# Ancient Global Myths Confirming the Existence of the Cotton Plant 

Dr. T.R. Lokanathan has a Ph. D. in plant breeding. He is currently working as a Principal Scientist in the Division of Crop Improvement at ICAR-CICR, Nagpur. He is pursuing his research on genetic enhancement of cotton.
land of Tartary, spreading far into Siberia under the reign of the Scythian Empire at that time. The tree was known as the "Tartar of the east" formerly called "Scythia". This story of the wonderful plant which bore living lambs for its fruit and grew in Tartary was brought into public notice in England during the reign of Edward III by Sir John Mandeville. The natives of that country wore garments and head dresses prepared from the fleeces of these lambs of surpassing whiteness as snow. Sir John Mandeville appears to have never known of such a strange existence of the plant before but reports of its presence have been traced back at least eighteen hundred years earlier than that he has mentioned.

The chronology of the discovery goes way back from 1330 when Odoricus of Friuli returned from the mountain of Capsius (the province called "Kalor" in Tartary) and spread the news of the existence of barometz (described both as tree animal and a living plant), to the era of John Mandeville's discovery. However the mention of the existence of such a botanical curiosity has been
made in many sacred texts dating 445 BC by Herodotus in Greek and many other works as given in Table 1.

Table1. Chronology of the prevalence of the cotton myth as described by various explorers

| $\begin{aligned} & \text { Sr. } \\ & \text { No. } \end{aligned}$ | Name of the book/treatise | Name of the author | Year (AD unless mentioned) |
| :---: | :---: | :---: | :---: |
| 1 | Ii. Cap 106 | Heredotus | 445 BC |
| 2 | Indica (mentions tree garments) | Ctesias | $\begin{aligned} & \text { 404-398/397 } \\ & \text { B.C. } \end{aligned}$ |
| 3 | Journal of narrative- Nearchus-lost | Nearchus | 325-324 BC |
| 4 | De Historia Plantarum lib IV Cap 4 ( more vivid description of cotton planting) | Theophrastus ( disciple of Aristotle | 306 BC |
| 5 | Historia Plantarum | Theoprhastus, lib IV. Cap. 4 | 306 BC |
| 6 | Geographia | Strabo | 21 |
| 7 | Di, Situ Orbis, lib III. Cap. 7 | Pomponius Mela (account of India) | 43 |
| 8 | Naturalis Historia | Pliny | 77 |
| 9 | Historia indica and Periphus Maris Erythrai ( contains valuable expeditions) | Fabius Arriamus | 131-135 |
| 10 | Talmud Lerosa Limitanum ( Hebrew) | Rabi Jochanan | 436 |
| 11 | The Journal of Frior Odoricus of Friuli ( Hakluyt collections of early voyages vol II (18O9) | Odoricus of Friuli | 1330 |
| 12 | The voiyage and travail | Sir John Mandeville | 1357-1371 |
| 13 | Notes on Russia- "Perum Muscovituanum commentarii, 1549 | Sigismund, Baron von Herberstein | 1517 \& 1526 |
| 14 | De Spenneo Viventinium lib 3 cap 45 | Fortunio Liyati Prof. Of Padua | 1518 |
| 15 | De Krum Natura | Sigismund von Herberstein | 1557 |
| 16 | Exotercarum Excercitationum, lib XV " De subtillitate ad Heironymum cardanum Exercit, 181, cap.29, Frankfurt, 1157 | Julius Caesar Scaliger | 1557 |
| 17 | Liber de Carsis, seus de Principis et Originibus, Nature, c. | Guillaume Postel | 1557 |
| 18 | "La Semaine" - Poem (Adam and Eve got excited about the plant they spot in 'Garden of Eden' | Gulliame De Saluste | 1578 |
| 19 | Translator of 'Du Bartes- His Divine Weekes and Workes | Joshua Sylvester | 1584 |
| 20 | Historie Admirable de Plantes | Claude Duret | 1605 |
| 21 | Historia Nature (Antwerp) | Juan Eusebio, Nieremberg | 1605 |
| 22 | Maines sive de arte magnetic opus trigartum | Athanasaius Kircher, Prof. of Mathemali Avignon | 1641 |
| 23 | Fasciculus Dissertation Sibetrum, p. 598 | Antonio Deusinges, Prof. of Medeoni, Rector \& Univer. of Gruningen | 1660 |
| 24 | Philosophical Translations | Robert Murray FRS | 1678 |
| 25 | Voyages de Jean de Struys en Muscuvie, en Tartari et en Perse Chap XII, p. 167 Amsterdam; also in English translation from Dutch, by John Morrison, London, 1684 | Jans Janszoon Strauss, a Dutch man known as Jean de Struys | 1681 |
| 26 | Amanitatum Exoticarum politico-physico medicarum fasciculi. X., lib.3, obs 1. Lemgo, 1712, Kaempfers MSS and collection were acquired by Hans Loane and were deposited in British Museum | Dr. Engelbrecht Kempfer | 1683 |
| 27 | Philosophical Translations. Vol XX. P. 861 and Louthorp's Abridgement of the Phi. Trans. Vol II p. 649 | Sir Hans Loane | 1698 |
| 28 | A new book in Geography | Massimo Tobia | 1705 |
| 29 | Travels from St. Petersberg in Russia to various parts of Asia, in 1716, 1719, 1722 by John Bell, Autermony, Dedicated to the Governor, Court of Anissa, and Freeman of Russia, London, 1764. | John Bell of Autermony | 1715-1722 |
| 30 | Communicated in Latin on the subject - Dissetiencula cle Agno Vegetalii Scythio Borametz, vulgo,: dicto. '-Phils. trans. vol VI.p. 307 | John Philip Breyn of Dontzii | 1725 |
| 31 | Voyages en Siberie, Paris. | Able Chaupe- Autoroche | 1768 |


| 32 | The Botanical Garden', a poem into two parts with philosophical <br> notes | Dr. Erasmus Darwin | 1781 |
| :--- | :--- | :--- | :--- |
| 33 | Floro. Cochinchinensis.ter.,1.p.675, Lisbon, 1790. | Juan de Louveiro, Portuguese <br> botanist (Fellow of the Royal <br> Society, Lisbon, travelled in Cochin <br> China, China | 1790 |
| 34 | Connubia florum Latino Carmine Demonstrata. Bath 1791. (Latin <br> poem) Dr. De La Cruix, the botanical author, 1791. | Bishop Atterbury | 1791 |
| 35 | The cotton manufacturers of Great Britain, p.71 | Dr. Ure | 1836 |
| 36 | Synopsis Filicum; Arb: Dicksonia barometz | Sir W. J. Hooker and J. G. Baker | 1863 |

For many years the cotton plant was perceived as a "zoophyte", pertaining to the animal kingdom. In September 1725, Dr. John Philip Breyn of Dantzic addressed the Royal Society of London and describing a specimen of the barometz, expressed his disbelief at the existence of such a mythical plant! This substance of artificial animal exhibited by Sir Hans Sloane and Dr. Breyen conferred the long root of the genus "Dicksonia". This species of Dicksonia is assumed to have given rise to the fable of "Scythian lamb" which further led to the name as barometz. It is further mentioned that doll lambs were made native to Southern China, Assam, Malayan Peninsula and the islands as quoted by Sir J.W. Hooker and J.H. Baker in 1863.

Juan de Lourere, an accomplished Portugese botanist and Fellow of the Royal Society of London who lived and laboured as a Catholic missionary in the then Cochin China for more than thirty years and afterwards for three years in China mentions, "The polypodium barometz grows in hilly woods of China , Cochin China."

Many others have written of the Scythian lamb or the barometz. Thus the conception and transition of this curious fact of the existence of the Scythian lamb to the origin of the cotton plant went through numerous interpretations based on many expeditions to the land of Tartary or the Scythia. The Scythian empire spread across the Caucasian mountains, Siberia and down South beyond the Himalayas, the portion of which was called Indo-Scythia. It was here towards the Indus, when Narcheus the Rear Admiral of Alexander's the forces noticed a strange set of people who were wearing white garments presumed to be made of cotton wool. Thus John Mandeville eventually agreed with the idea that cotton existed as a plant (Gossypium herbaceum), known as levant cotton since the antiquity was more often queried by the early explorers in Europe and far Asia.

However, the earlier existence of cotton has been in mentioned in the Rig Veda, an ancient Indian epic depicting the use of cotton thread by Brahmans for religious ceremonies, the use of Sana (Crotolaria juncea, Hibiscus canabinus) by Kshatriyas and use of wool by Vaisiyas for religious ceremonies as quoted by John Royle (1851) in On the Culture and Commerce of Cotton in India. Interestingly, in another mention by Mathew (1916) in his book, Textile Fibres, has written that the earliest mention of cotton appears in a sacred text Asvalayana Srantra Seitra about 100 B.C. The books of Manu reveal that the sacred thread of the Brahmin must be made of cotton (karpas) so as to put over the head in three strings (Book II, No.44), let a weaver who has received 10 palas of cotton thread give it back increased to 11 by the rice-water and the like used in weaving; he who does otherwise shall pay a fine of 12 palas (Book VIII, No. 307), theft of cotton thread was made punishable by fines of three times the value of the article (Book VIII, 236) .

The original book by Henry Lee bears the photos revealing the myth of the cotton plant. The above narrated brief depiction in the text suffices to explain the existence of the myth of the cotton plant prevailing for centuries.

## Suggested Reading :

1. The Vegetable land of Tartary, a curious fable of the cotton plant (to which is added), A sketch of the history of cotton and cotton trade. By Henry Lee, 1887, Publ. Sampson Low, Marston, Searle \& Rivington, London.
2. Wikipedia : The Vegetable Lamb of Tartary by Henry Lee
(The views expressed in this column are of the author and not that of Cotton Association of India)

## Excerpts from India Meteorological Department's Weather Report of August 31, 2017

Highlights of the past week (24th - 30th Aug.2017)

- Under the influence of a remnant cyclonic circulation from the east, a low pressure area formed
over northwest Bay of Bengal and neighbourhood on 27th evening. It traversed nearly westwards across central India and became well marked during 28th - 30th Aug.


## भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



LEGEND: $\square$ L. EXCESS $[+60 \%$ OR MORE $\square$ EXCESS $[+20 \%$ TO $+59 \% \square$ NORMAL $[+19 \%$ TO $-19 \%$ $\square$ DEFICIENT $-20 \%$ T0-59\% $\square$ L. DEFICIENT $-60 \%$ TO -99\% $\square$ NO RAIN $(-100 \%) \square$ NO DATA
NOTES:
(a) Rainfall figures are based on operational data.
(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall [mm.) Percentage Departures of Rainfall are shown in Brackets.

## Rainfall Anomaly (mm/day)



As a consequence, monsoon trough also remained to the south of its normal position and active / vigorous monsoon conditions prevailed over parts of central belt and peninsular India.

- This helped in compensating the rainfall deficiency prevailed over some of these regions.
- The week recorded an above normal rainfall of $24 \%$ for the country as a whole. The meteorological sub-divisions viz., Konkan \& Goa, Madhya Maharashtra, Gujarat region \& Saurashtra \& Kutch experienced extremely heavy rainfall on

28th \& 29th Aug. Mumbai (Santacruz) reported 33.1 cm rainfall for the 24 hour period ending on 30th Aug.

## Outlook for next week

(7th Sept- 13th Sept. 2017)

- South peninsula and parts of eastern coastal states and NE states likely to receive fairly widespread to widespread rainfall.
- Isolated to scattered rainfall activity likely to occur over most parts of central India, northwest India and northern plains.

Rainfall Distribution (01.06.2017 to 01.09.2017)

| Sr . <br> No. | State | Day 01.09.2017 |  |  |  | Period 01.06.2017 to 01.09.2017 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Actual (mm) | Normal (mm) | \% Dep. | Cat. | Actual (mm) | Normal (mm) | \% Dep. | Cat. |
| 1 | Punjab | 15.4 | 3.3 | 367\% | LE | 339.5 | 404.1 | -16\% | N |
| 2 | Haryana | 18.4 | 3.8 | 384\% | LE | 278.5 | 383.4 | -27\% | D |
| 3 | West Rajasthan | 7.7 | 1.8 | 327\% | LE | 351.5 | 223.7 | 57\% | E |
|  | East Rajasthan | 4.1 | 7.2 | -42\% | D | 523.7 | 523.3 | 0\% | N |
| 4 | Gujarat | 4.4 | 7.1 | -38\% | D | 750.6 | 566.3 | 33\% | E |
|  | Saurashtra \& Kutch | 4.8 | 3.7 | 31\% | E | 609.3 | 405.2 | 50\% | E |
| 5 | Maharashtra | 0.9 | 8.8 | -89\% | LD | 808.3 | 836.1 | -3\% | N |
|  | Madhya Maharashtra | 0.4 | 6.1 | -93\% | LD | 663.4 | 583.0 | 14\% | N |
|  | Marathwada | 0.0 | 7.6 | -100\% | NR | 495.5 | 526.3 | -6\% | N |
|  | Vidarbha | 0.7 | 8.9 | -92\% | LD | 599.0 | 794.5 | -25\% | D |
| 6 | West Madhya Pradesh | 0.7 | 9.1 | -93\% | LD | 588.2 | 714.8 | -18\% | N |
|  | East Madhya Pradesh | 2.6 | 10.5 | -75\% | LD | 653.4 | 861.7 | -24\% | D |
| 7 | Telangana | 0.5 | 5.7 | -90\% | LD | 544.9 | 598.6 | -9\% | N |
| 8 | Coastal Andhra Pradesh | 0.3 | 4.9 | -93\% | LD | 523.9 | 426.9 | 23\% | E |
|  | Rayalseema | 8.2 | 2.9 | 182\% | LE | 320.9 | 268.1 | 20\% | E |
| 9 | Coastal Karnataka | 3.5 | 12.7 | -72\% | LD | 2280.6 | 2795.6 | -18\% | N |
|  | N.I. Karnataka | 1.3 | 3.2 | -59\% | D | 317.1 | 363.2 | -13\% | N |
|  | S.I. Karnataka | 5.4 | 3.9 | 39\% | E | 422.8 | 522.9 | -19\% | N |
| 10 | Tamil Nadu \& Pondicherry | 5.7 | 3.2 | 78\% | LE | 254.8 | 204.6 | 25\% | E |
| 11 | Orissa | 5.8 | 7.5 | -23\% | D | 865.9 | 920.7 | -6\% | N |

[^0]|  |
| :---: |
|  |  |＋

$\stackrel{\text { 子 }}{4}$












今
$\stackrel{0}{\mathrm{Z}}$



12092
12007
11979
11895
11979
12007
12063
12092
12092
12007
11979
11895
11979
12007
12063
12092
12092
12007
11979
11895
11979
12007
12063
12092
631051711023
HOLIDAY
$\begin{array}{llll}10376 & 12007 & 10517 & 11023\end{array}$





August 2017
2016-17 Crop

UPCOUNTRY SPOT RATES
容




12092

1096

H = Highest L= Lowest A = Average
HOLIDAY



















部部


| UPCOUNTRY SPOT RATES |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 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 AUGUST - SEPTEMBER 2017 |  |  |  |  |  |
| Sr. <br> No. | Growth | Grade Standard | Grade | Staple | Micronaire | Strength /GPT | 28th | 29th | 30th | 31st | 1st | 2nd |
| 1 | $\mathrm{P} / \mathrm{H} / \mathrm{R}$ | ICS-101 | Fine | Below <br> 22 mm | 5.0-7.0 | 15 | $\begin{array}{r} 9476 \\ (33700) \end{array}$ | $\begin{array}{r} 9476 \\ (33700) \end{array}$ | $\begin{array}{r} 9476 \\ (33700) \end{array}$ | $\begin{array}{r} 9476 \\ (33700) \end{array}$ | $\begin{array}{r} 9476 \\ (33700) \end{array}$ | $\begin{array}{r} 9476 \\ (33700) \end{array}$ |
| 2 | $\mathrm{P} / \mathrm{H} / \mathrm{R}$ | ICS-201 | Fine | Below <br> 22 mm | 5.0-7.0 | 15 | $\begin{array}{r} 9758 \\ (34700) \end{array}$ | $\begin{array}{r} 9758 \\ (34700) \end{array}$ | $\begin{array}{r} 9758 \\ (34700) \end{array}$ | $\begin{array}{r} 9758 \\ (34700) \end{array}$ | $\begin{array}{r} 9758 \\ (34700) \end{array}$ | $\begin{array}{r} 9758 \\ (34700) \end{array}$ |
| 3 | GUJ | ICS-102 | Fine | 22 mm | 4.0-6.0 | 20 | $\begin{array}{r} 8042 \\ (28600) \end{array}$ | $\begin{array}{r} 8042 \\ (28600) \end{array}$ | $\begin{array}{r} 8042 \\ (28600) \end{array}$ | $\begin{array}{r} 8070 \\ (28700) \end{array}$ | $\begin{array}{r} 8099 \\ (28800) \end{array}$ | $\begin{array}{r} 8099 \\ (28800) \end{array}$ |
| 4 | KAR | ICS-103 | Fine | 23 mm | 4.0-5.5 | 21 | $\begin{array}{r} 9364 \\ (33300) \end{array}$ | $\begin{array}{r} 9364 \\ (33300) \end{array}$ | $\begin{array}{r} 9364 \\ (33300) \end{array}$ | $\begin{array}{r} 9364 \\ (33300) \end{array}$ | $\begin{array}{r} 9392 \\ (33400) \end{array}$ | $\begin{array}{r} 9392 \\ (33400) \end{array}$ |
| 5 | M/M | ICS-104 | Fine | 24 mm | 4.0-5.0 | 23 | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ |
| 6 | $\mathrm{P} / \mathrm{H} / \mathrm{R}$ | ICS-202 | Fine | 26 mm | 3.5-4.9 | 26 | $\begin{array}{r} 11838 \\ (42100) \end{array}$ | $\begin{array}{r} 11838 \\ (42100) \end{array}$ | $\begin{array}{r} 11754 \\ (41800) \end{array}$ | $\begin{array}{r} 11726 \\ (41700) \end{array}$ | $\begin{array}{r} 11614 \\ (41300) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ |
| 7 | M/M/A | ICS-105 | Fine | 26 mm | 3.0-3.4 | 25 | $\begin{array}{r} 9645 \\ (34300) \end{array}$ | $\begin{array}{r} 9701 \\ (34500) \end{array}$ | $\begin{array}{r} 9701 \\ (34500) \end{array}$ | $\begin{array}{r} 9701 \\ (34500) \end{array}$ | $\begin{array}{r} 9701 \\ (34500) \end{array}$ | $\begin{array}{r} 9729 \\ (34600) \end{array}$ |
| 8 | M/M/A | ICS-105 | Fine | 26 mm | 3.5-4.9 | 25 | $\begin{array}{r} 10348 \\ (36800) \end{array}$ | $\begin{array}{r} 10292 \\ (36600) \end{array}$ | $\begin{array}{r} 10208 \\ (36300) \end{array}$ | $\begin{array}{r} 10208 \\ (36300) \end{array}$ | $\begin{array}{r} 10179 \\ (36200) \end{array}$ | $\begin{array}{r} 10179 \\ (36200) \end{array}$ |
| 9 | $\mathrm{P} / \mathrm{H} / \mathrm{R}$ | ICS-105 | Fine | 27 mm | 3.5.4.9 | 26 | $\begin{array}{r} 12007 \\ (42700) \end{array}$ | $\begin{array}{r} 12007 \\ (42700) \end{array}$ | $\begin{array}{r} 11951 \\ (42500) \end{array}$ | $\begin{array}{r} 11923 \\ (42400) \end{array}$ | $\begin{array}{r} 11810 \\ (42000) \end{array}$ | $\begin{array}{r} 11726 \\ (41700) \end{array}$ |
| 10 | M/M/A | ICS-105 | Fine | 27 mm | 3.0-3.4 | 26 | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ | $\begin{array}{r} 10404 \\ (37000) \end{array}$ |
| 11 | M/M/A | ICS-105 | Fine | 27 mm | 3.5-4.9 | 26 | $\begin{array}{r} 10911 \\ (38800) \end{array}$ | $\begin{array}{r} 10911 \\ (38800) \end{array}$ | $\begin{array}{r} 10854 \\ (38600) \end{array}$ | $\begin{array}{r} 10854 \\ (38600) \end{array}$ | $\begin{array}{r} 10798 \\ (38400) \end{array}$ | $\begin{array}{r} 10798 \\ (38400) \end{array}$ |
| 12 | $\mathrm{P} / \mathrm{H} / \mathrm{R}$ | ICS-105 | Fine | 28 mm | 3.5-4.9 | 27 | $\begin{array}{r} 12092 \\ (43000) \end{array}$ | $\begin{array}{r} 12092 \\ (43000) \end{array}$ | $\begin{array}{r} 11979 \\ (42600) \end{array}$ | $\begin{array}{r} 11979 \\ (42600) \end{array}$ | $\begin{array}{r} 11895 \\ (42300) \end{array}$ | $\begin{array}{r} 11810 \\ (42000) \end{array}$ |
| 13 | M/M/A | ICS-105 | Fine | 28 mm | 3.5-4.9 | 27 | $\begin{array}{r} 11529 \\ (41000) \end{array}$ | $\begin{array}{r} 11529 \\ (41000) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ |
| 14 | GUJ | ICS-105 | Fine | 28 mm | 3.5-4.9 | 27 | $\begin{array}{r} 11529 \\ (41000) \end{array}$ | $\begin{array}{r} 11529 \\ (41000) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ | $\begin{array}{r} 11557 \\ (41100) \end{array}$ |
| 15 | M/M/A/K | ICS-105 | Fine | 29 mm | 3.5-4.9 | 28 | $\begin{array}{r} 11923 \\ (42400) \end{array}$ | $\begin{array}{r} 11923 \\ (42400) \end{array}$ | $\begin{array}{r} 11923 \\ (42400) \end{array}$ | $\begin{array}{r} 11923 \\ (42400) \end{array}$ | $\begin{array}{r} 11923 \\ (42400) \end{array}$ | $\begin{array}{r} 11923 \\ (42400) \end{array}$ |
| 16 | GUJ | ICS-105 | Fine | 29 mm | 3.5-4.9 | 28 | $\begin{array}{r} 11867 \\ (42200) \end{array}$ | $\begin{array}{r} 11867 \\ (42200) \end{array}$ | $\begin{array}{r} 11895 \\ (42300) \end{array}$ | $\begin{array}{r} 11895 \\ (42300) \end{array}$ | $\begin{array}{r} 11895 \\ (42300) \end{array}$ | $\begin{array}{r} 11895 \\ (42300) \end{array}$ |
| 17 | M/M/A/K | ICS-105 | Fine | 30 mm | 3.5-4.9 | 29 | $\begin{array}{r} 12120 \\ (43100) \end{array}$ | $\begin{array}{r} 12148 \\ (43200) \end{array}$ | $\begin{array}{r} 12148 \\ (43200) \end{array}$ | $\begin{array}{r} 12148 \\ (43200) \end{array}$ | $\begin{array}{r} 12148 \\ (43200) \end{array}$ | $\begin{array}{r} 12148 \\ (43200) \end{array}$ |
| 18 | M/M/A/K/T/O | ICS-105 | Fine | 31 mm | 3.5-4.9 | 30 | $\begin{array}{r} 12373 \\ (44000) \end{array}$ | $\begin{array}{r} 12401 \\ (44100) \end{array}$ | $\begin{array}{r} 12401 \\ (44100) \end{array}$ | $\begin{array}{r} 12401 \\ (44100) \end{array}$ | $\begin{array}{r} 12401 \\ (44100) \end{array}$ | $\begin{array}{r} 12401 \\ (44100) \end{array}$ |
| 19 | A/K/T/O | ICS-106 | Fine | 32 mm | 3.5-4.9 | 31 | $\begin{array}{r} 12879 \\ (45800) \end{array}$ | $\begin{array}{r} 12935 \\ (46000) \end{array}$ | $\begin{array}{r} 12935 \\ (46000) \end{array}$ | $\begin{array}{r} 12935 \\ (46000) \end{array}$ | $\begin{array}{r} 12935 \\ (46000) \end{array}$ | $\begin{array}{r} 12935 \\ (46000) \end{array}$ |
| 20 | $\mathrm{M}(\mathrm{P}) / \mathrm{K} / \mathrm{T}$ | ICS-107 | Fine | 34 mm | 3.0-3.8 | 33 | $\begin{array}{r} 15044 \\ (53500) \end{array}$ | $\begin{array}{r} 15185 \\ (54000) \end{array}$ | $\begin{array}{r} 15185 \\ (54000) \end{array}$ | $\begin{array}{r} 15185 \\ (54000) \end{array}$ | $\begin{array}{r} 15185 \\ (54000) \end{array}$ | $\begin{array}{r} 15325 \\ (54500) \end{array}$ |

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


[^0]:    L. Excess, Excess, Normal, Deficient, L. Deficient

    Source : India Meteorological Department, Hydromet Division, New Delhi

