association of India (CAI) has arrived at its June estimate of the cotton crop for the 2019-20 season beginning on 1st October 2019 and drawn estimated cotton balance sheet based on the data available from various trade sources, upcountry associations and other stakeholders.

The following are the highlights of deliberations of the Crop Committee of the CAI:

1) CONSUMPTION

The CAI has retained its consumption estimate for the current crop year at the same level as estimated in the last month i.e. 280.00 lakh bales. The consumption for the Season was previously estimated at 331.00 bales but the same was later reduced by 51 lakh bales to 280 lakh bales due to the disruptions caused on account of lockdown and the shortage of labour.

The members of the CAI Crop Committee will monitor consumption figures very closely and if any increase or decrease is required to be made in the estimate of cotton consumption, the same will be made in the crop reports for the months of July and August.

2) **PRODUCTION**

The CAI has increased its cotton production estimate for the season 2019-20 by 5.50 lakh bales to 335.50 lakh bales as against its production estimate of 330 lakh bales made during the last month. The production estimate for the North zone has been increased by 1 lakh bales (i.e. 50,000 bales each for the States of Haryana and Lower Rajasthan) while the production estimate for the Central zone has been increased by 4 lakh bales (i.e. 3.50 lakh bales for the State of Maharashtra and 50,000 for the State of Madhya Pradesh). The production estimate for the South zone has also been increased by 50,000 bales (i.e. 25,000 bales each for Andhra Pradesh and Karnataka compared to the crop estimates for these states made during the last month.

The Committee members will have a close watch on the cotton arrivals of the months of July and August and if any addition or reduction is required to be made in the production estimate, the same will be made in the crop reports for the months of July and August.

3) IMPORTS

The estimate of the cotton imports into India has been maintained by the CAI at the same level as estimated in the previous month i.e. at 15.00 lakh bales. This import estimate is lower by 17.00 lakh bales compared to that estimated for the last year.

4) EXPORTS

The CAI has retained its export estimate at the same level as estimated by it in the previous month i.e. at 47.00 lakh bales against the previous year's exports estimate of 42.00 lakh bales.

5) ARRIVALS

Indian cotton arrivals during the months of October 2019 to June 2020 are estimated at 327.02 lakh bales of 170 K.gs. each which are equivalent to 347.46 lakh running bales of 160 kgs. each.

6) CLOSING STOCK AS ON 30TH SEPTEMBER

Closing stock as on 30th September 2020 is estimated by the Committee at 55.50 lakh bales of 170 K.gs. each which is equivalent to about 59 lakh running bales of 160 kgs. each.

The meeting of the CAI Crop Committee has taken place on WhatsApp and more than 20 Members have participated.

7) CAI has convened a meeting of all 30 members of the Crop Committee in the 3rd week of August to finalise the figures of Production, Consumption, Import, Export and Carry-over Stock. Due to this, monthly Balance Sheet and Stock figures are not provided with this estimate.

CAI's Estimates of Cotton Crop as on 30th June 2020 for the Seasons 2019-20 and 2018-19

(in lakh bales of 170 kg.)

| | Produc | | Arrivals as on 30th June 2020 (2019-20) | | |
|--------------------|---------|---------|---|--|--|
| State | 2019-20 | 2018-19 | | | |
| Punjab | 9.50 | 8.50 | 9.17 | | |
| Haryana | 24.50 | 23.00 | 24.00 | | |
| Upper Rajasthan | 12.00 | 13.35 | 11.90 | | |
| Lower Rajasthan | 14.00 | 14.65 | 13.80 | | |
| Total North Zone | 60.00 | 59.50 | 58.87 | | |
| Gujarat | 85.00 | 88.00 | 80.00 | | |
| Maharashtra | 80.00 | 70.00 | 79.70 | | |
| Madhya Pradesh | 16.50 | 22.63 | 16.50 | | |
| Total Central Zone | 181.50 | 180.63 | 176.20 | | |
| Telangana | 51.00 | 35.20 | 51.00 | | |
| Andhra Pradesh | 14.25 | 11.85 | 14.20 | | |
| Karnataka | 18.75 | 15.50 | 18.50 | | |
| Tamil Nadu | 5.00 | 5.00 | 3.50 | | |
| Total South Zone | 89.00 | 67.55 | 87.20 | | |
| Orissa | 4.00 | 3.32 | 3.75 | | |
| Others | 1.00 | 1.00 | 1.00 | | |
| Total | 335.50 | 312.00 | 327.02 | | |

* Including loose

The Balance Sheet drawn by the Association for 2019-20 and 2018-19 is reproduced below:-*(in lakh bales of 170 kg.)*

| Details | 2019-20 | 2018-19 | | |
|--------------------------|---------|---------|--|--|
| Opening Stock | 32.00 | 33.00 | | |
| Production | 335.50 | 312.00 | | |
| Imports | 15.00 | 32.00 | | |
| Total Supply | 382.50 | 377.00 | | |
| Mill Consumption | 243.00 | 274.50 | | |
| Consumption by SSI Units | 21.00 | 25.00 | | |
| Non-Mill Use | 16.00 | 12.00 | | |
| Total Domestic Demand | 280.00 | 311.50 | | |
| Available Surplus | 102.50 | 65.50 | | |
| Exports | 47.00 | 42.00 | | |
| Closing Stock | 55.50 | 23.50 | | |

All India Weather Summary and Forecast

Current Meteorological Conditions

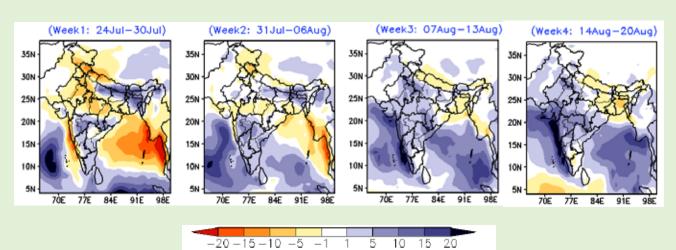
✤ The western end of the monsoon trough at mean sea level lies close to the foothills of the Himalayas and the eastern end is near its normal position. The western end of the monsoon trough is likely to shift southward towards its normal position around 25th July, 2020 onwards. The eastern end of the monsoon trough is likely to shift close to foothills of Himalayas from 26th July, 2020 onwards.

Forecast & Warnings

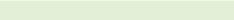
✤ Fairly widespread to widespread rainfall activity with isolated heavy to very heavy falls very

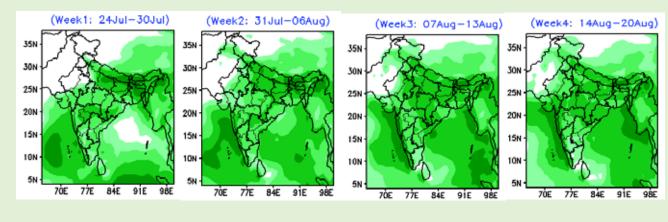
likely over Uttarakhand, Himachal Pradesh, Uttar Pradesh and Bihar during 26th - 28th July and over Punjab & Haryana during 27th – 29th July, 2020.

✤ The intensity and distribution of rainfall is very likely to increase over Sub-Himalyan West Bengal, Assam, Meghalaya and Arunachal Pradesh with occurrence of widespread rainfall activity along with isolated heavy to extremely heavy rainfall during 26th - 29th July, 2020. Isolated heavy to very heavy rainfall is also likely to occur over Nagaland, Manipur, Mizoram & Tripura during the same period

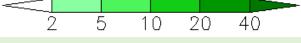


Forecast Rainfall Anomaly (mm/day)





Forecast Rainfall (mm/day)



Since 1921, we are dedicated to the cause of Indian cotton.

Just one of the reasons, you should use our Laboratory Testing Services.

The Cotton Association of India (CAI) is respected as the chief trade body in the hierarchy of the Indian cotton economy. Since its origin in 1921, CAI's contribution has been unparalleled in the development of cotton across India.

The CAI is setting benchmarks across a wide spectrum of services targeting the entire cotton value chain. These range from research and development at the grass root level to education, providing an arbitration mechanism, maintaining Indian cotton grade standards, issuing Certificates of Origin to collecting and disseminating statistics and information. Moreover, CAI is an autonomous organization portraying professionalism and reliability in cotton testing.

The CAI's network of independent cotton testing & research laboratories are strategically spread across major cotton centres in India and are equipped with:

- State-of-the-art technology & world-class Premier and MAG cotton testing machines
- HVI test mode with trash% tested gravimetrically

LABORATORY LOCATIONS

Current locations : • Maharashtra : Mumbai; Yavatmal; Aurangabad • Gujarat : Rajkot; Kadi; Ahmedabad • Andhra Pradesh : Adoni • Madhya Pradesh : Khargone • Karnataka : Hubli • Punjab : Bathinda • Telangana: Warangal, Adilabad



COTTON ASSOCIATION OF INDIA

Cotton Exchange Building, 2nd Floor, Opposite Cotton Green Railway Station, Cotton Green (East), Mumbai - 400 033, Maharashtra, INDIA Tel.: +91 22-2370 4401/02/03/04 • E-mail:cai@caionline.in • www.caionline.in

| UPCOUNTRY SPOT RATES (Rs./Qtl) | | | | | | | | | .s./Qtl) | | | | |
|--------------------------------|--|-------------------|-------|---------------|------------|----------------------|------------------|---|------------------|------------------|------------------|------------------|------------------|
| | Standard Descriptions with Basic Grade & Staple in Millimetres based on Upper Half Mean Length [By law 66 (A) (a) (4)] | | | | | | | Spot Rate (Upcountry) 2019-20 Crop July 2020 | | | | | |
| Sr. No | . Growth | Grade Standard | Grade | | Micronaire | Gravimetric Trash | Strength /GPT | 20th | 21st | 22nd | 23rd | 24th | 25th |
| 1 | P/H/R | ICS-101 | Fine | Below 22mm | 5.0 - 7.0 | 4% | 15 | 10292 (36600) | 10292 (36600) | 10292 (36600) | 10292 (36600) | 10292 (36600) | 10292 (36600) |
| 2 | P/H/R (SG) | ICS-201 | Fine | Below 22mm | 5.0 - 7.0 | 4.5% | 15 | 10489 (37300) | 10489 (37300) | 10489 (37300) | 10489 (37300) | 10489 (37300) | 10489 (37300) |
| 3 | GUJ | ICS-102 | Fine | 22mm | 4.0 - 6.0 | 13% | 20 | 5849 (20800) | 5849 (20800) | 5849 (20800) | 5849 (20800) | 5849 (20800) | 5849 (20800) |
| 4 | KAR | ICS-103 | Fine | 23mm | 4.0 - 5.5 | 4.5% | 21 | 7030 (25000) | 7030 (25000) | 7030 (25000) | 7030 (25000) | 7030 (25000) | 7030 (25000) |
| 5 | M/M (P) | ICS-104 | Fine | 24mm | 4.0 - 5.5 | 4% | 23 | 8155 (29000) | 8155 (29000) | 8155 (29000) | 8155 (29000) | 8155 (29000) | 8155 (29000) |
| 6 | P/H/ R (U) (SG) | ICS-202 | Fine | 27mm | 3.5 - 4.9 | 4.5% | 26 | 9420 (33500) | 9448 (33600) | 9448 (33600) | 9448 (33600) | 9420 (33500) | 9392 (33400) |
| 7 | M/M(P)/ SA/TL | ICS-105 | Fine | 26mm | 3.0 - 3.4 | 4% | 25 | 7199 (25600) | 7227 (25700) | 7227 (25700) | 7227 (25700) | 7227 (25700) | 7227 (25700) |
| 8 | P/H/R(U) | ICS-105 | Fine | 27mm | 3.5 - 4.9 | 4% | 26 | 9533 (33900) | 9561 (34000) | 9561 (34000) | 9561 (34000) | 9561 (34000) | 9533 (33900) |
| 9 | M/M(P)/ SA/TL/G | ICS-105 | Fine | 27mm | 3.0 - 3.4 | 4% | 25 | 7592 (27000) | 7592 (27000) | 7592 (27000) | 7592 (27000) | 7592 (27000) | 7592 (27000) |
| 10 | M/M(P)/ SA/TL | ICS-105 | Fine | 27mm | 3.5 - 4.9 | 3.5% | 26 | 8802 (31300) | 8802 (31300) | 8802 (31300) | 8802 (31300) | 8802 (31300) | 8802 (31300) |
| 11 | P/H/R(U) | ICS-105 | Fine | 28mm | 3.5 - 4.9 | 4% | 27 | 9617 (34200) | 9645 (34300) | 9645 (34300) | 9645 (34300) | 9617 (34200) | 9589 (34100) |
| 12 | M/M(P) | ICS-105 | Fine | 28mm | 3.7 - 4.5 | 3.5% | 27 | 9505 (33800) | 9533 (33900) | 9533 (33900) | 9533 (33900) | 9505 (33800) | 9476 (33700) |
| 13 | SA/TL | ICS-105 | Fine | 28mm | 3.7 - 4.5 | 3.5% | 27 | 9589 (34100) | 9617 (34200) | 9617 (34200) | 9617 (34200) | 9617 (34200) | 9589 (34100) |
| 14 | GUJ | ICS-105 | Fine | 28mm | 3.7 - 4.5 | 3% | 27 | 9561 (34000) | 9589 (34100) | 9589 (34100) | 9589 (34100) | 9561 (34000) | 9533 (33900) |
| 15 | R(L) | ICS-105 | Fine | 29mm | 3.7 - 4.5 | 3.5% | 28 | 9701 (34500) | 9729 (34600) | 9729 (34600) | 9729 (34600) | 9701 (34500) | 9673 (34400) |
| 16 | M/M(P) | ICS-105 | Fine | 29mm | 3.7 - 4.5 | 3.5% | 28 | 9814 (34900) | 9842 (35000) | 9842 (35000) | 9842 (35000) | 9814 (34900) | 9786 (34800) |
| 17 | SA/TL/K | ICS-105 | Fine | 29mm | 3.7 - 4.5 | 3% | 28 | 9870 35100 | 9898 35200 | 9898 35200 | 9898 35200 | 9870 35100 | 9842 35000 |
| 18 | GUJ | ICS-105 | Fine | 29mm | 3.7 - 4.5 | 3% | 28 | 9842 (35000) | 9870 (35100) | 9870 (35100) | 9870 (35100) | 9842 (35000) | 9814 (34900) |
| 19 | M/M(P) | ICS-105 | Fine | 30mm | 3.7 - 4.5 | 3.5% | 29 | 10067 (35800) | 10095 (35900) | 10095 (35900) | 10095 (35900) | 10039 (35700) | 10011 (35600) |
| 20 | SA/TL/K/O | ICS-105 | Fine | 30mm | 3.7 - 4.5 | 3% | 29 | 10123 (36000) | 10151 (36100) | 10151 (36100) | 10151 (36100) | 10123 (36000) | 10095 (35900) |
| 21 | M/M(P) | ICS-105 | Fine | 31mm | 3.7 - 4.5 | 3% | 30 | 10208 (36300) | 10236 (36400) | 10236 (36400) | 10236 (36400) | 10236 (36400) | 10208 (36300) |
| 22 | SA/TL/ K / TN/O | ICS-105 | Fine | 31mm | 3.7 - 4.5 | 3% | 30 | 10264 (36500) | 10292 (36600) | 10292 (36600) | 10292 (36600) | 10264 (36500) | 10236 (36400) |
| 23 | SA/TL/K/ TN/O | ICS-106 | Fine | 32mm | 3.5 - 4.2 | 3% | 31 | 10461 (37200) | 10489 (37300) | 10489 (37300) | 10489 (37300) | 10489 (37300) | 10461 (37200) |
| 24 | M/M(P) | ICS-107 | Fine | 34mm | 3.0 - 3.8 | 4% | 33 | 14763 (52500) | 14763 (52500) | 14763 (52500) | 14763 (52500) | 14763 (52500) | 14763 (52500) |
| 25 | K/TN | ICS-107 | Fine | 34mm | 3.0 - 3.8 | 3.5% | 33 | 15185 (54000) | 15185 (54000) | 15185 (54000) | 15185 (54000) | 15185 (54000) | 15185 (54000) |

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