FSSAI JAGGERY SURVEY 2022

FOOD SAFETY AND STANDARDS AUTHORITY OF INDIA

Inspiring Trust, Assuring Safe & Nutritious Food

Ministry of Health and Family Welfare, Government of India

Contents

EXECUTIVE SUMMARY

FSSAI conducted the Pan India Surveillance on Jaggery to assess the safety and quality issues in Jaggery and to identify the hot spots of adulteration across the Country. National Commodities Management Services Limited (NCML) executed the survey on behalf of FSSAI. The survey was conducted in selected 249 locations across 35 States and Union territories on 1st & 2nd February 2022 with samples getting collected up to the district/tehsil level by involving 248 Food Safety Officers (FSOs) and 167 NCML Samplers. In all 3060 samples of Jaggery were collected, which includes 1004 packed samples and 2056 loose samples. Out of the 3060 samples, 2901 samples were drawn from 249 physical locations and 159 samples were obtained through E-commerce channels from five metropolitan cities viz., Delhi, Mumbai, Chennai, Bengaluru & Kolkata.

The Jaggery variants that were sampled for the purpose of this survey included 2728 samples of cane Jaggery (Solid form), 28 samples of cane Jaggery (Liquid form), 227 samples of cane Jaggery (Powdered form), 13 samples of Coconut Jaggery, 17 samples of Date Palm Jaggery and 47 samples of Palm Jaggery. The collected samples were analysed for the safety and quality parameters laid down in Food Safety & Standards Regulations, 2011.The safety aspects were tested by analysing the samples for chemical safety parameters, such as heavy metals. The quality aspects were tested by analysing the samples for chemical quality parameters, such as moisture, sucrose, total sugars, reducing sugars, sulphated ash, ash insoluble in dilute hydrochloric acid, total ash, added colour and sulphite content. The liquid cane Jaggery samples were analysed for moisture content and Total Solids (TS), in addition to the parameters specified for cane Jaggery (solid).

Nineteen FSSAI notified laboratories were involved in the analysis of Jaggery samples. The salient findings of the survey are reported below.

It is pertinent to mention here that none of the sample analysed were found to be non- compliant for heavy metal content. All the jaggery samples were compliant with the chemical safety parameters and were found to be safe.

The samples which showed non-compliance for the specified limits for chemical quality parameters were grouped as “substandard” samples. The samples which did not meet the requirements of FSS labelling, advertising, and claims regulation were grouped as “misbranded”.

Overall, 34.5% (1055/3060) of samples were found to be substandard and 5.5% (169/3060) were misbranded. Further 1.8% (55/3060) of samples were found to be both substandard & misbranded.

The overall & variant wise non- compliance to safety /quality parameters is described below

Packed vs loose samples

Based on the analysis of 3060 samples, 36.3% (1110) were found to be substandard. In packed samples, 25.9% (260/1004) were sub-standard, while 41.3% (850/2056) of loose samples were sub-standard. Out of the 36.3% (1110) samples, 49.2% (546/1110) samples were found to be substandard due to the higher moisture content than the prescribed limit for moisture, 17.2% (191/1110) had sulphite in concentration more than the prescribed limit, 15.6% (173/1110) samples had added colours such as Erythrosine, Ponceau 4R, Sunset yellow and Tartrazine and remaining 18% (200/1110) of samples were non-compliant on account of one or more than one parameter other than that is described above such as sucrose, total sugars, reducing sugars, sulphated ash.

Out of the 260 substandard packed samples, the quality compromise due to moisture content higher than the prescribed limit for moisture was seen in 23.8% (62/260) samples, 18.5% (48/260) had added colours (Sunset yellow and Tartrazine). Sulphite in concentration more than the prescribed limit was observed in 15.8% (41/260) of the samples while 4.2% (11/260) samples had both added colours & sulphite more than the prescribed limit. Further 3.5% (09/260) of samples had total sugar content less than the prescribed limit. Non-compliance for both sucrose & total sugars was found in 3.8% (10/260) samples, and 4.2% (11/260) samples had higher content of reducing sugars &sucrose than the prescribed limits, 26.2% (68/260) of samples were non-compliant on account of one or more than one parameter other than those mentioned above.

Out of 850 substandard loose samples the non- compliance on account of higher moisture content than the prescribed limit was found in 34.5% (293/850) of the samples, sulphite in concentration more than the prescribed limit was found in 17.6% (150/850) samples, 14.7% (125/850) had added colours, such as Erythrosine, Ponceau 4R, Sunset yellow and Tartrazine, 3.5% (30/850) of the samples had both added colours (Erythrosine, Sunset yellow and Tartrazine) and sulphite in concentration more than the prescribed limit and remaining 29.6% (252/850) of samples were non-compliant on account of one or more than one parameter other than that is described above.

Misbranding was observed in 22.3% (224/1004) samples. Out of these lot/code/batch Number was not mentioned in 25.9% (58/224) samples. The declaration of vegetarian or non-vegetarian logo was not found in 19.6% (44/224) samples. Date of Manufacturing/Packing was not mentioned in 6.3% (14/224) samples and the FSSAI logo was not available in 4.5% (10/224) packed samples. Best before and use by date on package was not declared in 2.2% (05/224) samples, further 41.5% (93/224) samples were misbranded on account of one or more attributes.

Product-wise Results

In case of cane Jaggery (solid), 37.9% (1035/2728) samples were found to be substandard. Out of the 2728 samples, 750 were packed and 1978 were loose samples. Further 29.3% (220/750) packed samples, and 41.2% (815/1978) of the loose samples were found substandard. In 33.3% (345/1035) samples the non-compliance was due to higher moisture content than the prescribed limit for moisture (prescribed limit is Maximum 7%), 17.8% (184/1035) samples had sulphite in concentration more than the prescribed limit, 15.4% (159/1035) samples had presence of added colour (Erythrosine, Sunset yellow and Tartrazine), 12.6% (130/1035) samples had added colour & higher moisture content and 3.5% (36/1035) samples were non-compliant due to both added colours (Erythrosine, Sunset yellow and Tartrazine)& sulphite in concentration more than the prescribed limit. The remaining 17.5% (181/1035) were non-compliant on account of one or more than one parameter other than those mentioned above.

In packed cane Jaggery (solid) samples, 25.5% (56/220) were found substandard due to higher moisture content, 20% (44/220) had added colours (Ponceau 4R, Sunset yellow and Tartrazine), 15.9% (35/220) samples had sulphite in concentration more than the prescribed limit, and 10.5% (23/220) were found non- compliant due to both added colours (Sunset yellow and Tartrazine) & moisture in concentration more than the prescribed limit, and 6.4% (14/220) samples had both moisture & sulphite more than the prescribed limit. The remaining 21.8% (48/220) were non-compliant on account of one or more than one parameter other than those mentioned above.

Further in loose cane Jaggery (solid) samples, 35.5% (289/815) were found substandard due to the higher moisture content, in 18.3% (149/815) of samples, the sulphite content was found in concentrations more than the prescribed limit, 14.1% (115/815) had added colours (Erythrosine, Sunset yellow and Tartrazine), 13.1% (107/815) samples had both added colours, such as Erythrosine, Sunset yellow and Tartrazine& moisture higher than the prescribed limit, and 4.7% (38/815) samples had both moisture & sulphite more than the prescribed limit. The remaining 14.4% (117/815) were non-compliant on account of one or more than one parameter other than those mentioned above.

In Cane Jaggery (solid), 21.7% samples (163/750) accounted for misbranding, 23.3% (38/163) samples were categorised as misbranded due to the absence of lot/code/batch number on the package, 15.3% (25/163) of samples the vegetarian or non-vegetarian logo was not mentioned, 7.4% (12/163) had not mentioned date of manufacturing / packing, while 54% (88/163) of samples were non-compliant on account of one or more than one parameter other than those mentioned above.

In cane Jaggery (powdered) samples, 22.9% (52/227) of samples were found to be substandard, out of the 227 samples, 9.9% (18/182) of samples were packed and 77.5% (34/45) of samples were loose samples. 26.9% (14/52) samples had added colours, such as Sunset yellow and Tartrazine, while 15.4% (08/52) samples had moisture content more than the prescribed limit. In 11.5% (06/52) samples, the sulphites were found in concentrations more than the prescribed limit and 26.9% (14/52) samples had both added colours (Sunset yellow) & moisture higher than the prescribed limit. The remaining 19.2% (10/52) were non-compliant on account of one or more than one parameter other than those mentioned above.

In packed cane Jaggery (powdered) samples, 27.8% (05/18) were found to be substandard due to presence of sulphites in concentration more than the prescribed limit, 22.2% (04/18) of samples had added colour (Sunset yellow), and 22.2% (04/18) of samples had moisture content higher than the prescribed limit. The remaining 27.8% (05/18) were non-compliant on account of one or more than parameter other than those mentioned above.

Further in loose cane Jaggery (powdered) samples, 29.4% (10/34) samples were found to be substandard due to presence of added colour, (Sunset yellow and tartrazine), 11.8% (04/34) had moisture content higher than the prescribed limit, 2.9% (01/34) samples had sulphite content in concentration more than the prescribed limit and 38.2% (13/34) samples were non-compliant due to added colour (Sunset yellow) &moisture higher than the prescribed limit. The remaining 17.6% (06/34) samples were found non-compliant on account of one or more than one parameter other than those mentioned above.

13.7% (25/182) of cane Jaggery (powdered) samples were misbranded, out of which 28% (07/25) samples were misbranded due to absence of lot/code/batch number on the package, 72% (18/25) samples were misbranded on account of one or more than one attributes such as the declaration of vegetarian or non-vegetarian logo, date of Manufacturing/Packing, the FSSAI logo was not best before and use by date in the label

In case of cane Jaggery (liquid) only packed samples were collected.

67.9% (19/28) of samples were found to be sub-standard, in which 26.3% (05/19) samples had higher reducing sugars &lower sucrose than the prescribed limit. Non-compliance for higher reducing sugars and lower sucrose & total sugars than the prescribed limit was found in 47.4% (09/19) of the samples, 26.3% (05/19) of samples were found non-compliant on account of one or more than one parameter other than those mentioned above.

39.3% (11/28) of cane Jaggery (liquid) samples were misbranded, 36.4% (04/11) samples were misbranded due to absence of lot/code/batch number on the package, 63.6% (07/11) samples were found misbranded on account of one or more than one attribute.

In 13 samples of coconut Jaggery that were collected, 10 samples were packed and 3 were loose samples. 10% (01/10) of the packed samples were found to be substandard due to the presence of sulphite in concentration more than the prescribed limit. All loose samples of coconut Jaggery were compliant with the quality parameters. 70% (07/10) of samples of coconut Jaggery were misbranded, out of which in 57.1 (04/07) samples, the declaration of vegetarian or non-vegetarian logo was not found and 42.9% (03/07) samples were misbranded on account of one or more than one attribute.

In date palm Jaggery (packed-11 & loose-06 samples) 18.2% (02/11) of packed samples were found substandard due to higher moisture content. All the (06) loose samples were compliant to quality parameters. 72.7% (08/11) of packed samples of date palm Jaggery were found misbranded, of which 25% (02/08) samples, did not have lot/code/batch number on the package. Further 75% (06/08) of samples were misbranded on account of one or more than one attribute.

In Palm Jaggery (packed-23 & loose-24 samples) 2.1% (01/47) of the samples were found to be substandard, while all the packed samples (23) were compliant to the quality parameters. 4.2% (01/24) of the loose samples was found to be substandard due to deviation in the total sugars expressed as invert sugar (on dry basis) less than the prescribed limit. 43.5% (10/23) of samples of palm Jaggery were found misbranded, out of which 50% (05/10) samples were misbranded due to absence of lot/code/batch number on the package and in 50% (05/10) samples the vegetarian or non-vegetarian logo was missing.

The top ten states/UTs for overall compliance include Tripura 100% (20/20) followed by Uttarakhand 95% (38/40), Meghalaya 90.6% (29/32), Andaman and Nicobar Islands 90% (09/10), Andhra Pradesh 87.5% (91/104), Jammu and Kashmir 87.5% (14/16), Telangana 87% (40/46), Sikkim 85% (17/20), Assam 83.3% (30/36), and Karnataka 80.6% (195/242).

The top 10 States/UTs which showed higher levels of non-compliance include Dadra and Nager Haveli 90% (09/10) followed by Bihar 88.4% (76/86), Punjab 81.5% (150/184), Arunachal Pradesh 80% (16/20), Goa 75% (27/36), Uttar Pradesh 61.5% (254/413), Manipur 60% (12/20), Odisha 55.6% (40/72), Gujarat 53.1% (85/160) and Himachal Pradesh 50% (35/70).

Out of the 35 States/UTs, the States/UTs, samples picked up from Tripura showed 100% compliance with respect to quality parameters. States/UTs which showed higher compliance to quality parameters include Uttarakhand 97.5% (39/40), followed by Sikkim95% (19/20), Chandigarh 93.8% (15/16), Andhra Pradesh 92.3% (96/104) and Telangana 91.3% (42/46). The least compliant States/UTs include

Dadra Nagar Haveli 10% (01/10), followed by Bihar 11.6% (10/86), Punjab 18.5% (34/184), Goa 27.8% (10/36), and Arunachal Pradesh 30% (06/20).

Misbranded samples were found largely in Arunachal Pradesh 100% (04/04) followed by Sikkim 60% (03/05), Kerala 50.9% (27/53), Tamil Nadu 36.6% (37/101) and Chhattisgarh 33.3% (04/12). The States/UT's having less number of misbranded samples are Uttar Pradesh 3.8% (02/52), followed by Haryana & Rajasthan with 6.3% (01/16), Uttarakhand 7.1% (01/14), Telangana 8.3% (02/24), and Andhra Pradesh 9.4% (05/53).

1.0 Introduction & Objectives

Jaggery is a traditional Indian sweetener. It is an important cottage level industrial produce in India since ancient times and it is prepared mostly by small and marginal farmers. It is majorly consumed in countries like India, Pakistan, Bangladesh, Sri Lanka, and Myanmar. In India, Uttar Pradesh is the major producer of jaggery followed by Tamil Nadu. Of the total world production, more than 60% of the jaggery is produced in India. As the major producer of jaggery, the country is recognized as one of the leading traders and exporters in the world.

1.1 The rationale for Choosing Jaggery for Surveillance:

The rising demand for sweeteners has brought focus on jaggery, an important cottage level industry. Jaggery is indigenous and occupies a distinct place in Indian culture. It is used as an ingredient in sweet and savoury dishes in the cuisines of India. Its demand peaks during festive seasons as it is a part of many traditional sweets. Most of the traditional jaggery is sold in loose /unpacked form to the consumers. Given the practices followed in manufacturing and selling the jaggery in loose forms, samples of loose jaggery were also collected to ensure whether they meet the desired quality & safety standards.

1.2 Survey Objective:

- To assess the safety and quality of jaggery sold in the country.
- To identify hotspots for Unsafe and Substandard jaggery.
- To devise corrective actions/ strategies based on the results of the study and suggest a way forward.

2.0 METHODOLOGY

2.1 Survey design

The Jaggery survey was planned and designed by FSSAI. The Authority collated and shared all relevant details pertaining to the Surveillance to NCML. A mobile application was designed and developed by NCML to capture all relevant data at various stages of Surveillance. A detailed methodology document was made, and role - wise training was imparted, both for the execution of Survey and the use of digital application. Specific 'assignment' was created for every sample, in the mobile application with respect to the selected location, date of sampling, details of the concerned FSO &the Sampler and the designated testing laboratory to which the sample is dispatched. Regional coordinators created 608 assignments to collect 3080 samples by the samplers and FSO's. Specific routes of travel were identified to dispatch samples to designated laboratories to ensure delivery of the sample in the shortest possible time by using multiple modes of transport. Laboratories were

provided with SOP, parameters and timelines for analysis and delivery of results. They were also provided with templates to share the test results further and to provide the same in the digital application.

2.2 Scope of the survey and coverage

Surveillance is an effort to estimate the extent of compliance of food products/commodities. The purpose is to systematically collect, collate, analyse, and interpret data on various analytical attributes such as quality, safety and misbranding. Location-specific data helps to identify the hot spots of adulteration apart from providing an idea of the extent of non- compliance.

The survey was carried out across the 35 States/UTs of India and extended up to the district /tehsil level. Different types of solid Jaggery/Powdered Jaggery manufactured and sold in packed and loose form and Liquid jaggery sold in packed form were sampled to assess the quality & safety as per FSSR.As per the SOP, it was planned to collect 3080 samples in total which included 2920 manual and 160 E-commerce (online) samples. However, only 3060 samples were collected (i.e., 2901/2920 manual samples and 159/160 E- commerce samples) and 20 samples could not be collected, as the sampling could not be done from Ferozepur (10 samples), Southwest Garo Hills (08 samples), Varanasi (01 sample) districts and one e-commerce sample ordered was not delivered. The sampling plan and sampling executed is appended below.

Description	Manual Samples	e-Commerce	Total
Planned	2920	160	3080
Executed	2901	159	3060

2.3 Timeline of the Survey:

The flow of the survey along with the timeline is depicted in the figure below:

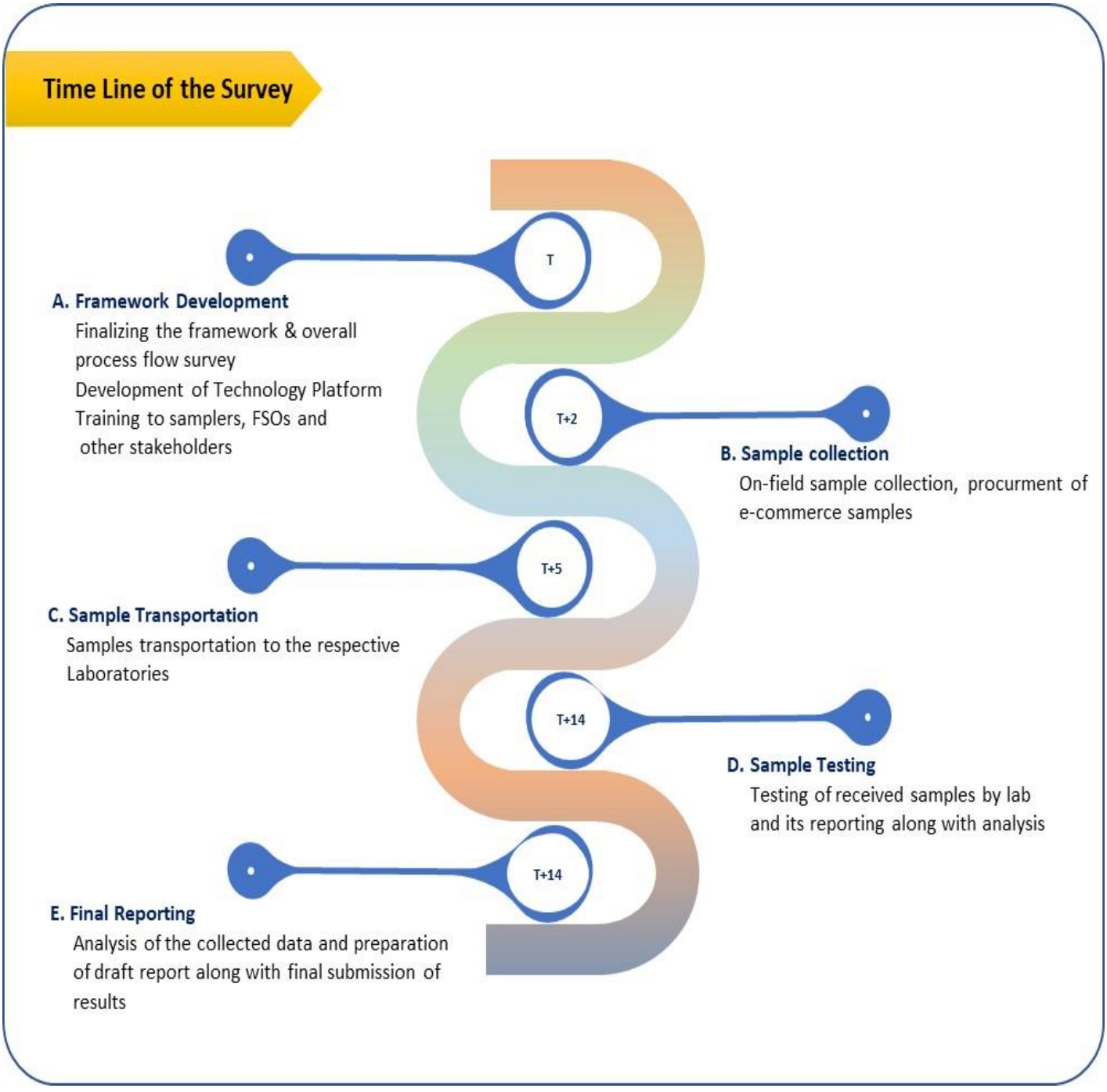


Figure.1

2.4 Categorisation of Districts/cities:

The locations selected for the surveillance includes 50 large cities selected based on population, 20 sector specific districts selected based on the production of the Jaggery, and 179 cities/districts/locations identified randomly representing each zone of the Country.

S. No	District/City type	Number of districts/cities	Number of samples
1	Large Cities based on population	50	799
2	Jaggery Producing Districts	20	320
3	Randomly selected Districts	179	1782
Total number districts & Manual samples		249	2901

Number of Jaggery samples collected through E-commerce Portal

S. No	Name of the City	Total Number of Samples
1	Bengaluru (Urban)	32
2	Chennai	32
3	Delhi	32
4	Kolkata	31
5	Mumbai	32
	Grand Total	159

2.5 Types of Jaggery selected for Survey:

The details of jaggery variants (planned for sampling) are given below.

S. No	Product Variant	Total Number of Samples
1	Cane Jaggery (Liquid)	35
2	Cane Jaggery (Powdered)	162
3	Cane Jaggery (Solid)	2772
4	Coconut Jaggery	21
5	Date Palm Jaggery	27
6	Palm Jaggery	63

S. No	Product Variant	Total Number of Samples
	Grand Total	3080

Number of Jaggery samples actually collected is appended in below table

S. No	Product Variant	Total Number of Samples
1	Cane Jaggery (Liquid)	28
2	Cane Jaggery (Powdered)	227
3	Cane Jaggery (Solid)	2728
4	Coconut Jaggery	13
5	Date Palm Jaggery	17
6	Palm Jaggery	47
	Grand Total	3060

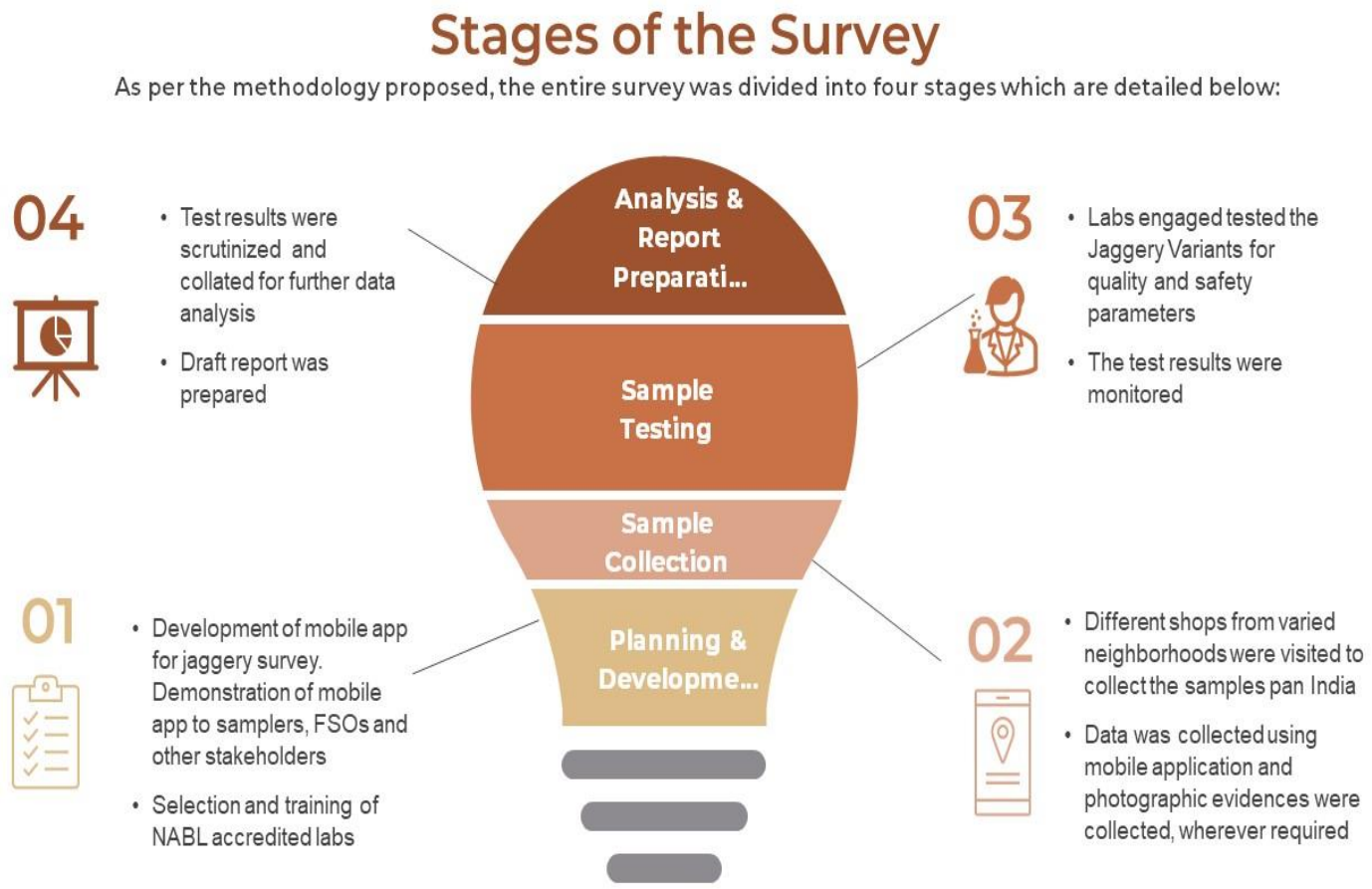


Figure.2

2.6 Stages of the Survey:

Stage I-The first stage of the survey was planning and development. The survey activity was initiated after the Authority provided complete details, such as the Standard Operating Procedure (SOP), list of districts selected for the survey, categorisation of districts, parameters to be tested as per FSSR, the list of NABL accredited laboratories having the scope to analyse Jaggery and the timeline to NCML. All the requirements about the specific survey request were captured in a digital application.

Further FSSAI conducted two virtual trainings for the selected Food Safety Officers and the samplers, on the key features of the survey and guided them appropriately to execute the survey. Frequently asked questions were prepared and shared with the FSOs and the samplers for effective guidance. NCML conducted mock trials and imparted trainings on mobile application to the FSO's and the samplers. This stage was vital in order to ensure that all the stakeholders have similar understanding of the survey objectives and work towards the same goal.

Stage II-The second stage was sample collection/ Dispatch to the assigned laboratories

The Survey started with sample collection across 35 States/ UTs on 01st and 2nd February 2022 wherein, the FSOs and the trained samplers were deployed in the selected locations of the States/UTs as per the survey schedule for sample collection. The specific stores for sampling were randomly selected by the FSO and the sampler. To ensure maximum coverage, samples of different brands were picked for surveillance and, samples of same brand from the same location were avoided in a best possible manner.

Cane Jaggery-Solid, Powdered & liquid, Coconut jaggery, date palm jaggery and palm jaggery are the variants assigned for manual & e- commerce sample collection. All the above variant (except liquid cane Jaggery) were sampled in 249 locations both in Packed and Loose form. The Coconut jaggery, date palm jaggery and palm jaggery samples were collected only in selected districts based on the production of jaggery and through e-commerce platform. The Liquid cane jaggery was obtained only in packed form through e-commerce platform. **Refer Annexure-III for details of Jaggery Types with Codes sampled during Survey.**

The sampling activity started from scheduling the sampling time and place by the sampler and FSO. Each of the samples collected as per the assignment was allotted a unique field sample identification number. Mobile application was used to collect all relevant information pertaining to the product. FSO along with the sampler did the sampling and the FSO handed over the samples to the sampler, filled, verified & signed the Test Request Form (TRF) to complete the sampling activity The collected samples were verified digitally by the FSOs. The use of technology facilitated the process while maintaining transparency. (**Annexure-I for Test Request Form).** The sampler further packed and transported the samples to the assigned labs. The sampler dispatched the collected samples using various modes of transport to the assigned laboratories which were mapped in the mobile application. The details of the dispatches were confirmed in the mobile application. (**Annexure-V - Details of region wise number of samples/variants collected).**

Region wise number of samples collected is illustrated in figure.3 below

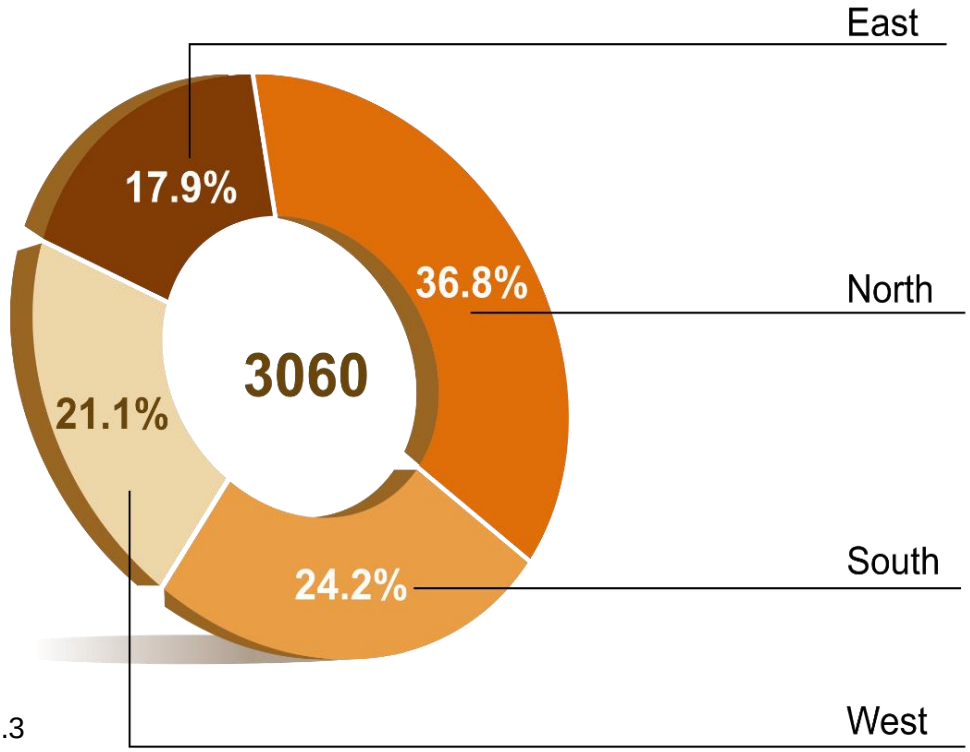


Figure.3

Region wise types of Jaggery collected is illustrated in figure.4

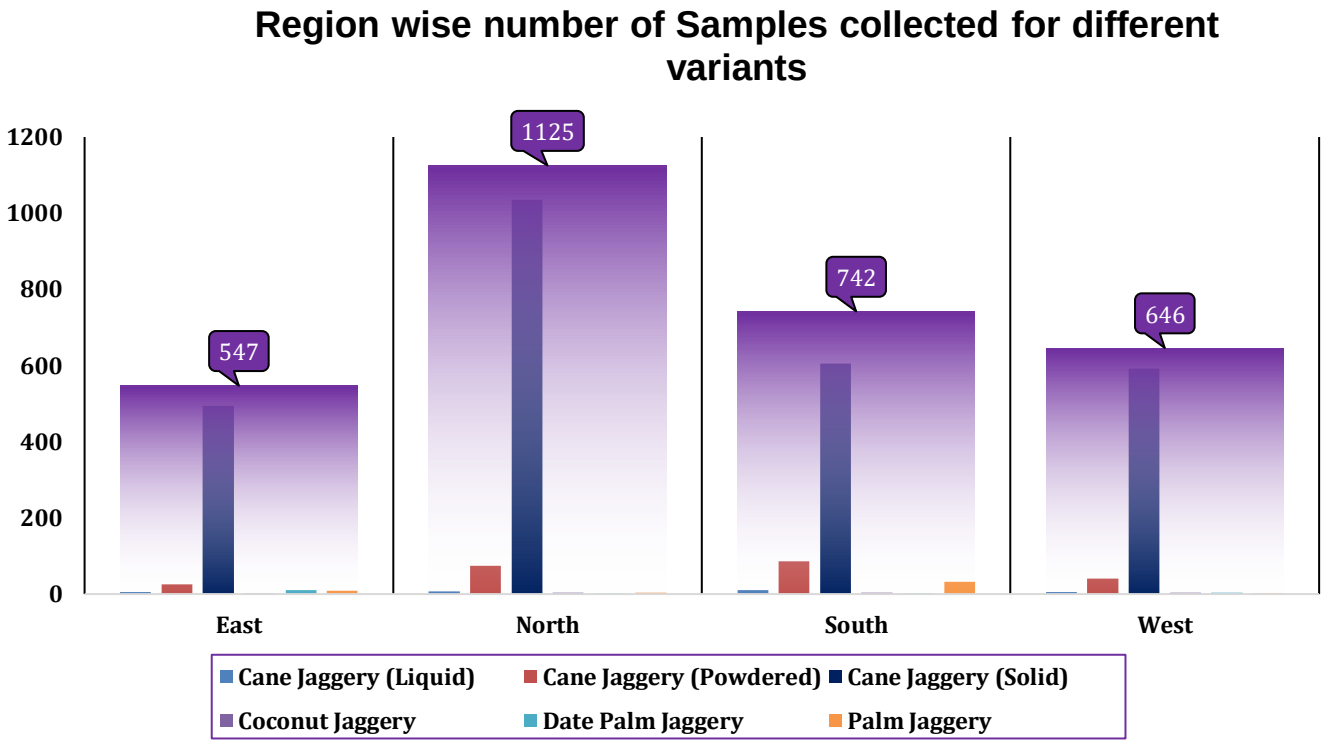


Figure.4

State/UT wise number of samples collected is shown in India Map (Figure.5)

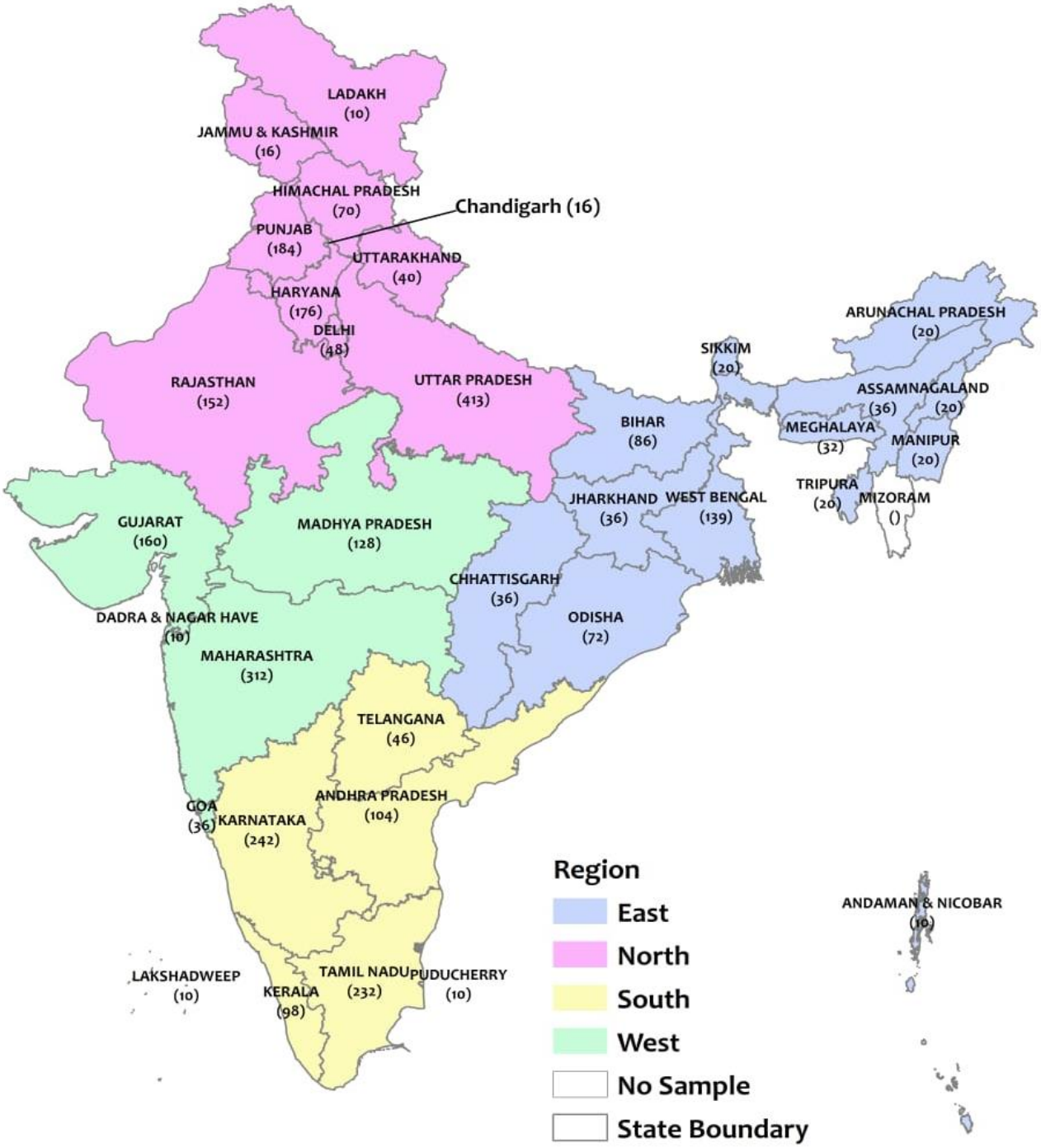


Figure.5

Refer Annexure-VI Table 1. for Number of Samples/Variants collected in Districts/Cities

Refer Table 2. for State wise number of Samples/Variants collected.

Refer Table3. for District/City wise number of Samples/Variants collected.

Stage III-The third stage was testing/analysis of the samples. Nineteen NABL accredited and FSSAI notified laboratories participated in this survey. (**Annexure-IV - List of Laboratories Participated in the Survey, & Annexure-VII - Mapping of Labs to specific States/Locations).**

The laboratory confirmed the receipt of the consignment against the respective consignment id and further, provided a laboratory identification number against each field sample. On receipt of the samples the laboratories acknowledged the same in the mobile application. The samples were thoroughly checked for integrity and other details as given in the test request form & the details provided in the application. After assigning unique codes to the samples, they were taken up for testing for the prescribed quality and safety parameters as per FSSR using validated test methods. Tests were performed for vertical parameters and horizontal parameters as described in the Standard Operating procedure. Test methods followed for Gur or Jaggery were IS 5982 for total sugars, IS 15279 for Sucrose & Moisture, IS 13952 for total ash, IS 12923 for acid insoluble in HCl, AOAC 990.28 for Sulfite, and in-house validated methods for heavy metals. For cane jaggery, IS 15279 is followed for moisture, sucrose, total sugars, reducing sugars, sulphated ash, and IS 12923 is used to analyse the acid insoluble ash in HCl, the added colour was analysed by referring the FSSAI Food analysis manual for -food additives. (**Annexure-II Table.1 - Details of Test Parameters and Table.2 - Classification of Test Parameters (Analytical Basis).**

Stage IV-The fourth stage of the project was compilation of results and preparation of draft report. The results were scrutinized and collated for further data analysis. The report comprises of the critical findings of the survey based on which further action can be taken.

2.7 The Features of the Mobile Application:

Refer Annexure XXXIII for details of the features of mobile application

2.8 Limitations of the Survey:

Though the survey covered PAN- India, geographically it was limited to randomly selected 249 cities/districts. Samples in solid form were collected for Cane, coconut, palm, and date palm jaggery and in liquid matrix only cane jaggery was sampled. Out of total samples two samples (cane jaggery solid sample & cane jaggery powdered) collected manually were found to be expired samples (samples sold after date of expiry/ best before use).

3.0 RESULTS AND DISCUSSION

A total of 3060 samples of Jaggery were tested for the Quality and Safety parameters as per Food Safety and Standards Regulations, 2011. Further 1004 packed samples were checked for their compliance to Food Safety and Standards (Labelling) & (Advertisement & Claims) regulations, 2018.

3.1 Geographical Study of Samples Analysed (State/UT, District ranking based on Compliance)

On completion of the sample analysis, the data was compiled to evaluate the compliance of the samples at the State/UT level. Out of the total 3060 samples analysed, 1781 (58.2%) were found to be compliant for all parameters while the remaining 1279 (41.8%) were found non-compliant as per FSSR, 2011 requirements. Among the 3060 samples, 42.7% (429/1004) were packed and 41.3% (850/2056) were loose samples and 41.4% (1201/2901) were collected manually, while 49.1% (78/159) were procured through the e-commerce channel.

Refer Annexure-VIII for overall compliance status of Jaggery Variants.

The highest ranked State/UT in terms of compliance was Tripura (100%) while the least compliance was found in Dadra and Nager Haveli (10%). The top ten states/UTs in the order of compliance include Tripura followed by Uttarakhand (95%), Meghalaya (90.6%) Andaman and Nicobar Islands (90%), Andhra Pradesh (87.5%), Jammu and Kashmir (87.5%), Telangana (87%), Sikkim (85%), Assam (83.3%), and Karnataka (80.6%).

The States/UTs which showed highest levels of non-compliance includes Dadra and Nager Haveli (90%) followed by Bihar (88.4%), Punjab (81.5%), Arunachal Pradesh (80%), Goa (75%), Uttar Pradesh (61.5%), Manipur (60%), Odisha (55.6%), Gujarat (53.1%)and Himachal Pradesh (50%).

Refer Annexure-X for State Wise Compliance Status and ranking as per percent Compliance

Overall, State/UT-wise Ranking with respect to compliance is shown in Table1.

Refer Annexure-XIV for Over all Non-compliant samples (Substandard & Misbranded)

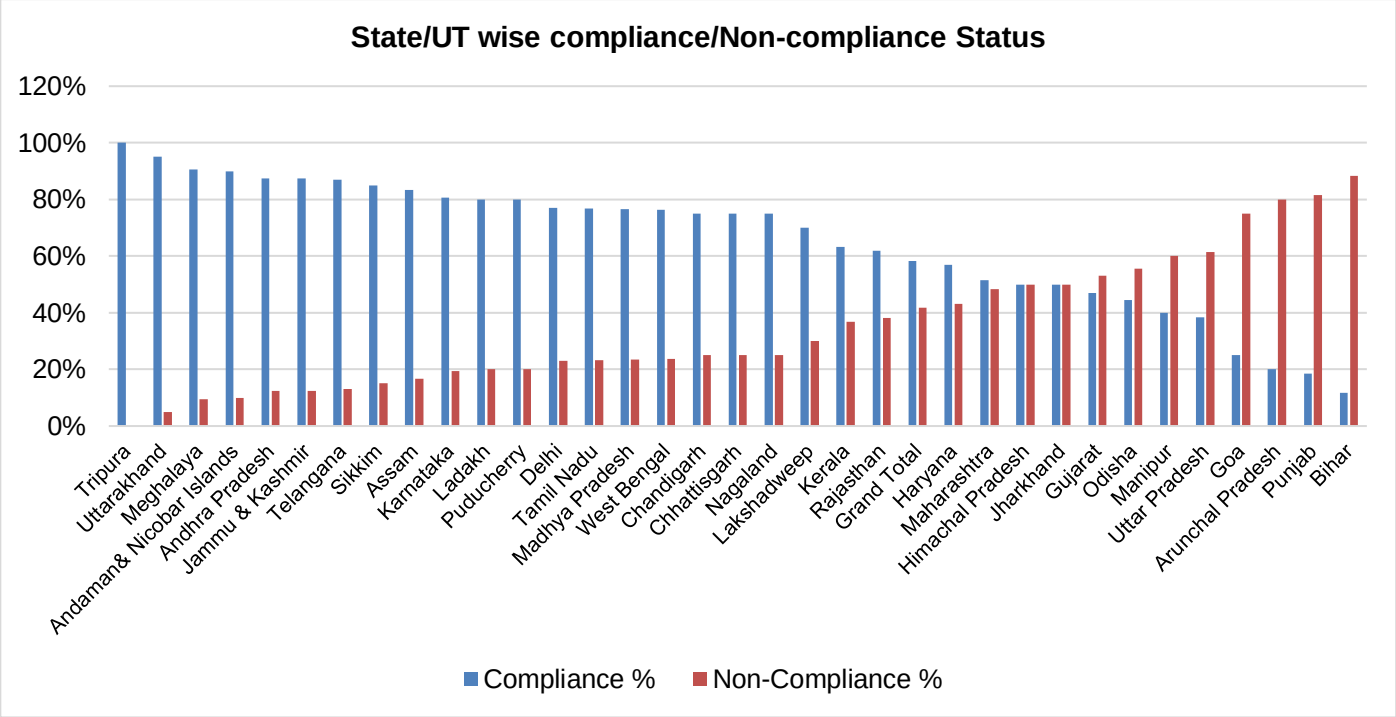


Figure.6

Table 1: State/ UT-wise ranking with respect to overall Compliance & Non- compliance

S. No	States/UT's	Number of samples collected	Compliance %	Non-Compliance %	Rank for Compliance
1	Andaman & Nicobar Islands	10	90.0%	10.0%	4
2	Andhra Pradesh	104	87.5%	12.5%	5
3	Arunachal Pradesh	20	20.0%	80.0%	27
4	Assam	36	83.3%	16.7%	8
5	Bihar	86	11.6%	88.4%	29
6	Chandigarh	16	75.0%	25.0%	15
7	Chhattisgarh	36	75.0%	25.0%	15
8	Dadra Nagar Haveli	10	10.0%	90.0%	30
9	Delhi	48	77.1%	22.9%	11
10	Goa	36	25.0%	75.0%	26

S. No	States/UT's	Number of samples collected	Compliance %	Non-Compliance %	Rank for Compliance
11	Gujarat	160	46.9%	53.1%	22
12	Haryana	176	56.8%	43.2%	19
13	Himachal Pradesh	70	50.0%	50.0%	21
14	Jammu &Kashmir	16	87.5%	12.5%	5
15	Jharkhand	36	50.0%	50.0%	21
16	Karnataka	242	80.6%	19.4%	9
17	Kerala	98	63.3%	36.7%	17
18	Ladakh	10	80.0%	20.0%	10
19	Lakshadweep	10	70.0%	30.0%	16
20	Madhya Pradesh	128	76.6%	23.4%	13
21	Maharashtra	312	51.6%	48.4%	20
22	Manipur	20	40.0%	60.0%	24
23	Meghalaya	32	90.6%	9.4%	3
24	Nagaland	20	75.0%	25.0%	15
25	Odisha	72	44.4%	55.6%	23
26	Puducherry	10	80.0%	20.0%	10
27	Punjab	184	18.5%	81.5%	28
28	Rajasthan	152	61.8%	38.2%	18
29	Sikkim	20	85.0%	15.0%	7
30	Tamil Nadu	232	76.7%	23.3%	12
31	Telangana	46	87.0%	13.0%	6
32	Tripura	20	100.0%	0.0%	1
33	Uttar Pradesh	413	38.5%	61.5%	25
34	Uttarakhand	40	95.0%	5.0%	2
35	West Bengal	139	76.3%	23.7%	14
	Grand Total	**3060**	**58.2%**	**41.8%**	

Region-wise Compliance Status

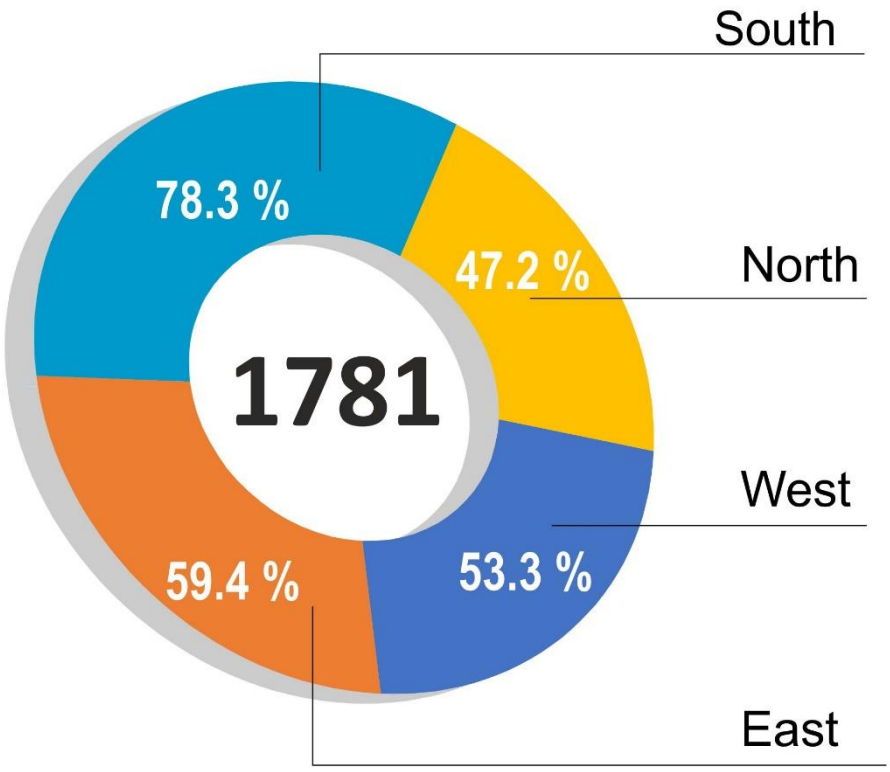


Figure.7 Region wise Compliance Status

Region-wise compliance was found highest in Southern region (78.3%) followed by Eastern (59.4%) Western (53.3%) and Northern region (47.2%).

In the Southern region the variant wise order of compliance was observed in solid cane jaggery (79.5%) followed by powdered Cane Jaggery (77.9%), palm jaggery (75.8%), coconut Jaggery (75%), date palm jaggery (50%) and liquid cane Jaggery (27.3%).

In the Eastern region, the variant wise order of compliance was observed as Palm jaggery (100%) followed by Powdered Cane Jaggery (69.2%), Solid Cane Jaggery (58.7%), Date Palm jaggery (54.5%) Coconut Jaggery (50%), and Liquid Cane Jaggery (20%).

In the Western region, the variant wise order of compliance was observed in Powdered Cane Jaggery (72.5%) followed by Solid Cane Jaggery (53%) and Liquid Cane Jaggery (20%). The other three variants Date Palm jaggery, Coconut Jaggery, and Palm jaggery showed 100% non-compliance.

In the Northern region, the variant wise order of compliance was observed in Date palm jaggery (100%) followed by Palm jaggery and coconut jaggery (66.7%), Powdered Cane Jaggery (52%), Solid Cane Jaggery (46.9%), Liquid Cane Jaggery (14.3%).

Refer Annexure-IX for Details of region-wise compliance status of Jaggery variants

Non-compliance- Substandard & Misbranded:

The Non- compliance is classified as unsafe, substandard & misbranded. There were no unsafe samples found and hence the non-compliance is classified as substandard &misbranded. The samples which did not comply to the specified limits for chemical quality parameters were grouped as “substandard” samples. The samples which did not meet the FSS labelling, advertising, and claims regulation were grouped as “misbranded”.

Refer Table 2A &Table 2B for State/UT-wise substandard and misbranded, respectively.

Table 2A: State/ UT-wise Non-compliance – substandard samples

S. No.	States/UTs	Number of samples collected	Number of Sub-standard samples	% of Sub-standard samples
1	Andaman & Nicobar Islands	10	1	10.0
2	Andhra Pradesh	104	8	7.7
3	Arunachal Pradesh	20	14	70.0
4	Assam	36	6	16.7
5	Bihar	86	76	88.4
6	Chandigarh	16	1	6.3
7	Chhattisgarh	36	8	22.2
8	Dadra Nagar Haveli	10	9	90.0
9	Delhi	48	5	10.4
10	Goa	36	26	72.2
11	Gujarat	160	70	43.8
12	Haryana	176	75	42.6
13	Himachal Pradesh	70	35	50.0
14	Jammu & Kashmir	16	2	12.5
15	Jharkhand	36	18	50.0
16	Karnataka	242	29	12.0
17	Kerala	98	11	11.2
18	Ladakh	10	2	20.0
19	Lakshadweep	10	3	30.0

S. No.	States/UTs	Number of samples collected	Number of Sub-standard samples	% of Sub-standard samples
20	Madhya Pradesh	128	23	18.0
21	Maharashtra	312	117	37.5
22	Manipur	20	12	60.0
23	Meghalaya	32	3	9.4
24	Nagaland	20	5	25.0
25	Odisha	72	38	52.8
26	Puducherry	10	2	20.0
27	Punjab	184	150	81.5
28	Rajasthan	152	58	38.2
29	Sikkim	20	1	5.0
30	Tamil Nadu	232	23	9.9
31	Telangana	46	4	8.7
32	Tripura	20	0	0.0
33	Uttar Pradesh	413	252	61.0
34	Uttarakhand	40	1	2.5
35	West Bengal	139	22	15.8
	Grand Total	**3060**	**1110**	**36.3**

Table 2B: State/ UT-wise Non-compliance - misbranded samples

S. No.	State/UT Name	Number of Samples Tested	Packed samples	Misbranded	Misbranded %
1	Andaman & Nicobar Islands	10	0	0	0
2	Andhra Pradesh	104	53	5	9.4
3	Arunachal Pradesh	20	4	4	100.0
4	Assam	36	5	0	0.0
5	Bihar	86	4	1	25.0
6	Chandigarh	16	11	3	27.3
7	Chhattisgarh	36	12	4	33.3
8	Dadra Nagar Haveli	10	7	0	0.0
9	Delhi	48	38	7	18.4
10	Goa	36	13	2	15.4

S. No.	State/UT Name	Number of Samples Tested	Packed samples	Misbranded	Misbranded %
11	Gujarat	160	98	16	16.3
12	Haryana	176	16	1	6.3
13	Himachal Pradesh	70	11	0	0.0
14	Jammu & Kashmir	16	7	0	0.0
15	Jharkhand	36	5	0	0.0
16	Karnataka	242	91	20	22.0
17	Kerala	98	53	27	50.9
18	Ladakh	10	4	0	0.0
19	Lakshadweep	10	0	0	0
20	Madhya Pradesh	128	35	8	22.9
21	Maharashtra	312	183	58	31.7
22	Manipur	20	0	0	0
23	Meghalaya	32	1	0	0.0
24	Nagaland	20	1	0	0.0
25	Odisha	72	31	3	9.7
26	Puducherry	10	0	0	0
27	Punjab	184	62	6	9.7
28	Rajasthan	152	16	1	6.3
29	Sikkim	20	5	3	60.0
30	Tamil Nadu	232	101	37	36.6
31	Telangana	46	24	2	8.3
32	Tripura	20	0	0	0
33	Uttar Pradesh	413	52	2	3.8
34	Uttarakhand	40	14	1	7.1
35	West Bengal	139	47	13	27.7
	Grand Total	**3060**	**1004**	**224**	**22.3**

Refer Annexure-XVI for State/UT wise number of Misbranded samples

The misbranding was found highest in 25.9% (58/224) samples with respect to the declaration of batch numbers on the package. This has a serious impact on the traceability of the product. Absence of date of manufacturing or packing was observed in 6.3% (14/224) samples and 19.6% (44/224) of the samples were misbranded on account of absence of declaration of vegetarian or non-vegetarian logo. The 'best before or

use by date' was not found in 2.2% (05/224) of samples and the FSSAI logo was missing in 4.5% (10/224) samples. The FSSAI logo and license number was not mentioned in 1.8% (04/224) samples and in 0.4% (01/224) sample the brand name was not mentioned. The remaining 39.2% (88/224) samples were misbranded with respect to two or more of the above mentioned attributes. The details of the packages not conforming to the labelling requirement are furnished in the table &figure below

Attributes	Number of misbranded samples	% of misbranded samples
Pack without lot/Code/Batch No.	58	25.9
Pack without Vegetarian or Non-Vegetarian declaration	44	19.6
Pack without lot/Code/Batch No., Date of Manufacturing / Packing, Best Before and Use by Date	16	7.1
Pack without Date of Manufacturing / Packing	14	6.3
Pack without Lot/Code/Batch No. Vegetarian or Non-Vegetarian declaration, Date of Manufacturing / Packing, Best Before and Use by Date	13	5.8
Pack without FSSAI Logo	10	4.5
Pack without Lot/Code/Batch No., Date of Manufacturing / Packing	9	4.0
Pack without Lot/Code/Batch No., Vegetarian or Non-Vegetarian declaration	9	4.0
Pack without Brand name, Lot/Code/Batch No., Vegetarian or Non-Vegetarian declaration, Date of Manufacturing / Packing, Best Before and Use by Date	7	3.1
Pack without Date of Manufacturing / Packing, Best Before and Use by Date	7	3.1
Pack without Best Before and Use by Date	5	2.2
Pack without Lot/Code/Batch No., Date of Manufacturing / Packing, Best Before and Use by Date, FSSAI License Number	5	2.2
Pack without FSSAI Logo, FSSAI License Number	4	1.8
Pack without Vegetarian or Non-Vegetarian declaration Date of Manufacturing / Packing, Best Before and Use by Date	3	1.3

Attributes	Number of misbranded samples	% of misbranded samples
Pack without Vegetarian or Non-Vegetarian declaration, Date of Manufacturing / Packing, Best Before and Use by Date, FSSAI Logo	3	1.3
Pack without Lot/Code/Batch No., Best Before and Use by Date	3	1.3
Pack without Lot/Code/Batch No., Vegetarian or Non-Vegetarian declaration, Date of Manufacturing / Packing	2	0.9
Pack without Lot/Code/Batch No., FSSAI License Number	2	0.9
Pack without Lot/Code/Batch No., FSSAI Logo	2	0.9
Pack without Best Before and Use by Date, FSSAI Logo, FSSAI License Number	1	0.4
Pack without Brand name	1	0.4
Pack without Brand name, Lot/Code/Batch No. Vegetarian or Non-Vegetarian declaration.	1	0.4
Pack without Vegetarian or Non-Vegetarian declaration, Date of Manufacturing / Packing	1	0.4
Pack without Vegetarian or Non-Vegetarian declaration & FSSAI Logo	1	0.4
Pack without Lot/Code/Batch No., Vegetarian or Non-Vegetarian declaration Best Before and Use by Date	1	0.4
Pack without Lot/Code/Batch No., Vegetarian or Non-Vegetarian declaration Date of Manufacturing / Packing, Best Before and Use by Date, FSSAI Logo, FSSAI License Number	1	0.4
Pack without Lot/Code/Batch No., Vegetarian or Non-Vegetarian declaration, FSSAI Logo	1	0.4
Grand total	224	100

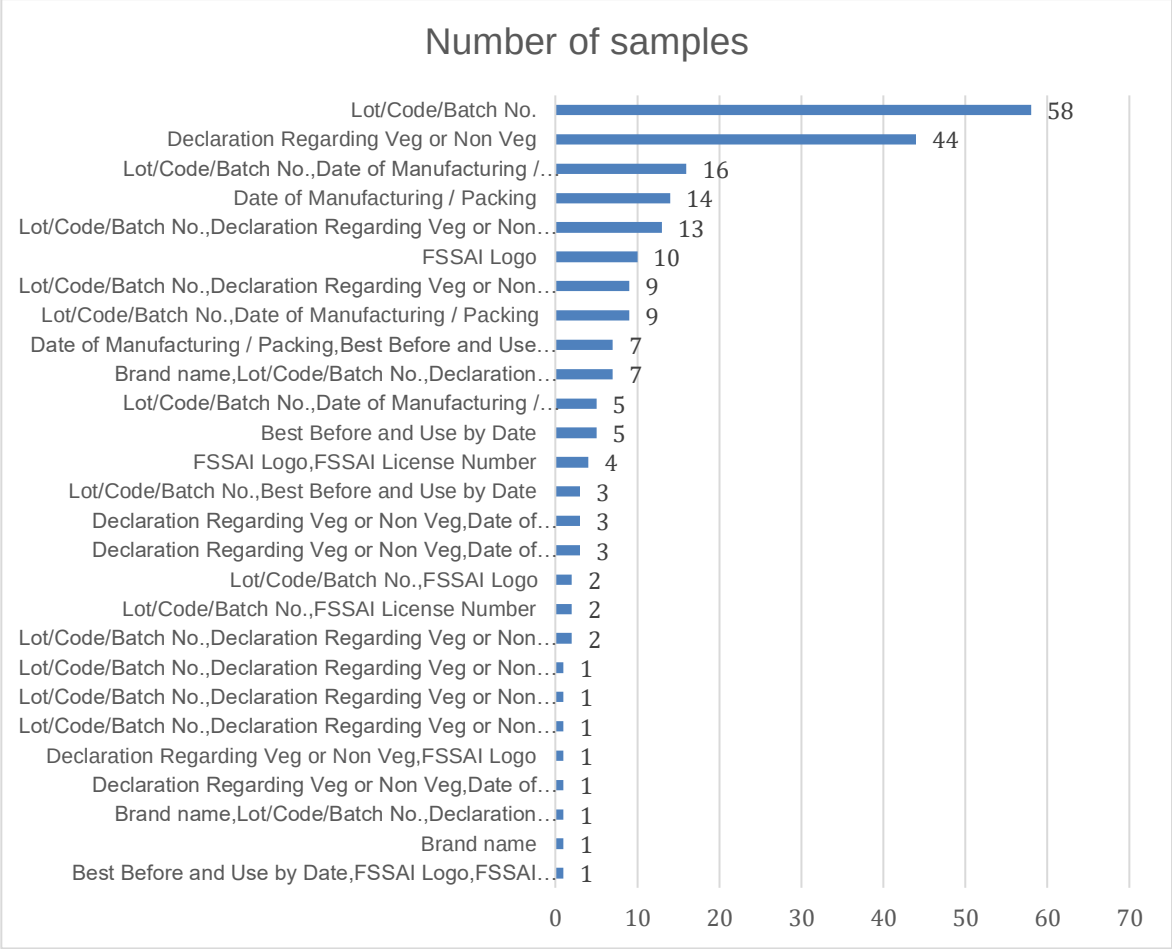


Figure.8

District(s): Overall Compliance Status & ranking in the order of % compliance

Out of the 249 districts, 100% compliance was observed in 38 districts (15%). Further, 67 districts (27%) showed greater than 75% and less than 100% compliance. Sixty-one districts (24%) showed compliance above 50% and less than 75%. Thirty-one districts (12%) showed compliance to less than that of 50% and more than 25%. Twenty-nine districts (12%) showed compliance less than 25% and 100% non-compliance was observed in twenty-three districts (9%).

RANGE OF COMPLIANCE CATEGORY (% OF COMPLIANT SAMPLES FROM DISTRICT)	NUMBER OF DISTRICTS IN CATEGORY	% DISTRICTS IN CATEGORY
100%	38	15%
>=75 to <100%	67	27%
>=50 to <75%	61	24%
>=25 to <50%	31	12%
>0 to <25%	29	12%
0%	23	9%
Grand Total	249	--

Refer Annexure-XI for details of district wise compliance status and ranking as per percent compliance

Compliance Status in Major Cities

Compliance status for the fifty large cities was analyzed and they were ranked as per the extent of compliance. Ranchi from Jharkhand showed 100 % compliance, followed by Belgaum, Bhopal, Delhi, Indore, Jaipur, Pune, Siliguri and Varanasi in the top ten slots with compliance percentage above 93%. Amritsar, Ahmedabad, Kanpur, Agra, Patna, Nashik, Panjima, Chennai and Bhubaneshwar showed non-compliance from 93.7% to 68.7%. All the samples collected from Rajkot from Gujarat, Meerut from UP and Ludhiana from Punjab showed 100% Non-Compliance for all the parameters. The overall compliance of 57.6%.(460/799) was observed in the fifty large cities.

Refer Annexure-XII and Annexure-XVII for details of city wise number of compliant samples and Category wise Non-compliance for 50 Major Cities

3.2 E-Commerce: Compliance Status of E-commerce samples

Samples were sourced from e-commerce platforms from the metropolitan cities of Delhi, Mumbai, Kolkata, Chennai, and Bengaluru. The highest compliance was observed in Delhi (68.8%), followed by Bengaluru (65.6%), Kolkata (54.8), Chennai (53.1%) and Mumbai (12.5%). Details of the e-commerce samples tested are provided in the figure below.

Refer Annexure-XIII and Annexure-XVIII for Status of E-Commerce samples – Number of compliance/non-compliance samples

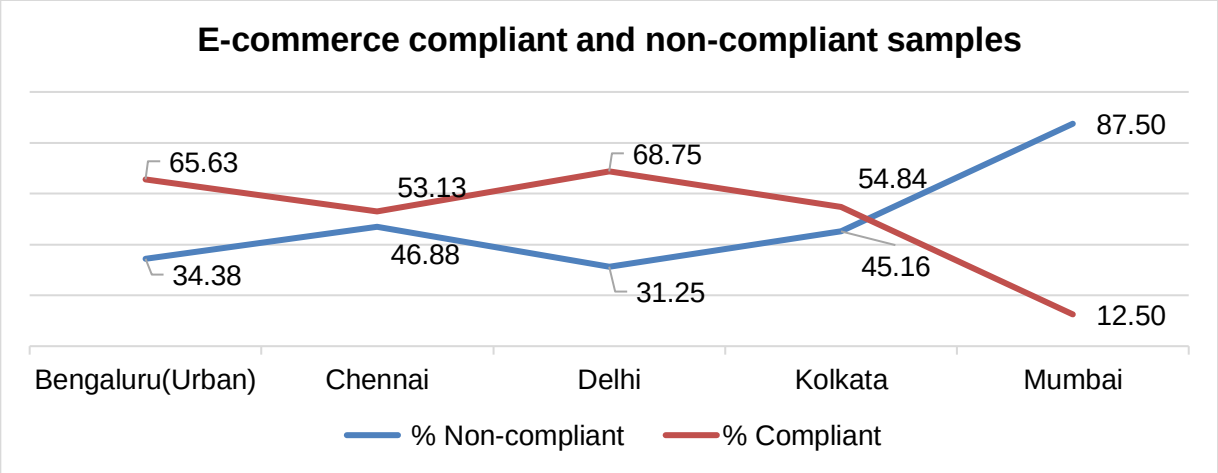


Figure.9

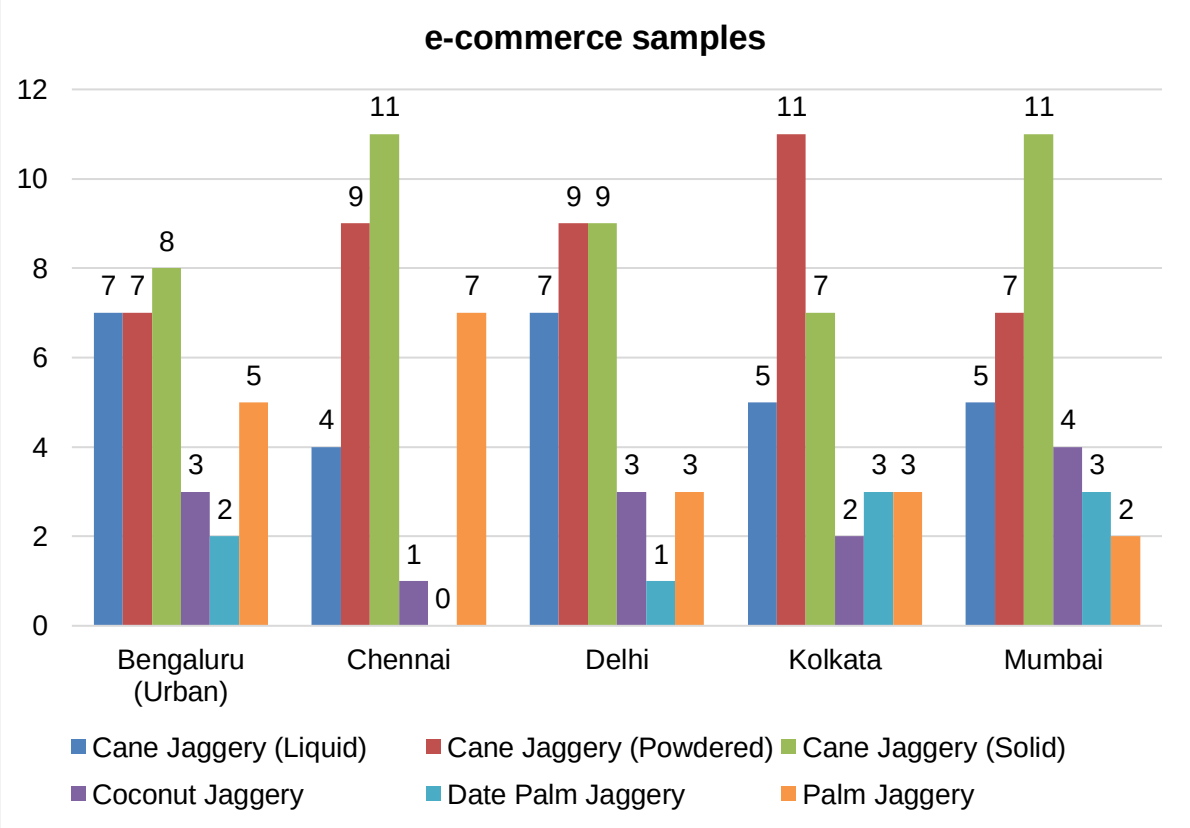


Figure.10 Distribution of e-commerce samples

Comparison of manually collected samples and e-commerce samples

	Total samples	Compliant samples	% Compliant samples	Non-compliant samples	% Non-compliant samples
Manual samples	**2901**	**1700**	**58.6%**	**1201**	**41.4%**
e-commerce samples	**159**	**81**	**50.9%**	**78**	**49.1%**

3.3 Product Wise- Non-Compliance

The overall compliance of the samples was found to be 58.2% across all the jaggery variants. Individual variant wise compliance status is listed below:

1. Palm jaggery (76.6%)
2. Powdered cane Jaggery (67.4%)
3. Solid Cane Jaggery (57.6%)
4. Date Palm Jaggery (47.1%)
5. Coconut Jaggery (46.2%) and
6. Liquid cane jaggery (21.4%).

Details of compliance of product variants:

S. No	Product Variant	Total Number of Samples Tested	Compliant samples	% of compliant samples	Non-compliant samples	% Non-compliant samples
1	Cane Jaggery (Liquid)	28	6	21.43	22	78.57
2	Cane Jaggery (Powdered)	227	153	67.40	74	32.60
3	Cane Jaggery (Solid)	2728	1572	57.62	1156	42.38
4	Coconut Jaggery	13	6	46.15	7	53.85
5	Date Palm Jaggery	17	8	47.06	9	52.94
6	Palm Jaggery	47	36	76.60	11	23.40
	Grand Total	3060	1781	58.20	1279	41.80

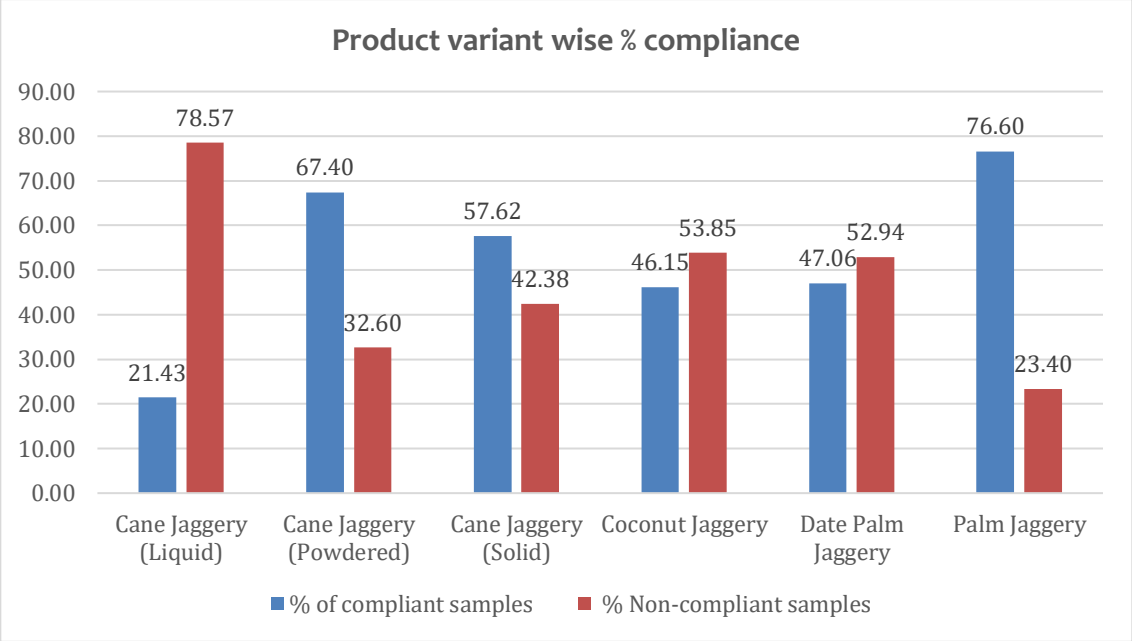


Figure.11

Details of compliance of Jaggery variants:

Liquid Cane Jaggery: 39.3% (11/28) of the samples were found 'Substandard' majorly due to low sucrose content on dry basis than the prescribed limit and 10.7% (03/28) were found 'misbranded 'majorly due to absence of lot/code/batch number on the package. 28.6% (08/28) of the samples were found both 'Substandard' and 'misbranded'.

Powdered Cane Jaggery: 21.6% (49/227) of the samples were found sub-standard and 9.7% (22/182) were 'misbranded', and 1.6% (03/182) of the samples was found to be substandard' and 'misbranded'.

Solid Cane Jaggery: 36.4% (993/2728) of the samples were found 'Substandard', and 16.1% (121/750) were misbranded, 5.6% (42/750) of the samples were found to be 'substandard' and misbranded.

Coconut Jaggery: 60% (06/10) were misbranded and 10% (01/10) of the samples were found substandard and misbranded.

Date Palm Jaggery: 5.9% (01/17) of the samples were found substandard, 63.6% (07/11) were found misbranded, and 9.1% (01/11) were found both substandard and misbranded.

Palm Jaggery: 2.1% (01/47) of the samples were found substandard, 43.5% (10/23) of the samples were found to be misbranded.

3.4 Product Wise Study of Non-Compliant Samples

Table 2. Product wise n-compliant samples

S.No	Product variant	No of samples	Packed	Loose	No of NC*	Substandard	Misbranded
1	Cane Jaggery (Liquid)	28	28	0	22	19	11
2	Cane Jaggery (Powdered)	227	182	45	74	52	25
3	Cane Jaggery (Solid)	2728	750	1978	1156	1035	163
4	Coconut Jaggery	13	10	3	7	1	7
5	Date Palm Jaggery	17	11	6	9	2	8
6	Palm Jaggery	47	23	24	11	1	10
	Grand Total	**3060**	**1004**	**2056**	**1279**	**1110**	**224**

NC*: Non-compliant

All the jaggery samples were compliant with respect to the chemical safety parameters and were found to be safe. The samples which showed non-compliance for the specified limits for chemical quality parameters were grouped as “substandard” samples. The samples which did not meet the requirements of FSS labelling, advertising and claims regulation were grouped as “misbranded”.

Across all the Jaggery product variants, 36.3% (1110/3060) were found to be sub-standard and 22.3% (224/1004) were misbranded. None of the Jaggery samples were found unsafe.

Refer Annexure-XIV for details of Over all Non-Compliant samples

DISPLAY OF NON-COMPLIANT SAMPLES (1279)

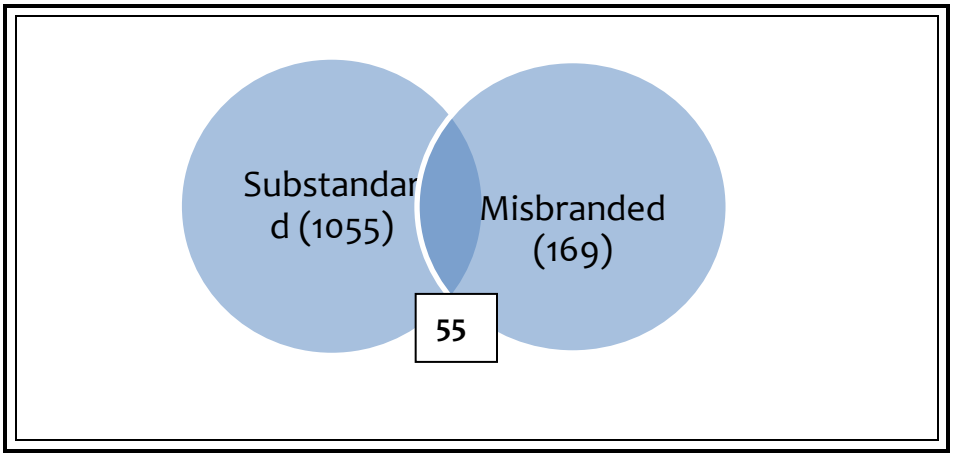


Figure.13

Product wise % distribution of non-compliant samples

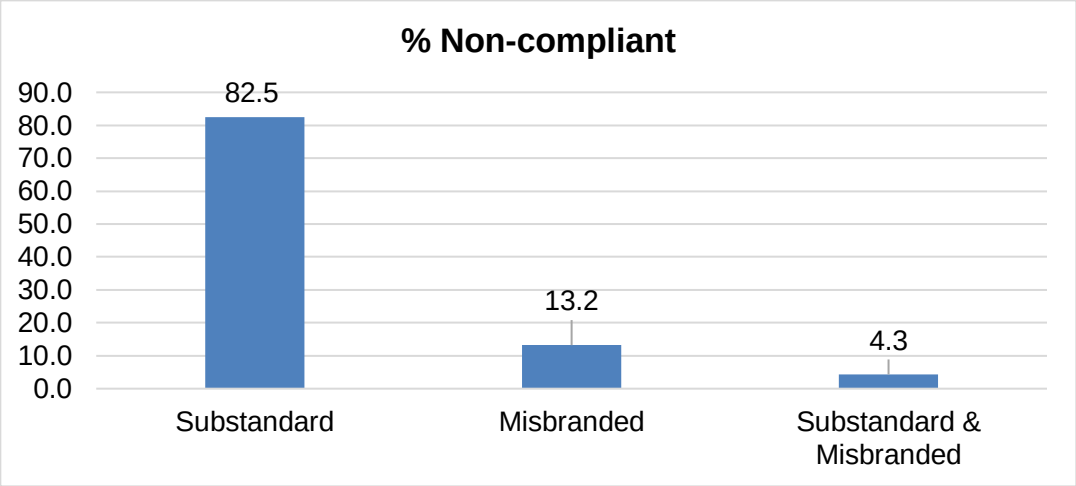


Figure.14

3.4.1 Region wise Status of Non-compliance:

The non-compliance is reported higher in the north region followed by the Western, Eastern, and Southern Region. North region had 52.3% (581/1110) substandard Jaggery. Misbranded samples were found highest in the southern region in 40.6% samples (91/224).

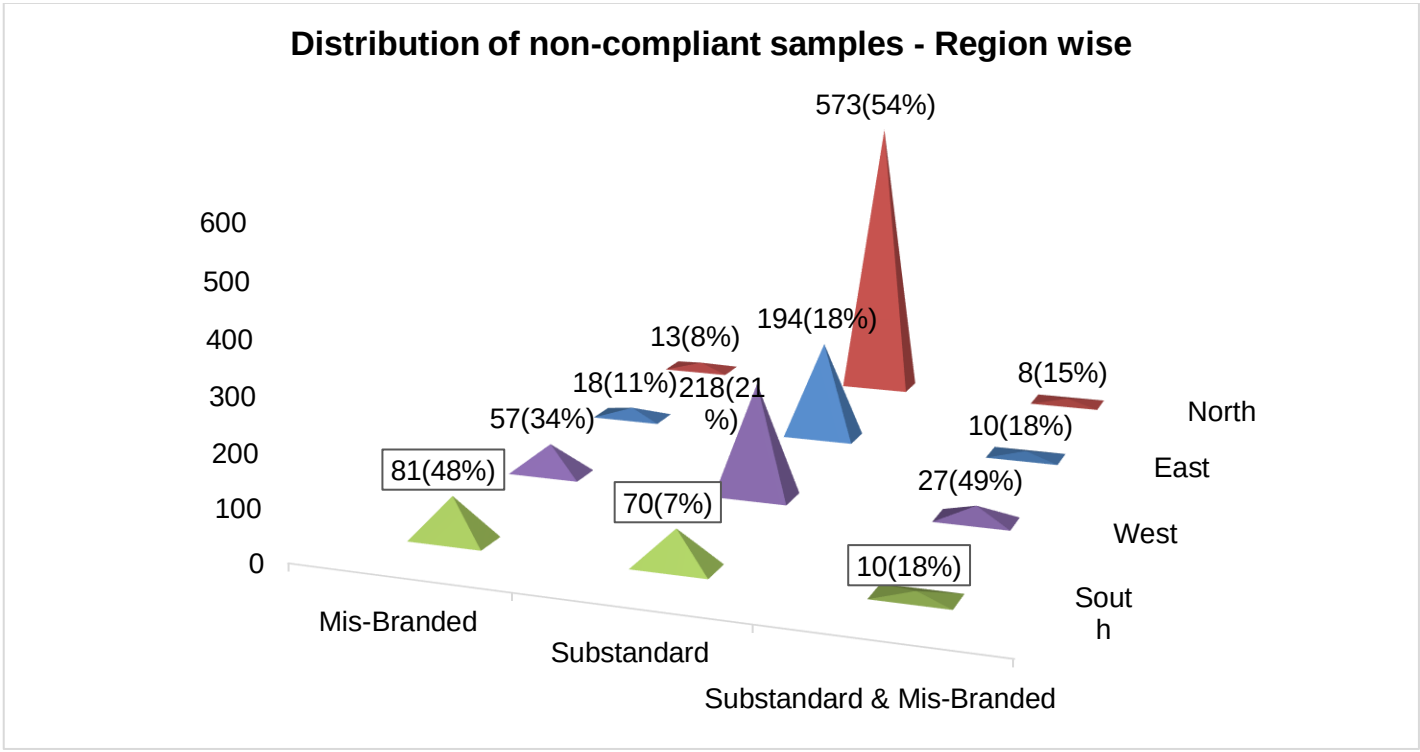


Figure.15 Details of Region Wise Non-Compliance

Refer Annexure-XV for Details of Region Wise Non-Compliance

3.4.2 State/UT wise status of Non-Compliant Samples:

Non-Compliance on account of sub-standard was highest in Dadra Nagar Haveli 90% (09/10), followed by Bihar 88.4% (76/86), Punjab 81.5% (150/184), Goa 72.2% (26/36), and Arunachal Pradesh 70% (14/20). Misbranding was found highest in Arunachal Pradesh 100% (04/04), followed by Sikkim 60% (03/05), Kerala 50.9% (27/53), Tamil Nādu 36.6% (37/101), Chhattisgarh 33.3% (04/12) and Maharashtra 31.7% (58/183).

Refer Annexure-XVI for details of wise state wise non-compliance

3.4.3 Non-Compliant Samples in Major cities:

Substandard samples were found highest in Ludhiana followed by Meerut, Ahmedabad, Amritsar, Rajkot, Agra, Kanpur, Nashik, Patna, and Gorakhpur. Solapur in Maharashtra and Kochi in Kerala showed higher non-compliance on account of misbranding followed by Bengaluru, Chandigarh, and Chennai.

Refer Annexure-XVII for details of Major City Wise Non-Compliance

3.4.4 Non-Compliance Status of e-commerce samples:

In E-Commerce samples the non-compliance was found highest in Mumbai 87.5% (28/32), followed by Chennai 46.9% (15/32), Kolkata 45.2% (14/31), Bengaluru 34.4% (11/32) and Delhi with 31.2% (10/32). Among the five metropolitan cities Mumbai had the highest number of substandard samples 45.7% (16/35) followed by misbranded samples 35.1% (20/57).

Refer Annexure-XVIII for City wise details of non-compliance of E-Commerce samples

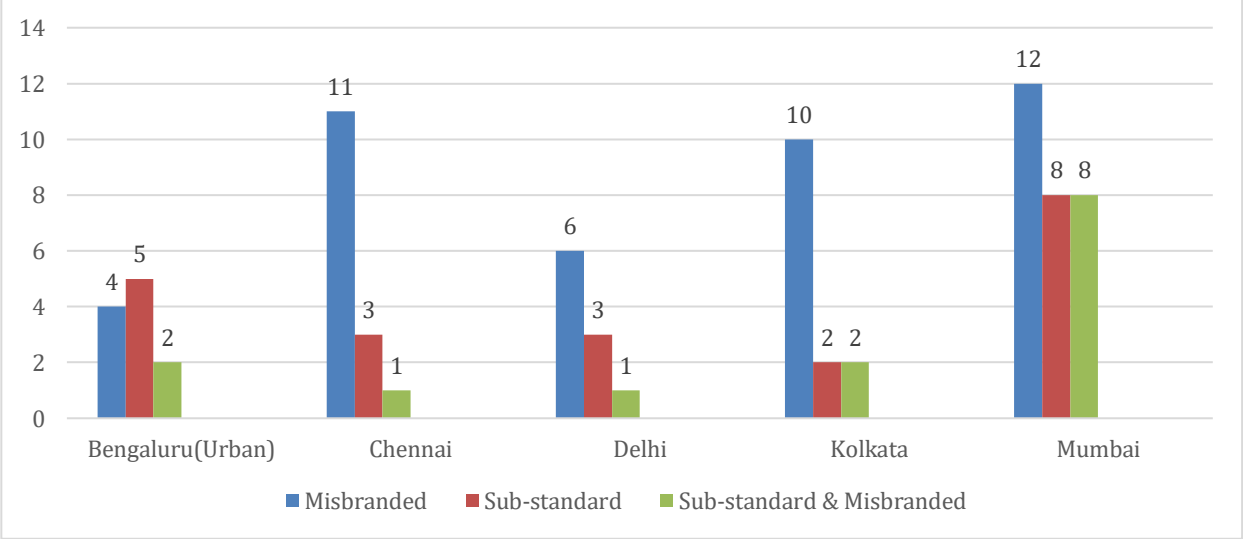


Figure.16

3.5 Parameter Wise - Non-Compliant Samples

3.5.1 Ash insoluble in dilute hydrochloric acid on dry basis:

Acid-insoluble ash **consists primarily of silica and silicates.** Acid insoluble ash value indicates the presence of silica and silicates. Acid Insoluble Ash content is the proportion of the sample that is not hydrolysed by sulphuric acid and is not subsequently volatilized upon the incineration of the acid Insoluble Residue. Out of 3060 samples, two samples of Cane Jaggery (solid) (0.1 %) were found non-compliant for acid-insoluble ash. Out of the 2 non-compliant samples one sample was collected from Bihar and another one from Punjab.

3.5.2 Moisture

Moisture content is the reference to the amount of moisture present in a material. The shelf life of the food material is determined by the moisture content in the food. It is an important parameter to determine the quality and stability of food. Significant non-compliance in 21.6% (590/2728) of the samples was observed in solid cane jaggery followed by Powdered Cane jaggery 13.7% (31/227) and Date palm jaggery 11.8% (2/17). The non-compliance of 20.4% (623/3060) amongst all the jaggery variants was due to higher moisture content than the prescribed limit.

Amongst the states, samples drawn from Bihar had the highest non-compliance at 88.4% (76/86) followed by Odisha 52.8% (38/72), Dadra Nagar Haveli 50% (5/10), and Jharkhand 50% (18/36). In 14 states and union territories, 100% compliance was seen in respect of moisture.

Refer Annexure-XIX and XX for State-wise/Variant wise details of number of non-compliant samples in Moisture

3.5.3 Reducing Sugars on dry basis (tested only in cane jaggery variants):

A **reducing sugar** is any sugar that is capable of acting as a reducing agent. Reducing sugar consists of either a free aldehyde group or a ketone group. The non-compliance in the reducing sugars is observed in 0.9% (27/2983) of the samples which includes 0.5% (13/2728) samples of Solid cane jaggery and 50% (14/28) samples of liquid cane jaggery. 100% compliance was seen in 23 states and non-compliance was observed in twelve States & Union territories, with Dadra and Nagar Haveli reporting the highest non-compliance at 20% (2/10) followed by Delhi at 7.3% (3/41), Goa at 5.6% (2/36), and Manipur 5% (1/20). The remaining 8 states had marginal non-compliance (less than 2%).

Refer Annexure-XXI and XXII for State-wise/Variant wise details of number of non-compliant samples for reducing sugar content.

3.5.4 Sulphate Ash on dry basis (tested only in cane jaggery variants):

This test is important to measure the amount of residual substance that is non-volatile in nature when the sample is ignited in the presence of sulfuric acid. This test is used to determine the content of inorganic impurities in any substances. Out of the 2983 samples of the Cane jaggery analysed, 16 samples (0.6%) were found non-compliant for sulphated ash. Out of these 16 samples, 10 samples are collected from Maharashtra (3.3%), followed by two each from Gujarat (1.3%) and Punjab (1.1%) and one each from Nagaland (5%) and Uttar Pradesh (0.1%).

3.5.5 Sucrose on dry basis:

Sucrose is the major sugar component of Jaggery and sucrose along with reducing sugars accounts for 90% of the constituent.

The non-compliance was found only in 2.1% of the samples (63/3060). Among the jaggery variants solid cane jaggery showed 1.7% non- compliance (46/2728) followed by liquid cane Jaggery at 60.7% (17/28). Samples from 22 states ensured 100% compliance. A high percent of non-compliance was seen in Dadra Nagar Haveli (3/10) followed by Manipur 10% (2/20), Delhi 8.3% (4/48) and Gujarat 8.1% (13/160). The rest of the states showed non-compliance in less than 4% of the samples.

Refer Annexure-XXIII and XXIV for State-wise/Variant wise details of number of non-compliant samples in Sucrose.

3.5.6 Total sugars on dry basis (tested only in cane jaggery variants):

High level of compliance was seen in majority of the samples collected and non-compliance was observed only in 3.4% (100/2983) of the samples. Variant wise the cane jaggery (powdered) showed non-compliance for 1.8% (4/227) samples, followed by cane jaggery (solid) 3% (83/2728) and Liquid cane Jaggery 46.4% (13/28). Samples from 20 States/UTs ensured 100% compliance. A high percentage of non-compliance was seen in Manipur 20% (4/20) followed by Arunachal Pradesh 16.7% (3/18), Punjab 12.5% 23/184), and Dadra Nagar Haveli 10% (1/10). In the rest of the states/UTs, the % non-compliant samples were found to be less than 7%.

Refer Annexure-XXV and XXVI for State-wise/Variant wise details of non-compliant samples in total sugars

3.5.7 Total sugars expressed as invert sugar on dry basis (applicable to coconut, date palm and palm jaggery variants)

Out of the 77 samples of Palm coconut and date palm jaggery collected 1.3%(01/77) was found to be non-compliant, which is 2.1% (01/47) sample Palm Jaggery found to be non-compliant for total sugars expressed as invert sugar (on a dry basis).

3.5.8 Total Ash on dry basis (applicable to coconut, date palm and palm jaggery variants):

The ash content of a sample is a measure of the amount of inorganic non-combustible material. It is the residue after a sample is completely burnt. All the jaggery samples analysed for total ash ensured compliance.

3.5.9. Heavy Metals:

None of the samples were found non-compliant for the 7 heavy metals analysed (Arsenic, Cadmium, Copper, lead, mercury, Methyl Mercury, and Tin). The heavy metals were not detected in 19.2% (588/3060) of samples. Out of the 588 samples 21.6% (217/1004) were packed and 18% (371/2056) were loose samples. Further 80.8% (2472/3060) of samples had the heavy metals above LOQ, but within the limit specified under FSSR that includes 78.4% (787/1004) packed and 82% (1685/2056) of loose samples.

3.5.10. Added colour (tested only in cane jaggery variants):

The non-compliance in 14.4% of the samples was found in cane jaggery (solid, and powdered). The colours such as Erythrosine, Ponceau 4R, Sunset yellow and tartrazine was found in cane jaggery Solid, and powdered samples. 15.4% (35/227) of the powdered cane jaggery had Sunset yellow and Tartrazine and 14.5% (395/2728) of the solid cane jaggery had Erythrosine, Ponceau 4R, Sunset yellow and tartrazine.

Samples from Punjab showed highest non-compliance for added colour 70.1% (129/184), followed by Arunachal Pradesh 66.7% (12/18), Goa 47.2% (17/36), Dadra Nagar Haveli 40% (4/10), Uttar Pradesh 34.6% (143/413) and Himachal Pradesh 28.6% (20/70). Haryana, Manipur, Maharashtra, West Bengal, Kerala, Rajasthan, Tamil Nadu, and Gujarat showed non-compliance for added colour from 15.3% to 1.3%.

Refer Annexure-XXVII and XXVIII for State-wise/Variant wise details of number of non-compliant samples in added colour

Refer Annexure-XXIX for details of name/type of added colour present in jaggery variants

3.5.11 Sulphite:

Sulphite in the form of sodium salts is used as bleaching agent in jaggery. The non-compliance was observed in 10.3% (315/3060) of the jaggery samples. The highest non-compliance was observed in Solid cane jaggery 11.2% (305/2728), sample followed by Coconut jaggery 7.7% (01/13), Liquid cane jaggery 3.6% (1/28) and powdered cane jaggery 3.5% (08/227) samples.

Chandigarh, Jharkhand, Madhya Pradesh, Meghalaya, Tripura, and Uttarakhand showed 100% compliance for all the samples drawn from the cities for all the parameters. Top states with higher than 25% non-compliance were

Gujarat 35.6% (57/160); Rajasthan 30.9% (47/152); Lakshadweep 30% (3/10), Manipur 30% (6/20), Himachal Pradesh 27.1% (19/70) and Haryana 25.6% (45/176).

Refer Annexure-XXX and XXXI for State-wise/Variant wise details of number of samples non-compliant in sulphite

Refer Annexure-XXXII for details of sulphite concentrations obtained more than the specified limit

4.0 KEY FINDINGS

- Out of the 3060 samples, 34.5% (1055/3060) of samples were found to be substandard and 5.5% (169/3060) were misbranded. Further 1.8% (55/3060) of samples were found to be both substandard & misbranded. Out of the 36.3% of the substandard samples 25.9% (260/1004) were packed and 41.3% (850/2056) were loose samples.
- Misbranding was observed in 22.3% (224/1004) of the samples.
- Out of the 1004 packed samples, 25.9% (260/1004) samples were found to be sub-standard, 16.8% (169/1004) samples were misbranded and 5.5% (55/1004) were found to be both substandard & misbranded.
- Out of the 2056 loose samples, 41.3% (850) samples were found to be substandard.
- None of the sample analysed was found to be non- compliant for 'total ash' content or 'heavy metals
- Added colours were found more in loose samples compared to the packed samples. 15.4% (317/2056) of the loose samples had the added colours such as Erythrosine, Ponceau 4R, Sunset yellow and tartrazine and 9.2% (92/1004) of the packed samples had Sunset yellow and tartrazine. In the remaining 0.92% (19/2056) of loose samples and 0.2% (02/1004) of packed samples the qualitative analysis revealed the presence of added colour, however the nature of the colour could not be analysed by the lab due to the insignificant quantity of the jaggery samples.
- Non-compliance on account of added colours (Erythrosine, Ponceau 4R, Sunset yellow and tartrazine) was found in 14.4% (430/2983) samples of Cane Jaggery, 14.5% (395/2728**)** of Cane Jaggery (Solid) had Erythrosine, Ponceau 4R, Sunset yellow and tartrazine and 15.4% (35/227) of Cane Jaggery (powdered) had Sunset yellow and tartrazine. None of the liquid Jaggery samples (28) were found non-compliant for any added colour

- Sulfite in concentration more than the prescribed limit was found more in loose samples 11.9% (245/2056) compared to packed samples 7% (70/1004).
- Among the Jaggery variants, the higher concentration of sulphite than the prescribed limit was found majorly in solid cane jaggery (11.2%), followed by coconut jaggery (7.7%), liquid cane jaggery (3.6%) and powdered cane jaggery (3.5%) sample.
- None of the date palm & palm jaggery samples had sulphite more than the prescribed limit.
- Higher moisture content was found in 24.5% of loose samples compared to 11.9% of packed samples.
- Non- compliance on account of moisture content was observed in 21.6% (590/2728) of cane jaggery (solid) followed by 13.7% of cane jaggery (powdered) and 11.8% of date palm jaggery samples.
- Coconut Jaggery and Palm Jaggery were found compliant for the moisture content limit.
- Non- compliance on account of lower sucrose content was found only in Cane Jaggery samples and not in other variants of Jaggery
- All the samples of coconut jaggery (packed & loose) were compliant for quality parameters.
- All the loose samples of date palm jaggery (6 samples) were found compliant with the quality parameters
- All the packed samples of Palm Jaggery (23 samples) were found compliant with the quality parameters
- In E-Commerce samples, the non-compliance was found to be highest in samples received from Mumbai 87.5% (28/32), followed by Chennai 46.9% (15/32), Kolkata 45.2% (14/31), Bengaluru 34.4% (11/32) and Delhi with 31.2% (10/32). Out of e-commerce samples, 13.2% (21/159) were substandard, 27% (43/159) were misbranded, 8.8% (14/159) samples were found to be substandard & misbranded
- Overall, 67.9% (19/28) of liquid cane jaggery samples were found to be sub-standard, out of which 3.6% (01/28) of samples had sucrose less than the prescribed limit, 7.1% (02/28) samples had total sugars less than the prescribed limit, 7.1% (02/28) of samples had both sucrose & total sugars less than the prescribed limit, 17.9% (05/28) samples had higher than the prescribed limit for reducing sugars & sucrose less than the prescribed limit. Non-compliance on account of higher than the reducing sugars and lower in sucrose & total sugars than the prescribed limit was found in 32.1% (09/28) of samples.

- Highest compliance was observed in Palm Jaggery (76.6%) and lowest was observed in liquid cane Jaggery (21.4%) samples.
- Samples (Cane Jaggery solid and cane Jaggery powdered) from Punjab showed highest percent of non-compliance for the presence of added colour
- Samples from Gujarat (cane Jaggery solid and cane Jaggery powdered) had the highest non-compliance for sulphite in concentration more than the prescribed limit.
- The highest non- compliance on account of moisture was found in cane Jaggery solid and cane Jaggery powdered samples from Bihar.
- Chandigarh, Jharkhand, Madhya Pradesh, Meghalaya, Tripura, and Uttarakhand showed 100% compliance for sulphite content. The higher non-compliance for sulphites in samples was observed in States like Gujarat, Rajasthan, Lakshadweep, Manipur, Himachal Pradesh, and Haryana.

5.0 CONCLUSION

1. All the jaggery samples analysed were found compliant to safety parameters
2. High moisture in jaggery was found to be the major cause for rendering the product substandard. Amongst all the jaggery variants 20.4% (623/3060) samples were non- compliant due to the higher moisture content than the prescribed limit as per FSSR
3. In overall terms, the Southern region showed highest compliance (78.3%) followed by the Eastern (59.4%); Western (53.3%) and Northern region (47.2%).
4. In overall terms of safety and quality, the highest compliance was observed in samples drawn from Tripura while the least compliance was found in Dadra and Nagar Haveli.
5. Palm Jaggery (76.6%) had the highest compliance followed by Powdered cane Jaggery (67.4%); Solid Cane Jaggery (57.6%); Date Palm Jaggery (47.1%); Coconut Jaggery (46.2%) and Liquid cane jaggery (21.4%)
6. None of the liquid Jaggery samples were found to be non- compliant for any added colour
7. It was observed that 22.3% (224/1004) of the ‘packed’ jaggery samples were not adhering to the requirements of the labeling regulations.

8. It is observed that the E-Commerce platforms are also selling the jaggery samples in loose form without following the requirements of labeling. One sample from E-commerce portal was received in traditional palm leaf pack without any label on the packet.

6.0 WAY FORWARD

1. In the current surveillance, added colours were found in Jaggery. Emphasis can be given in regulatory sampling to analyse added colour with specific focus in identifying the nature of the colour and to quantify the different types of colours used during the Jaggery manufacturing.

2. A separate vertical standard can be proposed for liquid cane jaggery. The liquid jaggery was analysed based on the parameters specified for solid cane jaggery. It was observed that the level of moisture was varying between 9.8 to 37.3% in the analysed samples. In 50% or more of the samples, the non-compliance was observed in major quality parameters.

3. The Standards for Jaggery states that it should be free from added colour and also the additive sulphite, it is allowed to be used in jaggery at the level of 50mg/kg (Residue not to exceed 50mg/Kg in Jaggery).

    - The analysis revealed that some of the Jaggery samples had added colours (which are permitted synthetic colours and are allowed to be used in different commodities as per FSSR) such as Erythrosine, Ponceau 4R, Sunset yellow and Tartrazine. The sulphites were also found in concentration more than the prescribed limit (up to 750 PPM against the maximum permitted level of 50mg/kg), however sulphites are allowed in concentrations ranging from 15mg/kg to 1000mg/kg in selected commodities as per FSSR.
    - Based on the provisions of synthetic colours & sulphite in the FSSR, the jaggery samples having added colour and sulphite in concentration more than the prescribed limit are considered as substandard samples and not as unsafe samples (As per the definition of FSS Act, 2006 “Sub-standard” an article of food shall be deemed to be sub-standard if it does not meet the specified standards but not so as to render the article of food unsafe).
    - FBOs are expected to ensure compliance as per the standards and the defined limits of additives prescribed for different commodities as per FSSR. The additives are added for technological functions and recommended to be used at minimum quantity/ the quantity prescribed for different commodities. In case of colour additives (either natural or permitted synthetic colours) are not permitted in staple commodities in FSSR. Colours provide no nutritive value and are added to

make the food attractive and appealing. Also as described at point 6 below sulphite may cause allergy in few individuals, hence the food business operators are advised to use sulphite as per the limit prescribed for each commodity

- Jaggery is manufactured largely in unorganised sector, therefore a study can be conducted through research institutes like CFTRI, NIN, PBTI etc. to understand the impact of addition of permitted synthetic colour and whether there are any adverse /detrimental effects on health.
- Similarly, as the sulphite is used in concentration more than the prescribed limit in commonly consumed commodities like Jaggery, the possible dietary exposure and consumption of sulphite from different food sources in light of the Acceptable Daily Intake (ADI) of sulphite can be studied by identified research organisations.

4. Jaggery is manufactured largely in unorganized sector or in small cottage industries/ in loose form and consequently, it is available as 'loose' rather than in packed form, hence the manufacturing and processing of jaggery needs to be strengthened. A FSMS plan for manufacturing and processing of jaggery may be developed by FSSAI to ensure GMP/GHP.

5. FSSAI and Other Departments like FCI & Ministries (Agriculture, Consumer Affairs & MSME) and Industries like ISMA can be involved to provide training to Jaggery manufacturers to ensure compliance with the specified Standards and can create awareness among FBOs on the detrimental effect of added colours and excessive use of sulphites.

6. Sulfite is listed as one of the ingredients in FSSR which may cause allergy. The mandatory requirement for declaration of sulphite in the label is enforced for implementation, if it is used in concentrations of 10mg/kg or more. Awareness in this regard can be created among the Jaggery Manufacturers through FoSTaC to declare the use of sulfite in concentrations of 10mg/kg or more, on the label as an informed choice to the consumer.

7. Indian Council for Agricultural Research - Indian Institute of Sugar Cane Research Institutes (IISRI, Lucknow), National Sugar Institutes & State Research Institutes can create awareness and conduct capacity building programs for Jaggery manufacturers about the new processing techniques and ways which can help in reducing the sulphite content. Entrepreneurship development programme may be organised by ICAR-IISR for processing of Jaggery without the addition of sulphite.

8. Ministry of Food Processing Industries (MoFPI) and the Ministry of MSME may coordinate and work towards improving the infrastructure of small and cottage Industries through different incentivizing

schemes in order to upgrade small scale cottage level units and automation in manufacturing processes.

9. Awareness to be created among consumers to buy packed products as the loose products are highly amenable to moisture absorption besides catching dust and dirt compared to packed products.

10. Efforts can be made to create awareness and emphasize the vendors selling loose jaggery to preferably pack it and sell it to the consumers

11. States to be encouraged to make use of Food Safety on Wheels to create awareness among manufacturers and consumers on good manufacturing & hygiene practices and ways to prevent and curb adulteration.

12. E-commerce platforms need to be regulated and should provide information as per labelling requirements in the retail packs.

13. Training can be provided to Food Safety Officers through FoSTaC to use digital tools (like mobile applications to capture all relevant requirements) for effective monitoring, surveillance, and enforcement

7.0 ANNEXURES

ANNEXURE-I: TEST REQUEST FORM SHARED WITH THE STATE OFFICIALS

Test Request Form

(To be attached with each sample)

Sample Code:

Date of Sample Collection:

Location of sampling with address:

Name of Sample:

Brand Name (please indicate if it is loose):

Batch No. (In case of packed sample):

Manufacture Date (MM/DD/YYYY):

Best Before Date (MM/DD/YYYY):

Name of the Lab to which dispatched:

Date of dispatch to the State Food Testing Lab/FSSAI selected Lab:

Name and Signature of Food Safety Officer (FSO) with stamp

ANNEXURE-II TABLE.1 DETAILS OF TEST PARAMETERS

Categories	Parameters	Limits
Vertical Parameters		
Gur / Jaggery	Total sugars expressed as invert sugar	Not less than 90 percent and sucrose not less than 60 percent
	Total ash	Not more than 6 per cent
	Ash insoluble in hydrochloric acid (HCl)	Not more than 0.5 per cent
	Moisture	10%
Cane Jaggery or Cane Gur	Moisture, per cent. by mass, Max	7
	Sucrose, per cent. by mass, Min	70
	Total Sugars, Min	90
	Reducing sugars, per cent. by mass, Max	20
	Sulphate ash, per cent. by mass, Max	4
	Ash insoluble in dilute hydrochloric acid, per cent. by mass, Max	0.5
	Added colour	Not permitted
Additives	Sulfite	50mg/Kg (Residue not to exceed 50mg/ Kg in the end product]
Horizontal Parameters		
Metals	Lead, mg/kg Max	2.5
	Copper, mg/kg Max	30
	Arsenic, mg/kg Max	1.1
	Tin, mg/kg Max	250
	Cadmium, mg/kg Max	1.5
	Mercury, mg/kg Max	1.0
	Methyl Mercury (Calculated as the element), mg/kg Max	0.25

TABLE.2 TEST PARAMETERS CLASSIFICATION (ANALYTICAL BASIS)

S. NO.	GROUP	NUMBER OF TEST PARAMETERS		
		Gur or Jaggery	Cane Jaggery (Solid)	Cane Jaggery (Liquid)
1	PHYSICAL EXAMINATION TEST GROUP	1	1	1
2	CHEMICAL TEST GROUP	5	7	8
3	ADDITIVES TEST GROUP	1	1	1
4	CONTAMINANTS TEST GROUP	7	7	7
	TOTAL	**14**	**16**	**17**

ANNEXURE-III DETAILS OF JAGGERY TYPES WITH CODES COLLECTED DURING SURVEY

S. NO	JAGGERY TYPE	CODE
1	CANE JAGGERY (SOLID)	P1V1
2	CANE JAGGERY (POWDERED)	P1V3
3	PALM JAGGERY	P2V1
4	COCONUT JAGGERY	P3V1
5	DATE PALM JAGGERY	P4V1
6	CANE JAGGERY (LIQUID)	P5V1

ANNEXURE-IV LIST OF LABORATORIES PARTICIPATED IN THIS SURVEY

S. NO	NAME OF LABORATORY
1	Accurate Lab, Gujarat, Ahmedabad

S. NO	NAME OF LABORATORY
2	Bureau Veritas (India) Pvt. Ltd, Tamil Nadu, Chennai
3	ChennaiÂMettex Lab Pvt Ltd, Tamil Nadu, Chennai
4	Delhi Test House, New Delhi, Delhi
5	Eurofins Analytical Services India Pvt Ltd, Karnataka, Bengaluru
6	Eurofins Analytical Services, Haryana , Gurugram
7	Excellent Bio Research Solutions Pvt. Ltd., Madhya Pradesh, Jabalpur
8	Hitech Lab , Gujarat, Ahmedabad
9	Hubert Enviro Care Systems(P)Ltd, Tamil Nadu, Chennai
10	Interstellar Testing Centre Pvt Ltd, Tamil Nadu, Chennai
11	Krishna Digital Material Testing Laboratory, Madhya Pradesh, Bhopal
12	MAARC LABS PVT. LTD., Maharashtra, Pune
13	Mats India Pvt. Ltd., Tamil Nadu, Chennai
14	National Commodities Management services Limited, Andhra Pradesh, Visakhapatnam
15	National Commodities Management services Limited, Haryana, Gurgaon
16	National Commodities Management services Limited, Maharashtra, Navi Mumbai
17	National Commodities Management Services Limited, Telangana, Hyderabad
18	National Food Laboratory, West Bengal, Kolkata
19	NFL, Uttar Pradesh, Ghaziabad

ANNEXURE-V REGION WISE NUMBER OF SAMPLES / VARIANTS TAKEN

Region	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
East	5	26	494	2	11	9	547
North	7	75	1036	3	1	3	1125
South	11	86	606	4	2	33	742
West	5	40	592	4	3	2	646
Grand Total	28	227	2728	13	17	47	3060

ANNEXURE-VI TABLE 1 TOTAL NUMBER OF SAMPLES TAKEN VARIANT WISE DISTRICT/CITY CATEGORY WISE

Type of City/District	No of Cities/Districts	No of samples
E-commerce	5	159
Cane Jaggery (Liquid)	5	28
Cane Jaggery (Powdered)	5	43
Cane Jaggery (Solid)	5	46
Coconut Jaggery	5	13
Date Palm Jaggery	4	9
Palm Jaggery	5	20
Cane Jaggery (Powdered)	39	94
Cane Jaggery (Solid)	50	704
Palm Jaggery	1	1
Cane Jaggery (Powdered)	22	39
Cane Jaggery (Solid)	179	1735

Type of City/District	No of Cities/Districts	No of samples
Date Palm Jaggery	1	2
Palm Jaggery	1	6
Cane Jaggery (Powdered)	17	51
Cane Jaggery (Solid)	20	243
Date Palm Jaggery	1	6
Palm Jaggery	4	20
Grand Total	**249**	**3060**

TABLE2. STATE WISE NUMBER OF SAMPLES / VARIANTS TAKEN

S. No	State /UT	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
1	Andaman& Nicobar Islands	0	0	10	0	0	0	10
2	Andhra Pradesh	0	14	88	0	0	2	104
3	Arunachal Pradesh	0	0	18	0	2	0	20
4	Assam	0	5	31	0	0	0	36
5	Bihar	0	3	83	0	0	0	86
6	Chandigarh	0	0	16	0	0	0	16
7	Chhattisgarh	0	0	36	0	0	0	36
8	Dadra Nagar Haveli	0	0	10	0	0	0	10
9	Delhi	7	12	22	3	1	3	48

S. No	State /UT	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
10	Goa	0	2	34	0	0	0	36
11	Gujarat	0	7	153	0	0	0	160
12	Haryana	0	4	172	0	0	0	176
13	Himachal Pradesh	0	1	69	0	0	0	70
14	Jammu & Kashmir	0	0	16	0	0	0	16
15	Jharkhand	0	2	34	0	0	0	36
16	Karnataka	7	26	196	3	2	8	242
17	Kerala	0	9	89	0	0	0	98
18	Ladakh	0	2	8	0	0	0	10
19	Lakshadweep	0	0	10	0	0	0	10
20	Madhya Pradesh	0	6	122	0	0	0	128
21	Maharashtra	5	25	273	4	3	2	312
22	Manipur	0	0	20	0	0	0	20
23	Meghalaya	0	0	26	0	0	6	32
24	Nagaland	0	1	19	0	0	0	20
25	Odisha	0	0	72	0	0	0	72
26	Puducherry	0	0	10	0	0	0	10
27	Punjab	0	23	161	0	0	0	184
28	Rajasthan	0	3	149	0	0	0	152

S. No	State /UT	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
29	Sikkim	0	0	20	0	0	0	20
30	Tamil Nadu	4	35	169	1	0	23	232
31	Telangana	0	2	44	0	0	0	46
32	Tripura	0	0	20	0	0	0	20
33	Uttar Pradesh	0	27	386	0	0	0	413
34	Uttarakhand	0	3	37	0	0	0	40
35	West Bengal	5	15	105	2	9	3	139
Grand Total		**28**	**227**	**2728**	**13**	**17**	**47**	**3060**

TABLE 3. DISTRICT/CITY WISE NUMBER OF SAMPLES / VARIANTS TAKEN

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
	Andaman& Nicobar Islands							
1	Diglipur	0	0	10	0	0	0	10
	Andhra Pradesh							
2	Chittoor	0	4	12	0	0	0	16
3	Krishna	0	3	7	0	0	0	10
4	Nellore	0	0	10	0	0	0	10
5	Prakasam	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
6	Srikakulam	0	1	13	0	0	2	16
7	Vijayawada	0	2	14	0	0	0	16
8	Visakhapatnam	0	2	14	0	0	0	16
9	YSR District, Kadapa	0	2	8	0	0	0	10
	Arunachal Pradesh							
10	Changlong	0	0	10	0	0	0	10
11	Lohit	0	0	8	0	2	0	10
	Assam							
12	Guwahati	0	5	11	0	0	0	16
13	Hojai	0	0	10	0	0	0	10
14	Karbi Anglong	0	0	10	0	0	0	10
	Bihar							
15	Banka	0	0	10	0	0	0	10
16	Gaya	0	0	10	0	0	0	10
17	Gopalganj	0	0	10	0	0	0	10
18	Jamui	0	0	10	0	0	0	10
19	Madhepura	0	0	10	0	0	0	10
20	Muzaffarpur	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
21	Patna	0	3	13	0	0	0	16
22	Sheohar	0	0	10	0	0	0	10
	Chandigarh							
23	Chandigarh	0	0	16	0	0	0	16
	Chhattisgarh							
24	Bastar	0	0	10	0	0	0	10
25	Jashpur	0	0	10	0	0	0	10
26	Raipur	0	0	16	0	0	0	16
	Dadra Nagar Haveli							
27	Daman Diu	0	0	10	0	0	0	10
	Delhi							
28	Delhi	7	12	22	3	1	3	48
	Goa							
29	North Goa	0	1	9	0	0	0	10
30	Panjim	0	1	15	0	0	0	16
31	South Goa	0	0	10	0	0	0	10
	Gujarat							
32	Ahmedabad	0	1	15	0	0	0	16
33	Amreli	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
34	Aravalli	0	0	10	0	0	0	10
35	Bharuch	0	0	10	0	0	0	10
36	Botad	0	0	10	0	0	0	10
37	Dangs (Ahwa)	0	0	10	0	0	0	10
38	Gir Somnath	0	0	10	0	0	0	10
39	Jamnagar	0	0	10	0	0	0	10
40	Junagadh	0	2	14	0	0	0	16
41	Kachchh	0	2	8	0	0	0	10
42	Rajkot	0	0	16	0	0	0	16
43	Surat	0	0	16	0	0	0	16
44	Vadodara	0	2	14	0	0	0	16
	Haryana							
45	Ambala	0	0	10	0	0	0	10
46	Bhiwani	0	0	10	0	0	0	10
47	Charkhi Dadri	0	0	10	0	0	0	10
48	Faridabad	0	4	12	0	0	0	16
49	Fatehabad	0	0	10	0	0	0	10
50	Jhajjar	0	0	10	0	0	0	10
51	Jind	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
52	Kaithal	0	0	10	0	0	0	10
53	Karnal	0	0	10	0	0	0	10
54	Kurukshetra	0	0	10	0	0	0	10
55	Mahendragarh	0	0	10	0	0	0	10
56	Nuh	0	0	10	0	0	0	10
57	Panchkula	0	0	10	0	0	0	10
58	Panipat	0	0	10	0	0	0	10
59	Rohtak	0	0	10	0	0	0	10
60	Sirsa	0	0	10	0	0	0	10
61	Sonipat	0	0	10	0	0	0	10
	Himachal Pradesh							
62	Bilaspur	0	0	10	0	0	0	10
63	Chamba	0	0	10	0	0	0	10
64	Hamirpur	0	0	10	0	0	0	10
65	Lahaul & Spiti	0	1	9	0	0	0	10
66	Shimla	0	0	10	0	0	0	10
67	Solan	0	0	10	0	0	0	10
68	Una	0	0	10	0	0	0	10
	Jammu & Kashmir							

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
69	Srinagar	0	0	16	0	0	0	16
	Jharkhand							
70	Chatra	0	0	10	0	0	0	10
71	Giridih	0	0	10	0	0	0	10
72	Ranchi	0	2	14	0	0	0	16
	Karnataka							
73	Ballari (Bellary)	0	0	10	0	0	0	10
74	Belagavi	0	1	9	0	0	0	10
75	Belgaum	0	3	13	0	0	0	16
76	Bengaluru Rural	0	2	8	0	0	0	10
77	Bengaluru (Urban)	7	9	21	3	2	6	48
78	Bidar	0	0	10	0	0	0	10
79	Chikballapur	0	0	10	0	0	0	10
80	Chikkamagaluru	0	0	10	0	0	0	10
81	Chitradurga	0	0	10	0	0	0	10
82	Dakshina Kannada	0	0	10	0	0	0	10
83	Gadag	0	1	9	0	0	0	10
84	Haveri	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
85	Kodagu	0	0	10	0	0	0	10
86	Kolar	0	0	10	0	0	0	10
87	Mandya	0	7	9	0	0	0	16
88	Mysore	0	3	13	0	0	0	16
89	Raichur	0	0	10	0	0	0	10
90	Udupi	0	0	14	0	0	2	16
	Kerala							
91	Idukki	0	5	11	0	0	0	16
92	Kasaragod	0	0	10	0	0	0	10
93	Kochi	0	2	14	0	0	0	16
94	Kottayam	0	0	10	0	0	0	10
95	Palakkad	0	0	10	0	0	0	10
96	Pathanamthitta	0	0	10	0	0	0	10
97	Thivanthpuram	0	2	14	0	0	0	16
98	Thrissur	0	0	10	0	0	0	10
	Ladakh							
99	Leh	0	2	8	0	0	0	10
	Lakshadweep							
100	Lakshwadeep	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
	Madhya Pradesh							
101	Ashoknagar	0	0	10	0	0	0	10
102	Bhopal	0	2	14	0	0	0	16
103	Chhindwara	0	0	10	0	0	0	10
104	Gwalior	0	0	10	0	0	0	10
105	Hoshangabad	0	0	10	0	0	0	10
106	Indore	0	2	14	0	0	0	16
107	Jabalpur	0	2	14	0	0	0	16
108	Jhabua	0	0	10	0	0	0	10
109	Mandsaur	0	0	10	0	0	0	10
110	Narsinghpur	0	0	10	0	0	0	10
111	Sidhi	0	0	10	0	0	0	10
	Maharashtra							
112	Ahemdnagar	0	2	14	0	0	0	16
113	Akola	0	0	10	0	0	0	10
114	Aurangabad	0	3	13	0	0	0	16
115	Beed	0	0	10	0	0	0	10
116	Bhandara	0	0	10	0	0	0	10
117	Gadchiroli	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
118	Gondia	0	0	10	0	0	0	10
119	Hingoli	0	0	10	0	0	0	10
120	Kolhapur	0	2	14	0	0	0	16
121	Latur	0	0	10	0	0	0	10
122	Mumbai	5	11	23	4	3	2	48
123	Nagpur	0	2	14	0	0	0	16
124	Nashik	0	0	16	0	0	0	16
125	Palghar	0	0	10	0	0	0	10
126	Pimpri	0	1	15	0	0	0	16
127	Pune	0	0	16	0	0	0	16
128	Ratnagiri	0	0	10	0	0	0	10
129	Sindhudurg	0	0	10	0	0	0	10
130	Solapur	0	2	14	0	0	0	16
131	Thane	0	2	14	0	0	0	16
132	Washim	0	0	10	0	0	0	10
133	Yavatmal	0	0	10	0	0	0	10
	Manipur							
134	Kangpokpi	0	0	10	0	0	0	10
135	Senapati	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
	Meghalaya							
136	Ri Bhoi	0	0	10	0	0	0	10
137	South Garo Hills	0	0	4	0	0	6	10
138	South West Garo Hills	0	0	2	0	0	0	2
139	West Jaintia Hills	0	0	10	0	0	0	10
	Nagaland							
140	Mon	0	0	10	0	0	0	10
141	Zunheboto	0	1	9	0	0	0	10
	Odisha							
142	Bhuneshwer	0	0	16	0	0	0	16
143	Gajpati	0	0	16	0	0	0	16
144	Koraput	0	0	10	0	0	0	10
145	Nayagarh	0	0	10	0	0	0	10
146	Nuapada	0	0	10	0	0	0	10
147	Sundargarh	0	0	10	0	0	0	10
	Puducherry							
148	Karaikal	0	0	10	0	0	0	10
	Punjab							

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
149	Amritsar	0	2	14	0	0	0	16
150	Barnala	0	3	7	0	0	0	10
151	Bathinda	0	0	10	0	0	0	10
152	Faridkot	0	0	10	0	0	0	10
153	Fazilka	0	2	8	0	0	0	10
154	Gurdaspur	0	1	9	0	0	0	10
155	Hoshiarpur	0	2	14	0	0	0	16
156	Jalandhar	0	2	8	0	0	0	10
157	Kapoorthla	0	5	11	0	0	0	16
158	Ludhiana	0	5	11	0	0	0	16
159	Mohali	0	0	10	0	0	0	10
160	Muktsar	0	0	10	0	0	0	10
161	Nawanshahr (Shahid Bhagat)	0	0	10	0	0	0	10
162	Rupnagar	0	0	10	0	0	0	10
163	Sangrur	0	0	10	0	0	0	10
164	Tarn Taran	0	1	9	0	0	0	10
	Rajasthan							
165	Banswara	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
166	Barmer	0	0	10	0	0	0	10
167	Bundi	0	0	10	0	0	0	10
168	Chittorgarh	0	0	10	0	0	0	10
169	Dausa	0	0	10	0	0	0	10
170	Dungarpur	0	0	10	0	0	0	10
171	Jaipur	0	1	15	0	0	0	16
172	Jhalawar	0	0	10	0	0	0	10
173	Jhunjhunu	0	0	10	0	0	0	10
174	Jodhpur	0	2	14	0	0	0	16
175	Pratapgarh	0	0	10	0	0	0	10
176	Sawai Madhopur	0	0	10	0	0	0	10
177	Sikar	0	0	10	0	0	0	10
178	Sirohi	0	0	10	0	0	0	10
	Sikkim							
179	East Sikkim	0	0	10	0	0	0	10
180	North Sikkim	0	0	10	0	0	0	10
	Tamil Nadu							
181	Chengalpattu	0	0	10	0	0	0	10
182	Chennai	4	11	25	1	0	7	48

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
183	Coimbatore	0	3	13	0	0	0	16
184	Cuddalore	0	0	10	0	0	0	10
185	Dindigul	0	1	7	0	0	8	16
186	Erode	0	2	8	0	0	0	10
187	Kallakurichi	0	0	10	0	0	0	10
188	Kanchipuram	0	1	9	0	0	0	10
189	Kanyakumari	0	5	5	0	0	0	10
190	Madurai	0	7	9	0	0	0	16
191	Namakkal	0	0	10	0	0	0	10
192	Perambalur	0	0	10	0	0	0	10
193	Tenkasi	0	0	10	0	0	0	10
194	Theni	0	1	9	0	0	0	10
195	Tirupathur	0	0	10	0	0	0	10
196	Tiruvannamalai	0	0	10	0	0	0	10
197	Tuticorin	0	4	4	0	0	8	16
	Telangana							
198	Adilabad	0	0	10	0	0	0	10
199	Hyderabad	0	2	14	0	0	0	16
200	Kamareddy	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
201	Vikarabad	0	0	10	0	0	0	10
	Tripura							
202	Khowai	0	0	10	0	0	0	10
203	South Tripura	0	0	10	0	0	0	10
	Uttar Pradesh							
204	Agra	0	0	16	0	0	0	16
205	Allahabad	0	0	16	0	0	0	16
206	Amroha (J.P. Nagar)	0	0	10	0	0	0	10
207	Baghpat	0	0	10	0	0	0	10
208	Balrampur	0	2	14	0	0	0	16
209	Banda	0	0	10	0	0	0	10
210	Bareilly	0	2	14	0	0	0	16
211	Basti	0	0	10	0	0	0	10
212	Bijnor	0	2	14	0	0	0	16
213	Farrukhabad	0	0	10	0	0	0	10
214	Ghaziabad	0	2	14	0	0	0	16
215	Gorakhpur	0	2	14	0	0	0	16
216	Hapur	0	8	8	0	0	0	16

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
217	Jaunpur	0	0	10	0	0	0	10
218	Kanpur	0	0	16	0	0	0	16
219	Kushinagar	0	0	10	0	0	0	10
220	Lalitpur	0	2	8	0	0	0	10
221	Lucknow	0	2	14	0	0	0	16
222	Mathura	0	0	10	0	0	0	10
223	Mau	0	0	10	0	0	0	10
224	Meerut	0	2	14	0	0	0	16
225	Muzaffarnagar	0	1	15	0	0	0	16
226	Pilibhit	0	0	10	0	0	0	10
227	RaeBareli	0	0	10	0	0	0	10
228	Rampur	0	0	10	0	0	0	10
229	Saharanpur	0	0	10	0	0	0	10
230	Shahjahanpur	0	0	10	0	0	0	10
231	Shamali	0	1	15	0	0	0	16
232	Shravasti	0	0	10	0	0	0	10
233	Sitapur	0	0	10	0	0	0	10
234	Sultanpur	0	0	10	0	0	0	10
235	Unnao	0	0	10	0	0	0	10

S.No	District/City	Cane Jaggery (Liquid)	Cane Jaggery (Powdered)	Cane Jaggery (Solid)	Coconut Jaggery	Date Palm Jaggery	Palm Jaggery	Grand Total
236	Varanasi	0	1	14	0	0	0	15
	Uttarakhand							
237	Bageshwar	0	1	9	0	0	0	10
238	Dehradun	0	0	10	0	0	0	10
239	Haridwar	0	0	10	0	0	0	10
240	Uttarkashi	0	2	8	0	0	0	10
	West Bengal							
241	Bankura	0	0	10	0	0	0	10
242	Cooch Behar	0	0	10	0	0	0	10
243	Jalpaiguri	0	0	10	0	0	0	10
244	Jhargram	0	0	10	0	0	0	10
245	Kolkata	5	13	21	2	3	3	47
246	Malda	0	0	10	0	0	0	10
247	Nadia	0	0	10	0	6	0	16
248	Purulia	0	0	10	0	0	0	10
249	Silliguri	0	2	14	0	0	0	16
	Grand Total	28	227	2728	13	17	47	3060

ANNEXURE-VII REGION WISE LABS MAPPED TO EACH STATE AND % OF SAMPLES

Region wise Lab Wise	No. of samples	% of Sample
East	547	17.9%
LAB-13	128	4.2%
Sikkim	20	0.7%
West Bengal	108	3.5%
LAB-2	163	5.3%
Andaman& Nicobar Islands	10	0.3%
Assam	36	1.2%
Jharkhand	16	0.5%
Meghalaya	32	1.0%
Nagaland	20	0.7%
Tripura	20	0.7%
West Bengal	29	0.9%
LAB-3	28	0.9%
Arunachal Pradesh	18	0.6%
Manipur	10	0.3%
LAB-4	106	3.5%
Bihar	86	2.8%
Jharkhand	20	0.7%
LAB-5	108	3.5%
Chhattisgarh	36	1.2%
Odisha	72	2.4%
LAB-8	14	0.5%
Arunachal Pradesh	2	0.1%
Manipur	10	0.3%

Region wise Lab Wise	No. of samples	% of Sample
West Bengal	2	0.1%
LAB-17	86	2.8%
Chandigarh	16	0.5%
Himachal Pradesh	20	0.7%
Punjab	10	0.3%
Uttarakhand	40	1.3%
LAB-18	304	9.9%
Himachal Pradesh	30	1.0%
Punjab	164	5.4%
Uttar Pradesh	110	3.6%
LAB-8	448	14.6%
Delhi	48	1.6%
Haryana	176	5.8%
Himachal Pradesh	20	0.7%
Jammu & Kashmir	16	0.5%
Ladakh	10	0.3%
Punjab	10	0.3%
Rajasthan	152	5.0%
Uttar Pradesh	16	0.5%
LAB-9	287	9.4%
Uttar Pradesh	287	9.4%
South	742	24.2%
LAB-1	418	13.7%
Andhra Pradesh	104	3.4%

Region wise Lab Wise	No. of samples	% of Sample
Karnataka	32	1.0%
Lakshadweep	10	0.3%
Puducherry	10	0.3%
Tamil Nadu	216	7.1%
Telangana	46	1.5%
LAB-14	114	3.7%
Kerala	98	3.2%
Tamil Nadu	16	0.5%
LAB-6	118	3.9%
Karnataka	118	3.9%
LAB-7	92	3.0%
Karnataka	92	3.0%
LAB-10	354	11.6%
Gujarat	42	1.4%
Maharashtra	312	10.2%
LAB-11	46	1.5%
Dadra Nagar Haveli	10	0.3%
Goa	36	1.2%
LAB-12	82	2.7%
Madhya Pradesh	82	2.7%
LAB-15	58	1.9%
Gujarat	58	1.9%
LAB-16	46	1.5%
Madhya Pradesh	46	1.5%

Region wise Lab Wise	No. of samples	% of Sample
LAB-19	60	2.0%
Gujarat	60	2.0%
Grand Total	**3060**	**100.0%**

ANNEXURE-VIII COMPLIANCE STATUS, OVERALL AND PRODUCT VARIANT WISE

S. No	Product Variant	Total Number of Samples Tested	Compliant samples	% of compliant samples	Non-compliant samples	% Non-compliant samples
1	Cane Jaggery (Liquid)	28	6	21.43	22	78.57
2	Cane Jaggery (Powdered)	227	153	67.40	74	32.60
3	Cane Jaggery (Solid)	2728	1572	57.62	1156	42.38
4	Coconut Jaggery	13	6	46.15	7	53.85
5	Date Palm Jaggery	17	8	47.06	9	52.94
6	Palm Jaggery	47	36	76.60	11	23.40
	Grand Total	3060	1781	58.20	1279	41.80

ANNEXURE-IX COMPLIANCE STATUS REGION WISE AND PRODUCT VARIANT WISE

Region/Variant	Number of Samples Tested	Compliant	Non-compliant	% Compliant	% Non-compliant
East	547	325	222	59.4%	40.6%
Cane Jaggery (Liquid)	5	1	4	20.0%	80.0%
Cane Jaggery (Powdered)	26	18	8	69.2%	30.8%
Cane Jaggery (Solid)	494	290	204	58.7%	41.3%
Coconut Jaggery	2	1	1	50.0%	50.0%
Date Palm Jaggery	11	6	5	54.5%	45.5%

Region/Variant	Number of Samples Tested	Compliant	Non-compliant	% Compliant	% Non-compliant
Palm Jaggery	9	9	0	100.0%	0.0%
North	1125	531	594	47.2%	52.8%
Cane Jaggery (Liquid)	7	1	6	14.3%	85.7%
Cane Jaggery (Powdered)	75	39	36	52.0%	48.0%
Cane Jaggery (Solid)	1036	486	550	46.9%	53.1%
Coconut Jaggery	3	2	1	66.7%	33.3%
Date Palm Jaggery	1	1	0	100.0%	0.0%
Palm Jaggery	3	2	1	66.7%	33.3%
South	742	581	161	78.3%	21.7%
Cane Jaggery (Liquid)	11	3	8	27.3%	72.7%
Cane Jaggery (Powdered)	86	67	19	77.9%	22.1%
Cane Jaggery (Solid)	606	482	124	79.5%	20.5%
Coconut Jaggery	4	3	1	75.0%	25.0%
Date Palm Jaggery	2	1	1	50.0%	50.0%
Palm Jaggery	33	25	8	75.8%	24.2%
West	646	344	302	53.3%	46.7%
Cane Jaggery (Liquid)	5	1	4	20.0%	80.0%
Cane Jaggery (Powdered)	40	29	11	72.5%	27.5%
Cane Jaggery (Solid)	592	314	278	53.0%	47.0%
Coconut Jaggery	4	0	4	0.0%	100.0%
Date Palm Jaggery	3	0	3	0.0%	100.0%
Palm Jaggery	2	0	2	0.0%	100.0%
Grand Total	**3060**	**1781**	**1279**	**58.2%**	**41.8%**

ANNEXURE-X STATE WISE COMPLIANCE STATUS AND RANKING AS PER PERCENT COMPLIANCE

S.No.	State/UT Name	Number of Samples Tested	Non-compliant	% Non-compliant	Compliant	% Compliant	Ranking
1	Andaman& Nicobar Islands	10	1	10.0	9	90.0	4
2	Andhra Pradesh	104	13	12.5	91	87.5	5
3	Arunachal Pradesh	20	16	80.0	4	20.0	27
4	Assam	36	6	16.7	30	83.3	8
5	Bihar	86	76	88.4	10	11.6	29
6	Chandigarh	16	4	25.0	12	75.0	15
7	Chhattisgarh	36	9	25.0	27	75.0	15
8	Dadra Nagar Haveli	10	9	90.0	1	10.0	30
9	Delhi	48	11	22.9	37	77.1	11
10	Goa	36	27	75.0	9	25.0	26
11	Gujarat	160	85	53.1	75	46.9	22
12	Haryana	176	76	43.2	100	56.8	19
13	Himachal Pradesh	70	35	50.0	35	50.0	21
14	Jammu & Kashmir	16	2	12.5	14	87.5	5
15	Jharkhand	36	18	50.0	18	50.0	21
16	Karnataka	242	47	19.4	195	80.6	9
17	Kerala	98	36	36.7	62	63.3	17

S.No.	State/UT Name	Number of Samples Tested	Non-compliant	% Non-compliant	Compliant	% Compliant	Ranking
18	Ladakh	10	2	20.0	8	80.0	10
19	Lakshadweep	10	3	30.0	7	70.0	16
20	Madhya Pradesh	128	30	23.4	98	76.6	13
21	Maharashtra	312	151	48.4	161	51.6	20
22	Manipur	20	12	60.0	8	40.0	24
23	Meghalaya	32	3	9.4	29	90.6	3
24	Nagaland	20	5	25.0	15	75.0	15
25	Odisha	72	40	55.6	32	44.4	23
26	Puducherry	10	2	20.0	8	80.0	10
27	Punjab	184	150	81.5	34	18.5	28
28	Rajasthan	152	58	38.2	94	61.8	18
29	Sikkim	20	3	15.0	17	85.0	7
30	Tamil Nadu	232	54	23.3	178	76.7	12
31	Telangana	46	6	13.0	40	87.0	6
32	Tripura	20	0	0.0	20	100.0	1
33	Uttar Pradesh	413	254	61.5	159	38.5	25
34	Uttarakhand	40	2	5.0	38	95.0	2
35	West Bengal	139	33	23.7	106	76.3	14

ANNEXURE-XI: DISTRICT WISE COMPLIANCE STATUS AND RANKING AS PER PERCENT COMPLIANCE

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
	Andaman& Nicobar Islands	10	1	9	90.0%	10.0%	
1	Digipur	10	1	9	90.0%	10.0%	4
	Andhra Pradesh	104	13	91	87.5%	12.5%	
2	Chittoor	16	1	15	93.8%	6.3%	2
3	Krishna	10	0	10	100.0%	0.0%	1
4	Nellore	10	1	9	90.0%	10.0%	4
5	Prakasam	10	4	6	60.0%	40.0%	14
6	Srikakulam	16	1	15	93.8%	6.3%	2
7	Vijayawada	16	3	13	81.3%	18.8%	6
8	Visakhapatnam	16	3	13	81.3%	18.8%	6
9	YSR District, Kadapa	10	0	10	100.0%	0.0%	1
	Arunachal Pradesh	20	16	4	20.0%	80.0%	
10	Changlang	10	8	2	20.0%	80.0%	25
11	Lohit	10	8	2	20.0%	80.0%	25
	Assam	36	6	30	83.3%	16.7%	
12	Guwahati	16	6	10	62.5%	37.5%	13
13	Hojai	10	0	10	100.0%	0.0%	1

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
14	Karbi Anglong	10	0	10	100.0%	0.0%	1
	Bihar	86	76	10	11.6%	88.4%	
15	Banka	10	10	0	0.0%	100.0%	30
16	Gaya	10	9	1	10.0%	90.0%	28
17	Gopalganj	10	7	3	30.0%	70.0%	23
18	Jamui	10	9	1	10.0%	90.0%	28
19	Madhepura	10	10	0	0.0%	100.0%	30
20	Muzaffarpur	10	9	1	10.0%	90.0%	28
21	Patna	16	13	3	18.8%	81.3%	26
22	Sheohar	10	9	1	10.0%	90.0%	28
	Chandigarh	16	4	12	75.0%	25.0%	
23	Chandigarh	16	4	12	75.0%	25.0%	9
	Chhattisgarh	36	9	27	75.0%	25.0%	
24	Bastar	10	0	10	100.0%	0.0%	1
25	Jashpur	10	0	10	100.0%	0.0%	1
26	Raipur	16	9	7	43.8%	56.3%	19
	DadraNagar Haveli	10	9	1	10.0%	90.0%	
27	Daman Diu	10	9	1	10.0%	90.0%	28
	Delhi	48	11	37	77.1%	22.9%	
28	Delhi	48	11	37	77.1%	22.9%	8

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
	Goa	36	27	9	25.0%	75.0%	
29	North Goa	10	6	4	40.0%	60.0%	20
30	Panjim	16	11	5	31.3%	68.8%	22
31	South Goa	10	10	0	0.0%	100.0%	30
	Gujarat	160	85	75	46.9%	53.1%	
32	Ahmedabad	16	15	1	6.3%	93.8%	29
33	Amreli	10	10	0	0.0%	100.0%	30
34	Aravalli	10	0	10	100.0%	0.0%	1
35	Bharuch	10	7	3	30.0%	70.0%	23
36	Botad	10	1	9	90.0%	10.0%	4
37	Dangs (Ahwa)	10	5	5	50.0%	50.0%	17
38	Gir Somnath	10	3	7	70.0%	30.0%	10
39	Jamnagar	10	1	9	90.0%	10.0%	4
40	Junaghad	16	16	0	0.0%	100.0%	30
41	Kachchh	10	0	10	100.0%	0.0%	1
42	Rajkot	16	16	0	0.0%	100.0%	30
43	Surat	16	4	12	75.0%	25.0%	9
44	Vadodara	16	7	9	56.3%	43.8%	16
	Haryana	176	76	100	56.8%	43.2%	
45	Ambala	10	5	5	50.0%	50.0%	17
46	Bhiwani	10	5	5	50.0%	50.0%	17

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
47	Charkhi Dadri	10	9	1	10.0%	90.0%	28
48	Faridabad	16	7	9	56.3%	43.8%	16
49	Fatehabad	10	10	0	0.0%	100.0%	30
50	Jhajjar	10	5	5	50.0%	50.0%	17
51	Jind	10	0	10	100.0%	0.0%	1
52	Kaithal	10	3	7	70.0%	30.0%	10
53	Karnal	10	4	6	60.0%	40.0%	14
54	Kurukshetra	10	4	6	60.0%	40.0%	14
55	Mahendragarh	10	3	7	70.0%	30.0%	10
56	Nuh	10	4	6	60.0%	40.0%	14
57	Panchkula	10	2	8	80.0%	20.0%	7
58	Panipat	10	2	8	80.0%	20.0%	7
59	Rohtak	10	6	4	40.0%	60.0%	20
60	Sirsa	10	7	3	30.0%	70.0%	23
61	Sonipat	10	0	10	100.0%	0.0%	1
	Himachal Pradesh	70	35	35	50.0%	50.0%	
62	Bilaspur	10	8	2	20.0%	80.0%	25
63	Chamba	10	0	10	100.0%	0.0%	1
64	Hamirpur	10	4	6	60.0%	40.0%	14
65	Lahaul&Spiti	10	3	7	70.0%	30.0%	10

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
66	Shimla	10	10	0	0.0%	100.0%	30
67	Solan	10	9	1	10.0%	90.0%	28
68	Una	10	1	9	90.0%	10.0%	4
	Jammu & Kashmir	16	2	14	87.5%	12.5%	
69	Srinagar	16	2	14	87.5%	12.5%	5
	Jharkhand	36	18	18	50.0%	50.0%	
70	Chatra	10	9	1	10.0%	90.0%	28
71	Giridih	10	9	1	10.0%	90.0%	28
72	Ranchi	16	0	16	100.0%	0.0%	1
	Karnataka	242	47	195	80.6%	19.4%	
73	Ballari (Bellary)	10	0	10	100.0%	0.0%	1
74	Belagavi	10	1	9	90.0%	10.0%	4
75	Belgaum	16	1	15	93.8%	6.3%	2
76	Bengaluru Rural	10	1	9	90.0%	10.0%	4
77	Bengaluru (Urban)	48	16	32	66.7%	33.3%	12
78	Bidar	10	0	10	100.0%	0.0%	1
79	Chikkaballapur	10	1	9	90.0%	10.0%	4
80	Chikkamangaluru	10	1	9	90.0%	10.0%	4
81	Chitra Durga	10	0	10	100.0%	0.0%	1

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
82	Dakshina Kannada	10	4	6	60.0%	40.0%	14
83	Gadag	10	1	9	90.0%	10.0%	4
84	Haveri	10	1	9	90.0%	10.0%	4
85	Kodagu	10	5	5	50.0%	50.0%	17
86	Kolar	10	0	10	100.0%	0.0%	1
87	Mandya	16	4	12	75.0%	25.0%	9
88	Mysore	16	3	13	81.3%	18.8%	6
89	Raichur	10	0	10	100.0%	0.0%	1
90	Udupi	16	8	8	50.0%	50.0%	17
	Kerala	98	36	62	63.3%	36.7%	
91	Idukki	16	7	9	56.3%	43.8%	16
92	Kasaragod	10	2	8	80.0%	20.0%	7
93	Kochi	16	7	9	56.3%	43.8%	16
94	Kottayam	10	2	8	80.0%	20.0%	7
95	Palakkad	10	5	5	50.0%	50.0%	17
96	Pathanamthitta	10	2	8	80.0%	20.0%	7
97	Thiruvananthapuram	16	6	10	62.5%	37.5%	13
98	Thrissur	10	5	5	50.0%	50.0%	17
	Ladakh	10	2	8	80.0%	20.0%	

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
99	Leh	10	2	8	80.0%	20.0%	7
	Lakshadweep	10	3	7	70.0%	30.0%	
100	Lakshadweep	10	3	7	70.0%	30.0%	10
	Madhya Pradesh	128	30	98	76.6%	23.4%	
101	Ashok Nagar	10	0	10	100.0%	0.0%	1
102	Bhopal	16	1	15	93.8%	6.3%	2
103	Chhindwara	10	2	8	80.0%	20.0%	7
104	Gwalior	10	0	10	100.0%	0.0%	1
105	Hoshangabad	10	0	10	100.0%	0.0%	1
106	Indore	16	1	15	93.8%	6.3%	2
107	Jabalpur	16	10	6	37.5%	62.5%	21
108	Jhabua	10	1	9	90.0%	10.0%	4
109	Mandsaur	10	2	8	80.0%	20.0%	7
110	Narsinghpur	10	5	5	50.0%	50.0%	17
111	Sidhi	10	8	2	20.0%	80.0%	25
	Maharashtra	312	151	161	51.6%	48.4%	
112	Ahemdnagar	16	6	10	62.5%	37.5%	13
113	Akola	10	5	5	50.0%	50.0%	17
114	Aurangabad	16	10	6	37.5%	62.5%	21
115	Beed	10	6	4	40.0%	60.0%	20
116	Bhandara	10	2	8	80.0%	20.0%	7

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
117	Gadchiroli	10	8	2	20.0%	80.0%	25
118	Gondia	10	3	7	70.0%	30.0%	10
119	Hingoli	10	4	6	60.0%	40.0%	14
120	Kolhapur	16	9	7	43.8%	56.3%	19
121	Latur	10	8	2	20.0%	80.0%	25
122	Mumbai	48	33	15	31.3%	68.8%	22
123	Nagpur	16	5	11	68.8%	31.3%	11
124	Nashik	16	13	3	18.8%	81.3%	26
125	Palghar	10	3	7	70.0%	30.0%	10
126	Pimpri	16	4	12	75.0%	25.0%	9
127	Pune	16	1	15	93.8%	6.3%	2
128	Ratnagiri	10	1	9	90.0%	10.0%	4
129	Sindhudurg	10	0	10	100.0%	0.0%	1
130	Solapur	16	10	6	37.5%	62.5%	21
131	Thane	16	8	8	50.0%	50.0%	17
132	Washim	10	5	5	50.0%	50.0%	17
133	Yavatmal	10	7	3	30.0%	70.0%	23
	Manipur	20	12	8	40.0%	60.0%	
134	Kangpokpi	10	7	3	30.0%	70.0%	23
135	Senapati	10	5	5	50.0%	50.0%	17
	Meghalaya	32	3	29	90.6%	9.4%	

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
136	Ri Bhoi	10	1	9	90.0%	10.0%	4
137	South Garo Hills	10	0	10	100.0%	0.0%	1
138	South West Garo Hills	2	0	2	100.0%	0.0%	1
139	West Jaintia Hills	10	2	8	80.0%	20.0%	7
	Nagaland	20	5	15	75.0%	25.0%	
140	Mon	10	1	9	90.0%	10.0%	4
141	Zunheboto	10	4	6	60.0%	40.0%	14
	Odisha	72	40	32	44.4%	55.6%	
142	Bhuneshwer	16	11	5	31.3%	68.8%	22
143	Gajpati	16	3	13	81.3%	18.8%	6
144	Koraput	10	9	1	10.0%	90.0%	28
145	Nayagarh	10	7	3	30.0%	70.0%	23
146	Nuapada	10	4	6	60.0%	40.0%	14
147	Sundargarh	10	6	4	40.0%	60.0%	20
	Puducherry	10	2	8	80.0%	20.0%	
148	Karaikal	10	2	8	80.0%	20.0%	7
	Punjab	184	150	34	18.5%	81.5%	
149	Amritsar	16	15	1	6.3%	93.8%	29
150	Barnala	10	10	0	0.0%	100.0%	30
151	Bathinda	10	10	0	0.0%	100.0%	30

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
152	Faridkot	10	9	1	10.0%	90.0%	28
153	Fazilka	10	0	10	100.0%	0.0%	1
154	Gurdaspur	10	8	2	20.0%	80.0%	25
155	Hoshiarpur	16	12	4	25.0%	75.0%	24
156	Jalandhar	10	10	0	0.0%	100.0%	30
157	Kapoorthla	16	15	1	6.3%	93.8%	29
158	Ludhiana	16	16	0	0.0%	100.0%	30
159	Mohali	10	0	10	100.0%	0.0%	1
160	Muktsar	10	6	4	40.0%	60.0%	20
161	Nawanshahr (Shahid Bhagat)	10	10	0	0.0%	100.0%	30
162	Rupnagar	10	10	0	0.0%	100.0%	30
163	Sangrur	10	9	1	10.0%	90.0%	28
164	Tarn Taran	10	10	0	0.0%	100.0%	30
	Rajasthan	152	58	94	61.8%	38.2%	
165	Banswara	10	3	7	70.0%	30.0%	10
166	Barmer	10	3	7	70.0%	30.0%	10
167	Bundi	10	4	6	60.0%	40.0%	14
168	Chittorgarh	10	5	5	50.0%	50.0%	17
169	Dausa	10	8	2	20.0%	80.0%	25
170	Dungarpur	10	0	10	100.0%	0.0%	1

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
171	Jaipur	16	1	15	93.8%	6.3%	2
172	Jhalawar	10	2	8	80.0%	20.0%	7
173	Jhunjhunu	10	8	2	20.0%	80.0%	25
174	Jodhpur	16	9	7	43.8%	56.3%	19
175	Pratapgarh	10	2	8	80.0%	20.0%	7
176	Sawai Madhopur	10	4	6	60.0%	40.0%	14
177	Sikar	10	5	5	50.0%	50.0%	17
178	Sirohi	10	4	6	60.0%	40.0%	14
	Sikkim	20	3	17	85.0%	15.0%	
179	East Sikkim	10	0	10	100.0%	0.0%	1
180	North Sikkim	10	3	7	70.0%	30.0%	10
	Tamil Nadu	232	54	178	76.7%	23.3%	
181	Chengalpattu	10	2	8	80.0%	20.0%	7
182	Chennai	48	26	22	45.8%	54.2%	18
183	Coimbatore	16	2	14	87.5%	12.5%	5
184	Cuddalore	10	1	9	90.0%	10.0%	4
185	Dindigul	16	1	15	93.8%	6.3%	2
186	Erode	10	0	10	100.0%	0.0%	1
187	Kallakurichi	10	2	8	80.0%	20.0%	7
188	Kanchipuram	10	3	7	70.0%	30.0%	10
189	Kanyakumari	10	4	6	60.0%	40.0%	14

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
190	Madurai	16	3	13	81.3%	18.8%	6
191	Namakkal	10	3	7	70.0%	30.0%	10
192	Perambalur	10	1	9	90.0%	10.0%	4
193	Tenkasi	10	0	10	100.0%	0.0%	1
194	Theni	10	2	8	80.0%	20.0%	7
195	Tirupathur	10	0	10	100.0%	0.0%	1
196	Tiruvannamalai	10	3	7	70.0%	30.0%	10
197	Tuticorin	16	1	15	93.8%	6.3%	2
	Telangana	46	6	40	87.0%	13.0%	
198	Adilabad	10	3	7	70.0%	30.0%	10
199	Hyderabad	16	3	13	81.3%	18.8%	6
200	Kamareddy	10	0	10	100.0%	0.0%	1
201	Vikarabad	10	0	10	100.0%	0.0%	1
	Tripura	20	0	20	100.0%	0.0%	
202	Khowai	10	0	10	100.0%	0.0%	1
203	South Tripura	10	0	10	100.0%	0.0%	1
	Uttar Pradesh	413	254	159	38.5%	61.5%	
204	Agra	16	14	2	12.5%	87.5%	27
205	Allahabad	16	9	7	43.8%	56.3%	19
206	Amroha (J.P. Nagar)	10	10	0	0.0%	100.0%	30

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
207	Baghpat	10	10	0	0.0%	100.0%	30
208	Balrampur	16	4	12	75.0%	25.0%	9
209	Banda	10	6	4	40.0%	60.0%	20
210	Bareilly	16	10	6	37.5%	62.5%	21
211	Basti	10	1	9	90.0%	10.0%	4
212	Bijnor	16	16	0	0.0%	100.0%	30
213	Farrukhabad	10	5	5	50.0%	50.0%	17
214	Ghaziabad	16	2	14	87.5%	12.5%	5
215	Gorakhpur	16	10	6	37.5%	62.5%	21
216	Hapur	16	16	0	0.0%	100.0%	30
217	Jaunpur	10	2	8	80.0%	20.0%	7
218	Kanpur	16	14	2	12.5%	87.5%	27
219	Kushinagar	10	2	8	80.0%	20.0%	7
220	Lalitpur	10	7	3	30.0%	70.0%	23
221	Lucknow	16	5	11	68.8%	31.3%	11
222	Mathura	10	9	1	10.0%	90.0%	28
223	Mau	10	3	7	70.0%	30.0%	10
224	Meerut	16	16	0	0.0%	100.0%	30
225	Muzaffarnagar	16	16	0	0.0%	100.0%	30
226	Pilibhit	10	6	4	40.0%	60.0%	20
227	RaeBareli	10	3	7	70.0%	30.0%	10

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
228	Rampur	10	4	6	60.0%	40.0%	14
229	Saharanpur	10	10	0	0.0%	100.0%	30
230	Shahjahanpur	10	7	3	30.0%	70.0%	23
231	Shamali	16	16	0	0.0%	100.0%	30
232	Shravasti	10	3	7	70.0%	30.0%	10
233	Sitapur	10	6	4	40.0%	60.0%	20
234	Sultanpur	10	7	3	30.0%	70.0%	23
235	Unnao	10	4	6	60.0%	40.0%	14
236	Varanasi	15	1	14	93.3%	6.7%	3
	Uttarakhand	40	2	38	95.0%	5.0%	
237	Bageshwar	10	1	9	90.0%	10.0%	4
238	Dehradun	10	1	9	90.0%	10.0%	4
239	Haridwar	10	0	10	100.0%	0.0%	1
240	Uttarkashi	10	0	10	100.0%	0.0%	1
	West Bengal	139	33	106	76.3%	23.7%	
241	Bankura	10	0	10	100.0%	0.0%	1
242	Cooch Behar	10	1	9	90.0%	10.0%	4
243	Jalpaiguri	10	0	10	100.0%	0.0%	1
244	Jhargram	10	1	9	90.0%	10.0%	4
245	Kolkata	47	19	28	59.6%	40.4%	15
246	Malda	10	3	7	70.0%	30.0%	10

S.No	District Name	Number of Samples Tested	Non-compliant	Compliant	% Compliant	% Non-compliant	Ranking
247	Nadia	16	7	9	56.3%	43.8%	16
248	Purulia	10	1	9	90.0%	10.0%	4
249	Silliguri	16	1	15	93.8%	6.3%	2
	Grand Total	**3060**	**1279**	**1781**	**58.2%**	**41.8%**	

ANNEXURE-XII CITY WISE COMPLIANCE STATUS AND RANKING AS PER PERCENT COMPLIANCE

S.No	City Name	Number of samples	Non-compliant	% Non-compliant	Compliant	% Compliant	Ranking
1	Agra	16	14	87.5%	2	12.5%	15
2	Ahmedabad	16	15	93.8%	1	6.3%	16
3	Allahabad	16	9	56.3%	7	43.8%	11
4	Amritsar	16	15	93.8%	1	6.3%	16
5	Aurangabad	16	10	62.5%	6	37.5%	12
6	Belgaum	16	1	6.3%	15	93.8%	2
7	Bengaluru (Urban)	16	5	31.3%	11	68.8%	7
8	Bhopal	16	1	6.3%	15	93.8%	2
9	Bhuvneshwar	16	11	68.8%	5	31.3%	13
10	Chandigarh	16	4	25.0%	12	75.0%	6
11	Chennai	16	11	68.8%	5	31.3%	13
12	Coimbatore	16	2	12.5%	14	87.5%	4

S.No	City Name	Number of samples	Non-compliant	% Non-compliant	Compliant	% Compliant	Ranking
13	Delhi	16	1	6.3%	15	93.8%	2
14	Faridabad	16	7	43.8%	9	56.3%	9
15	Ghaziabad	16	2	12.5%	14	87.5%	4
16	Gorakhpur	16	10	62.5%	6	37.5%	12
17	Guwahati	16	6	37.5%	10	62.5%	8
18	Hyderabad	16	3	18.8%	13	81.3%	5
19	Indore	16	1	6.3%	15	93.8%	2
20	Jabalpur	16	10	62.5%	6	37.5%	12
21	Jaipur	16	1	6.3%	15	93.8%	2
22	Jodhpur	16	9	56.3%	7	43.8%	11
23	Kanpur	16	14	87.5%	2	12.5%	15
24	Kochi	16	7	43.8%	9	56.3%	9
25	Kolkata	16	5	31.3%	11	68.8%	7
26	Lucknow	16	5	31.3%	11	68.8%	7
27	Ludhiana	16	16	100.0%	0	0.0%	17
28	Madurai	16	3	18.8%	13	81.3%	5
29	Meerut	16	16	100.0%	0	0.0%	17
30	Mumbai	16	5	31.3%	11	68.8%	7
31	Mysore	16	3	18.8%	13	81.3%	5
32	Nagpur	16	5	31.3%	11	68.8%	7

S.No	City Name	Number of samples	Non-compliant	% Non-compliant	Compliant	% Compliant	Ranking
33	Nashik	16	13	81.3%	3	18.8%	14
34	Panjima	16	11	68.8%	5	31.3%	13
35	Patna	16	13	81.3%	3	18.8%	14
36	Pimpri	16	4	25.0%	12	75.0%	6
37	Pune	16	1	6.3%	15	93.8%	2
38	Raipur	16	9	56.3%	7	43.8%	11
39	Rajkot	16	16	100.0%	0	0.0%	17
40	Ranchi	16	0	0.0%	16	100.0%	1
41	Siliguri	16	1	6.3%	15	93.8%	2
42	Solapur	16	10	62.5%	6	37.5%	12
43	Srinagar	16	2	12.5%	14	87.5%	4
44	Surat	16	4	25.0%	12	75.0%	6
45	Thane	16	8	50.0%	8	50.0%	10
46	Thiruvananthapuram	16	6	37.5%	10	62.5%	8
47	Vadodara	16	7	43.8%	9	56.3%	9
48	Varanasi	15	1	6.7%	14	93.3%	3
49	Vijayawada	16	3	18.8%	13	81.3%	5
50	Visakhapatnam	16	3	18.8%	13	81.3%	5
	Grand Total	**799**	**339**	**42.4%**	**460**	**57.6%**	

ANNEXURE-XIII E-COMMERCE - CITY WISE COMPLIANCE STATUS AND RANKING AS PER PERCENT COMPLIANCE

S.No.	City Name	Number of samples	Non-compliant	% Non-compliant	Compliant	% Compliant	Ranking
1	Bengaluru (Urban)	32	11	34.4%	21	65.6%	2
2	Chennai	32	15	46.9%	17	53.1%	4
3	Delhi	32	10	31.3%	22	68.8%	1
4	Kolkata	31	14	45.2%	17	54.8%	3
5	Mumbai	32	28	87.5%	4	12.5%	5
	Grand Total	**159**	**78**	**49.1%**	**81**	**50.9%**	

ANNEXURE-XIV OVER ALL NON-COMPLIANT SAMPLES

S. No	Test Group	Non-compliant	% Non-compliant
1	Quality Indicators	1055	82.5
2	Label Claim	169	13.2
3	Quality & Label claim	55	4.3
Grand Total		1279	100.0

ANNEXURE-XV REGION WISENUMBER OF NON-COMPLIANT SAMPLES

Region/Test Group	Sub-standard	Misbranded	Sub-standard &misbranded	Grand Total
East	194	18	10	222
North	573	13	8	594

Region/Test Group	Sub-standard	Misbranded	Sub-standard &misbranded	Grand Total
South	70	81	10	161
West	218	57	27	302
Grand Total	1055	169	55	1279

ANNEXURE-XVI STATE WISE NUMBER OF NON-COMPLIANT SAMPLES

S. No	State/UT Name	Sub-standard	Misbranded	Sub-standard &misbranded	Grand Total
1	Andaman& Nicobar Islands	1	0	0	1
2	Andhra Pradesh	8	5	0	13
3	Arunachal Pradesh	12	2	2	16
4	Assam	6	0	0	6
5	Bihar	75	0	1	76
6	Chandigarh	1	3	0	4
7	Chhattisgarh	5	1	3	9
8	Dadra Nagar Haveli	9	0	0	9
9	Delhi	4	6	1	11
10	Goa	25	1	1	27
11	Gujarat	69	15	1	85
12	Haryana	75	1	0	76
13	Himachal Pradesh	35	0	0	35
14	Jammu & Kashmir	2	0	0	2
15	Jharkhand	18	0	0	18
16	Karnataka	27	18	2	47
17	Kerala	9	25	2	36
18	Ladakh	2	0	0	2

S. No	State/UT Name	Sub-standard	Misbranded	Sub-standard &misbranded	Grand Total
19	Lakshadweep	3	0	0	3
20	Madhya Pradesh	22	7	1	30
21	Maharashtra	93	34	24	151
22	Manipur	12	0	0	12
23	Meghalaya	3	0	0	3
24	Nagaland	5	0	0	5
25	Odisha	37	2	1	40
26	Puducherry	2	0	0	2
27	Punjab	144	0	6	150
28	Rajasthan	57	0	1	58
29	Sikkim	0	2	1	3
30	Tamil Nadu	17	31	6	54
31	Telangana	4	2	0	6
32	Tripura	0	0	0	0
33	Uttar Pradesh	252	2	0	254
34	Uttarakhand	1	1	0	2
35	West Bengal	20	11	2	33
	Grand Total	**1055**	**169**	**55**	**1279**

ANNEXURE-XVII CITY (50 MAJOR CITIES) WISE NUMBER OF NON-COMPLIANT SAMPLES

S.No	City	Sub-standard	Misbranded	Sub-standard & misbranded	Grand Total
1	Agra	14	0	0	14
2	Ahmedabad	15	0	0	15

S.No	City	Sub-standard	Misbranded	Sub-standard & misbranded	Grand Total
3	Allahabad	9	0	0	9
4	Amritsar	15	0	0	15
5	Aurangabad	7	1	2	10
6	Belgaum	0	1	0	1
7	Bengaluru (Urban)	0	5	0	5
8	Bhopal	0	1	0	1
9	Bhuvneshwar	9	1	1	11
10	Chandigarh	1	3	0	4
11	Chennai	4	3	4	11
12	Coimbatore	0	2	0	2
13	Delhi	1	0	0	1
14	Faridabad	7	0	0	7
15	Ghaziabad	2	0	0	2
16	Gorakhpur	10	0	0	10
17	Guwahati	6	0	0	6
18	Hyderabad	2	1		3
19	Indore	0	1	0	1
20	Jabalpur	7	2	1	10
21	Jaipur	1	0	0	1

S.No	City	Sub-standard	Misbranded	Sub-standard & misbranded	Grand Total
22	Jodhpur	9	0	0	9
23	Kanpur	14	0	0	14
24	Kochi	1	6	0	7
25	Kolkata	5	0	0	5
26	Lucknow	4	1	0	5
27	Ludhiana	16	0	0	16
28	Madurai	0	3	0	3
29	Meerut	16	0	0	16
30	Mumbai	5	0	0	5
31	Mysore	0	3	0	3
32	Nagpur	5	0	0	5
33	Nashik	12	1	0	13
34	Panjim	10	1	0	11
35	Patna	12	0	1	13
36	Pimpri	3	0	1	4
37	Pune	0	1	0	1
38	Raipur	5	1	3	9
39	Rajkot	15	0	1	16
40	Siliguri	1	0	0	1

S.No	City	Sub-standard	Misbranded	Sub-standard & misbranded	Grand Total
41	Solapur	1	8	1	10
42	Srinagar	2	0	0	2
43	Surat	2	2	0	4
44	Thane	7	1	0	8
45	Thiruvananthapuram	3	3	0	6
46	Vadodara	4	3	0	7
47	Varanasi	1	0	0	1
48	Vijayawada	3	0	0	3
49	Visakhapatnam	3	0	0	3
	Grand Total	269	55	15	339

ANNEXURE-XVIII CITY WISE NUMBER OF NON-COMPLIANT E-COMMERCE SAMPLES

Test Group/City	Bengaluru (Urban)	Chennai	Delhi	Kolkata	Mumbai	Grand Total
Sub-standard	5	3	3	2	8	21
% Sub-standard	3.1	1.9	1.9	1.3	5.0	13.2
Misbranded	4	11	6	10	12	43
% Misbranded	2.5	6.9	3.8	6.3	7.5	27.0
Sub-standard & misbranded	2	1	1	2	8	14
% Sub-standard & misbranded	1.3	0.6	0.6	1.3	5.0	8.8

Test Group/City	Bengaluru (Urban)	Chennai	Delhi	Kolkata	Mumbai	Grand Total
Total	11	15	10	14	28	78
% Of total	6.9	9.4	6.3	8.8	17.6	49.1

ANNEXURE-XIX QUALITY PARAMETER WISE STATE/UT WISE CONTRIBUTION TO NON-COMPLIANCE

Moisture				
S No	**State/ UT**	**Total samples**	**No of non-compliant Samples**	**% Non-compliant samples**
1	Bihar	86	76	88.4%
2	Odisha	72	38	52.8%
3	Dadra Nagar Haveli	10	5	50.0%
4	Jharkhand	36	18	50.0%
5	Uttar Pradesh	413	204	49.4%
6	Punjab	184	86	46.7%
7	Goa	36	15	41.7%
8	Himachal Pradesh	70	21	30.0%
9	Maharashtra	312	66	21.2%
10	Chhattisgarh	36	7	19.4%
11	Gujarat	160	29	18.1%
12	Madhya Pradesh	128	20	15.6%

Moisture				
S No	State/ UT	Total samples	No of non-compliant Samples	% Non-compliant samples
13	Meghalaya	32	3	9.4%
14	Assam	36	3	8.3%
15	Haryana	176	11	6.3%
16	Arunachal Pradesh	20	1	5.0%
17	Manipur	20	1	5.0%
18	Karnataka	242	10	4.1%
19	Rajasthan	152	6	3.9%
20	Uttarakhand	40	1	2.5%
21	West Bengal	139	2	1.4%
22	Andaman& Nicobar Islands	10	0	0.0%
23	Andhra Pradesh	104	0	0.0%
24	Chandigarh	16	0	0.0%
25	Delhi	48	0	0.0%
26	Jammu & Kashmir	16	0	0.0%
27	Kerala	98	0	0.0%
28	Ladakh	10	0	0.0%
29	Lakshadweep	10	0	0.0%

Moisture				
S No	State/ UT	Total samples	No of non-compliant Samples	% Non-compliant samples
30	Nagaland	20	0	0.0%
31	Puducherry	10	0	0.0%
32	Sikkim	20	0	0.0%
33	Tamil Nadu	232	0	0.0%
34	Telangana	46	0	0.0%
35	Tripura	20	0	0.0%
	Grand Total	3060	623	20.4%

ANNEXURE-XX QUALITYPARAMETER WISE VARIANT WISE CONTRIBUTION TO NON-COMPLIANCE

Moisture				
S No	Sample Type	No. of Samples	No. of non-compliant Samples	% Non-compliant samples
1	Cane Jaggery (Liquid)	28	0	0.0%
2	Cane Jaggery (Powdered)	227	31	13.7%
3	Cane Jaggery (Solid)	2728	590	21.6%
4	Coconut Jaggery	13	0	0.0%
5	Date Palm Jaggery	17	2	11.8%
6	Palm Jaggery	47	0	0.0%

Moisture				
S No	Sample Type	No. of Samples	No. of non-compliant Samples	% Non-compliant samples
	Grand Total	3060	623	20.4%

ANNEXURE-XXI QUALITY PARAMETER WISE STATE/UT WISE CONTRIBUTION TO NON-COMPLIANCE

Reducing sugars (on dry basis)				
S No	State/ UT	No. of Samples	No of non-compliant Samples	% Non-compliant samples
1	Dadra Nagar Haveli	10	2	20.0%
2	Delhi	41	3	7.3%
3	Goa	36	2	5.6%
4	Manipur	20	1	5.0%
5	Gujarat	160	3	1.9%
6	Punjab	184	3	1.6%
7	West Bengal	125	2	1.6%
8	Tamil Nadu	208	3	1.4%
9	Karnataka	229	3	1.3%
10	Maharashtra	303	3	1.0%
11	Madhya Pradesh	128	1	0.8%
12	Rajasthan	152	1	0.7%
13	Andaman& Nicobar Islands	10	0	0.0%
14	Andhra Pradesh	102	0	0.0%
15	Arunachal Pradesh	18	0	0.0%

Reducing sugars (on dry basis)				
S No	**State/ UT**	**No. of Samples**	**No of non-compliant Samples**	**% Non-compliant samples**
16	Assam	36	0	0.0%
17	Bihar	86	0	0.0%
18	Chandigarh	16	0	0.0%
19	Chhattisgarh	36	0	0.0%
20	Haryana	176	0	0.0%
21	Himachal Pradesh	70	0	0.0%
22	Jammu & Kashmir	16	0	0.0%
23	Jharkhand	36	0	0.0%
24	Kerala	98	0	0.0%
25	Ladakh	10	0	0.0%
26	Lakshadweep	10	0	0.0%
27	Meghalaya	26	0	0.0%
28	Nagaland	20	0	0.0%
29	Odisha	72	0	0.0%
30	Puducherry	10	0	0.0%
31	Sikkim	20	0	0.0%
32	Telangana	46	0	0.0%
33	Tripura	20	0	0.0%
34	Uttar Pradesh	413	0	0.0%
35	Uttarakhand	40	0	0.0%
	Grand Total	2983	27	0.9%

ANNEXURE-XXII QUALITYPARAMETER WISE VARIANT WISE CONTRIBUTION TO NON-COMPLIANCE

S No	Total samples	No of non-compliant Samples	% Non-compliant samples
Cane Jaggery (Liquid)	28	14	50.0%
Cane Jaggery (Powdered)	227	0	0.0%
Cane Jaggery (Solid)	2728	13	0.5%
Grand Total	2983	27	0.9%

ANNEXURE-XXIII QUALITYPARAMETER WISE STATE/UT WISE CONTRIBUTION TO NON-COMPLIANCE

Sucrose (on dry basis)				
S No	**State/ UT**	**No. of Samples**	**No. of non-compliant Samples**	**% Non-compliant samples**
1	Dadra Nagar Haveli	10	3	30.0%
2	Manipur	20	2	10.0%
3	Delhi	48	4	8.3%
4	Gujarat	160	13	8.1%
5	Punjab	184	7	3.8%
6	Madhya Pradesh	128	4	3.1%
7	Maharashtra	312	9	2.9%
8	Goa	36	1	2.8%
9	Karnataka	242	6	2.5%
10	West Bengal	139	3	2.2%

Sucrose (on dry basis)				
S No	State/ UT	No. of Samples	No. of non-compliant Samples	% Non-compliant samples
11	Uttar Pradesh	413	7	1.7%
12	Tamil Nadu	232	3	1.3%
13	Rajasthan	152	1	0.7%
14	Andaman& Nicobar Islands	10	0	0.0%
15	Andhra Pradesh	104	0	0.0%
16	Arunachal Pradesh	20	0	0.0%
17	Assam	36	0	0.0%
18	Bihar	86	0	0.0%
19	Chandigarh	16	0	0.0%
20	Chhattisgarh	36	0	0.0%
21	Haryana	176	0	0.0%
22	Himachal Pradesh	70	0	0.0%
23	Jammu & Kashmir	16	0	0.0%
24	Jharkhand	36	0	0.0%
25	Kerala	98	0	0.0%
26	Ladakh	10	0	0.0%
27	Lakshadweep	10	0	0.0%
28	Meghalaya	32	0	0.0%
29	Nagaland	20	0	0.0%
30	Odisha	72	0	0.0%
31	Puducherry	10	0	0.0%
32	Sikkim	20	0	0.0%

Sucrose (on dry basis)				
S No	State/ UT	No. of Samples	No. of non-compliant Samples	% Non-compliant samples
33	Telangana	46	0	0.0%
34	Tripura	20	0	0.0%
35	Uttarakhand	40	0	0.0%
	Grand Total	3060	63	2.1%

ANNEXURE-XXIV QUALITYPARAMETER WISE VARIANT WISE CONTRIBUTION TO NON-COMPLIANCE

Sucrose (on dry basis)				
S No	Sample Type	No. of Samples	No. of non-compliant Samples	% Non-compliant Samples
1	Cane Jaggery (Liquid)	28	17	60.7%
2	Cane Jaggery (Powdered)	227	0	0.0%
3	Cane Jaggery (Solid)	2728	46	1.7%
4	Coconut Jaggery	13	0	0.0%
5	Date Palm Jaggery	17	0	0.0%
6	Palm Jaggery	47	0	0.0%
	Grand Total	3060	63	2.1%

ANNEXURE-XXV QUALITYPARAMETER WISE STATE/UT WISE CONTRIBUTION TO NON-COMPLIANCE

Total Sugars (on dry basis)				
S No	State/ UT	No. of Samples	No of non-compliant Samples	% Non-compliant Samples
1	Manipur	20	4	20.0%

Total Sugars (on dry basis)				
S No	**State/ UT**	**No. of Samples**	**No of non-compliant Samples**	**% Non-compliant Samples**
2	Arunachal Pradesh	18	3	16.7%
3	Punjab	184	23	12.5%
4	Dadra Nagar Haveli	10	1	10.0%
5	Chandigarh	16	1	6.3%
6	Gujarat	160	9	5.6%
7	Uttar Pradesh	413	23	5.6%
8	Karnataka	229	10	4.4%
9	Himachal Pradesh	70	3	4.3%
10	Maharashtra	303	11	3.6%
11	Madhya Pradesh	128	4	3.1%
12	Goa	36	1	2.8%
13	West Bengal	125	3	2.4%
14	Tamil Nadu	208	3	1.4%
15	Bihar	86	1	1.2%
16	Andaman& Nicobar Islands	10	0	0.0%
17	Andhra Pradesh	102	0	0.0%
18	Assam	36	0	0.0%
19	Chhattisgarh	36	0	0.0%
20	Delhi	41	0	0.0%
21	Haryana	176	0	0.0%
22	Jammu & Kashmir	16	0	0.0%
23	Jharkhand	36	0	0.0%

Total Sugars (on dry basis)				
S No	State/ UT	No. of Samples	No of non-compliant Samples	% Non-compliant Samples
24	Kerala	98	0	0.0%
25	Ladakh	10	0	0.0%
26	Lakshadweep	10	0	0.0%
27	Meghalaya	26	0	0.0%
28	Nagaland	20	0	0.0%
29	Odisha	72	0	0.0%
30	Puducherry	10	0	0.0%
31	Rajasthan	152	0	0.0%
32	Sikkim	20	0	0.0%
33	Telangana	46	0	0.0%
34	Tripura	20	0	0.0%
35	Uttarakhand	40	0	0.0%
	Grand Total	2983	100	3.4%

ANNEXURE-XXVI QUALITYPARAMETER WISE VARIANT WISE CONTRIBUTION TO NON-COMPLIANCE

Total Sugars (on dry basis)				
S No.	Sample Type	No. of Samples	No. of non-compliant Samples	% Non-compliant Samples
1	Cane Jaggery (Liquid)	28	13	46.4%
2	Cane Jaggery (Powdered)	227	4	1.8%
3	Cane Jaggery (Solid)	2728	83	3.0%

	Grand Total	2983	100	3.4%

ANNEXURE-XXVII QUALITY PARAMETER WISE STATE/UT WISE CONTRIBUTION TO NON-COMPLIANCE

Added Colour				
S No	**State/ UT**	**No. of Samples**	**No. of non-compliant Samples**	**% Non-compliant Samples**
1	Punjab	184	129	70.1%
2	Arunachal Pradesh	18	12	66.7%
3	Goa	36	17	47.2%
4	Dadra Nagar Haveli	10	4	40.0%
5	Uttar Pradesh	413	143	34.6%
6	Himachal Pradesh	70	20	28.6%
7	Haryana	176	27	15.3%
8	Manipur	20	3	15.0%
9	Maharashtra	303	41	13.5%
10	West Bengal	125	9	7.2%
11	Kerala	98	7	7.1%
12	Rajasthan	152	8	5.3%
13	Tamil Nadu	208	8	3.8%
14	Gujarat	160	2	1.3%
15	Andaman & Nicobar Islands	10	0	0.0%
16	Andhra Pradesh	102	0	0.0%
17	Assam	36	0	0.0%
18	Bihar	86	0	0.0%
19	Chandigarh	16	0	0.0%
20	Chhattisgarh	36	0	0.0%

Added Colour				
S No	State/ UT	No. of Samples	No. of non-compliant Samples	% Non-compliant Samples
21	Delhi	41	0	0.0%
22	Jammu & Kashmir	16	0	0.0%
23	Jharkhand	36	0	0.0%
24	Karnataka	229	0	0.0%
25	Ladakh	10	0	0.0%
26	Lakshadweep	10	0	0.0%
27	Madhya Pradesh	128	0	0.0%
28	Meghalaya	26	0	0.0%
29	Nagaland	20	0	0.0%
30	Odisha	72	0	0.0%
31	Puducherry	10	0	0.0%
32	Sikkim	20	0	0.0%
33	Telangana	46	0	0.0%
34	Tripura	20	0	0.0%
35	Uttarakhand	40	0	0.0%
	Grand Total	2983	430	14.4%

ANNEXURE-XXVIII QUALITY PARAMETER WISE VARIANT WISE CONTRIBUTION TO NON-COMPLIANCE

Added Colour				
S No.	Sample Type	No. of Samples	No. of non-compliant Samples	% Non-compliant Samples
1	Cane Jaggery (Liquid)	28	0	0.0%
2	Cane Jaggery (Powdered)	227	35	15.4%

3	Cane Jaggery (Solid)	2728	395	14.5%
	Grand Total	2983	430	14.4%

ANNEXURE-XXIX ADDED COLOUR IDENTIFIED IN JAGGERY VARIANTS

S. No.	SampleName	Sample ID	Name of colour (If identified)
1	Cane Jaggery (Loose)	FSAM-218-NCML	Tartrazine
2	Cane Jaggery (Loose)	FSAM-221-NCML	Sunset Yellow; Erythrosine
3	Cane Jaggery (Loose)	FSAM-316-NCML	Tartrazine
4	Cane Jaggery (Packed)	FSAM-437-NCML	Tartrazine
5	Cane Jaggery (Packed)	FSAM-441-NCML	Sunset Yellow
6	Cane Jaggery (Packed)	FSAM-443-NCML	Tartrazine
7	Cane Jaggery (Packed)	FSAM-492-NCML	Tartrazine
8	Cane Jaggery (Packed)	FSAM-494-NCML	Tartrazine
9	Cane Jaggery (Packed)	FSAM-495-NCML	Tartrazine
10	Cane Jaggery (Loose)	FSAM-1754-NCML	Tartrazine
11	Cane Jaggery (Loose)	FSAM-1756-NCML	Tartrazine
12	Cane Jaggery (Loose)	FSAM-1753-NCML	Tartrazine
13	Cane Jaggery (Loose)	FSAM-1712-NCML	Sunset Yellow, Tartrazine
14	Cane Jaggery (Loose)	FSAM-1721-NCML	Tartrazine
15	Cane Jaggery (Loose)	FSAM-1709-NCML	Tartrazine
16	Cane Jaggery (Loose)	FSAM-1710-NCML	Tartrazine
17	Cane Jaggery (Loose)	FSAM-1711-NCML	Tartrazine
18	Cane Jaggery (Loose)	FSAM-1722-NCML	Tartrazine

S. No.	SampleName	Sample ID	Name of colour (If identified)
19	Cane Jaggery (Packed)	FSAM-1723-NCML	Sunset Yellow, Tartrazine
20	Cane Jaggery (Packed)	FSAM-1724-NCML	Tartrazine
21	Cane Jaggery (Loose)	FSAM-1705-NCML	Tartrazine
22	Cane Jaggery (Loose)	FSAM-1706-NCML	Sunset Yellow
23	Cane Jaggery (Loose)	FSAM-1708-NCML	Tartrazine
24	Cane Jaggery (Loose)	FSAM-1707-NCML	Tartrazine
25	Cane Jaggery (Powder)	FSAM-281-NCML	Sunset Yellow
26	Cane Jaggery (Loose)	FSAM-1104-NCML	Sunset Yellow
27	Cane Jaggery (Loose)	FSAM-1106-NCML	Sunset Yellow
28	Cane Jaggery (Loose)	FSAM-1107-NCML	Sunset Yellow
29	Cane Jaggery (Packed)	FSAM-2084-NCML	Sunset Yellow
30	Cane Jaggery (Packed)	FSAM-2085-NCML	Sunset Yellow
31	Cane Jaggery (Packed)	FSAM-2086-NCML	Sunset Yellow
32	Cane Jaggery (Packed)	FSAM-2090-NCML	Sunset Yellow
33	Cane Jaggery (Packed)	FSAM-574-NCML	Sunset Yellow
34	Cane Jaggery (Packed)	FSAM-1697-NCML	Sunset Yellow
35	Cane Jaggery (Packed)	FSAM-1847-NCML	Sunset Yellow
36	Cane Jaggery (Packed)	FSAM-1850-NCML	Sunset Yellow
37	Cane Jaggery (Packed)	FSAM-1851-NCML	Sunset Yellow
38	Cane Jaggery (Packed)	FSAM-1976-NCML	Sunset Yellow
39	Cane Jaggery (Loose)	FSAM-770-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
40	Cane Jaggery (Solid)	FSAM-2117-NCML	Sunset Yellow FCF
41	Cane Jaggery (Solid)	FSAM-227-NCML	Sunset Yellow FCF
42	Cane Jaggery (Loose)	FSAM-1718-NCML	Sunset Yellow FCF
43	Cane Jaggery (Loose)	FSAM-264-NCML	Sunset Yellow FCF
44	Cane Jaggery (Loose)	FSAM-1760-NCML	Sunset Yellow FCF
45	Cane Jaggery (Loose)	FSAM-2519-NCML	Sunset Yellow FCF, Tartrazine
46	Cane Jaggery (Loose)	FSAM-1956-NCML	Tartrazine, Sunset Yellow FCF
47	Cane Jaggery (Loose)	FSAM-254-NCML	Tartrazine, Sunset Yellow FCF
48	Cane Jaggery (Loose)	FSAM-1879-NCML	Sunset Yellow FCF
49	Cane Jaggery (Loose)	FSAM-2462-NCML	Sunset Yellow FCF
50	Cane Jaggery (Loose)	FSAM-1981-NCML	Sunset Yellow FCF
51	Cane Jaggery (Loose)	FSAM-1610-NCML	Sunset Yellow FCF
52	Cane Jaggery (Loose)	FSAM-1928-NCML	Sunset Yellow FCF
53	Cane Jaggery (Loose)	FSAM-2518-NCML	Sunset Yellow FCF
54	Cane Jaggery (Loose)	FSAM-422-NCML	Sunset Yellow FCF
55	Cane Jaggery (Loose)	FSAM-1611-NCML	Sunset Yellow FCF
56	Cane Jaggery (Loose)	FSAM-1906-NCML	Sunset Yellow FCF
57	Cane Jaggery (Loose)	FSAM-1613-NCML	Sunset Yellow FCF
58	Cane Jaggery (Loose)	FSAM-1927-NCML	Sunset Yellow FCF
59	Cane Jaggery (Loose)	FSAM-361-NCML	Sunset Yellow FCF
60	Cane Jaggery (Loose)	FSAM-170-NCML	Sunset Yellow FCF
61	Cane Jaggery (Loose)	FSAM-188-NCML	Sunset Yellow FCF

S. No.	SampleName	Sample ID	Name of colour (If identified)
62	Cane Jaggery (Loose)	FSAM-213-NCML	Sunset Yellow FCF
63	Cane Jaggery (Loose)	FSAM-1612-NCML	Sunset Yellow FCF
64	Cane Jaggery (Loose)	FSAM-1614-NCML	Sunset Yellow FCF
65	Cane Jaggery (Loose)	FSAM-409-NCML	Sunset Yellow FCF
66	Cane Jaggery (Loose)	FSAM-1982-NCML	Sunset Yellow FCF
67	Cane Jaggery (Loose)	FSAM-1877-NCML	Sunset Yellow FCF
68	Cane Jaggery (Loose)	FSAM-2517-NCML	Sunset Yellow FCF
69	Cane Jaggery (Loose)	FSAM-169-NCML	Sunset Yellow FCF
70	Cane Jaggery (Loose)	FSAM-216-NCML	Sunset Yellow FCF
71	Cane Jaggery (Loose)	FSAM-1926-NCML	Sunset Yellow FCF
72	Cane Jaggery (Loose)	FSAM-186-NCML	Sunset Yellow FCF
73	Cane Jaggery (Loose)	FSAM-184-NCML	Sunset Yellow FCF
74	Cane Jaggery (Loose)	FSAM-178-NCML	Sunset Yellow FCF
75	Cane Jaggery (Loose)	FSAM-1948-NCML	Sunset Yellow FCF
76	Cane Jaggery (Packed)	FSAM-2505-NCML	Sunset Yellow FCF, Tartrazine
77	Cane Jaggery (Packed)	FSAM-2534-NCML	Sunset Yellow FCF
78	Cane Jaggery (Packed)	FSAM-2472-NCML	Tartrazine
79	Cane Jaggery (Packed)	FSAM-1891-NCML	Tartrazine
80	Cane Jaggery (Packed)	FSAM-2533-NCML	Tartrazine
81	Cane Jaggery (Packed)	FSAM-2538-NCML	Tartrazine, Sunset Yellow FCF
82	Cane Jaggery (Packed)	FSAM-1878-NCML	Sunset Yellow FCF, Tartrazine
83	Cane Jaggery (Loose)	FSAM-983-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
84	Cane Jaggery (Loose)	FSAM-2420-NCML	Sunset Yellow
85	Cane Jaggery (Packed)	FSAM-2368-NCML	Sunset Yellow
86	Cane Jaggery (Packed)	FSAM-1081-NCML	Sunset Yellow
87	Cane Jaggery (Packed)	FSAM-2501-NCML	Sunset Yellow
88	Cane Jaggery (Packed)	FSAM-1080-NCML	Sunset Yellow
89	Cane Jaggery (Packed)	FSAM-2727-NCML	Sunset Yellow
90	Cane Jaggery (Powdered-Loose)	FSAM-40-NCML	Sunset Yellow
91	Cane Jaggery (Loose)	FSAM-2417-NCML	Sunset Yellow
92	Cane Jaggery (Loose)	FSAM-2415-NCML	Sunset Yellow
93	Cane Jaggery (Packed)	FSAM-2389-NCML	Sunset Yellow
94	Cane Jaggery (Loose)	FSAM-2395-NCML	Sunset Yellow
95	Cane Jaggery (Loose)	FSAM-2338-NCML	Sunset Yellow
96	Cane Jaggery (Packed)	FSAM-2723-NCML	Sunset Yellow
97	Cane Jaggery (Packed)	FSAM-2337-NCML	Sunset Yellow
98	Cane Jaggery (Packed)	FSAM-2340-NCML	Sunset Yellow
99	Cane Jaggery (Loose)	FSAM-2334-NCML	Sunset Yellow
100	Cane Jaggery (Packed)	FSAM-2355-NCML	Sunset Yellow
101	Cane Jaggery (Packed)	FSAM-2378-NCML	Sunset Yellow
102	Cane Jaggery (Packed)	FSAM-2375-NCML	Tartrazine
103	Cane Jaggery (Packed)	FSAM-829-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
104	Cane Jaggery (Powdered-Loose)	FSAM-2376-NCML	Sunset Yellow
105	Cane Jaggery (Loose)	FSAM-1585-NCML	Sunset Yellow
106	Cane Jaggery (Loose)	FSAM-2419-NCML	Sunset Yellow
107	Cane Jaggery (Loose)	FSAM-1591-NCML	Sunset Yellow
108	Cane Jaggery (Powdered-Loose)	FSAM-2421-NCML	Sunset Yellow
109	Cane Jaggery (Powdered-Loose)	FSAM-1588-NCML	Sunset Yellow
110	Cane Jaggery (Loose)	FSAM-1676-NCML	Sunset Yellow
111	Cane Jaggery (Loose)	FSAM-1589-NCML	Sunset Yellow
112	Cane Jaggery (Packed)	FSAM-2408-NCML	Sunset Yellow
113	Cane Jaggery (Packed)	FSAM-2393-NCML	Sunset Yellow
114	Cane Jaggery (Loose)	FSAM-1043-NCML	Sunset Yellow
115	Cane Jaggery (Loose)	FSAM-939-NCML	Sunset Yellow
116	Cane Jaggery (Loose)	FSAM-940-NCML	Sunset Yellow
117	Cane Jaggery (Loose)	FSAM-1837-NCML	Sunset Yellow
118	Cane Jaggery (Loose)	FSAM-2320-NCML	Sunset Yellow
119	Cane Jaggery (Packed)	FSAM-2390-NCML	Sunset Yellow
120	Cane Jaggery (Loose)	FSAM-1116-NCML	Sunset Yellow
121	Cane Jaggery (Loose)	FSAM-1119-NCML	Sunset Yellow
122	Cane Jaggery (Loose)	FSAM-2392-NCML	Sunset Yellow
123	Cane Jaggery (Loose)	FSAM-1835-NCML	Sunset Yellow
124	Cane Jaggery (Loose)	FSAM-1836-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
125	Cane Jaggery (Loose)	FSAM-2722-NCML	Sunset Yellow
126	Cane Jaggery (Loose)	FSAM-980-NCML	Sunset Yellow
127	Cane Jaggery (Loose)	FSAM-2746-NCML	Sunset Yellow
128	Cane Jaggery (Loose)	FSAM-2744-NCML	Sunset Yellow
129	Cane Jaggery (Loose)	FSAM-1441-NCML	Sunset Yellow
130	Cane Jaggery (Loose)	FSAM-1443-NCML	Sunset Yellow
131	Cane Jaggery (Loose)	FSAM-1444-NCML	Sunset Yellow
132	Cane Jaggery (Loose)	FSAM-1445-NCML	Sunset Yellow
133	Cane Jaggery (Loose)	FSAM-2748-NCML	Sunset Yellow
134	Cane Jaggery (Loose)	FSAM-2745-NCML	Sunset Yellow
135	Cane Jaggery (Loose)	FSAM-967-NCML	Sunset Yellow
136	Cane Jaggery (Loose)	FSAM-1838-NCML	Sunset Yellow
137	Cane Jaggery (Loose)	FSAM-2316-NCML	Sunset Yellow
138	Cane Jaggery (Loose)	FSAM-1024-NCML	Sunset Yellow
139	Cane Jaggery (Loose)	FSAM-2391-NCML	Sunset Yellow
140	Cane Jaggery (Loose)	FSAM-1839-NCML	Sunset Yellow
141	Cane Jaggery (Loose)	FSAM-1840-NCML	Sunset Yellow
142	Cane Jaggery (Loose)	FSAM-1846-NCML	Sunset Yellow
143	Cane Jaggery (Powdered-Loose)	FSAM-2416-NCML	Sunset Yellow
144	Cane Jaggery (Loose)	FSAM-1966-NCML	Sunset Yellow
145	Cane Jaggery (Loose)	FSAM-477-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
146	Cane Jaggery (Loose)	FSAM-479-NCML	Sunset Yellow
147	Cane Jaggery (Loose)	FSAM-1965-NCML	Sunset Yellow
148	Cane Jaggery (Loose)	FSAM-478-NCML	Sunset Yellow
149	Cane Jaggery (Loose)	FSAM-1967-NCML	Tartrazine
150	Cane Jaggery (Loose)	FSAM-1968-NCML	Tartrazine
151	Cane Jaggery (Loose)	FSAM-480-NCML	Sunset Yellow
152	Cane Jaggery (Loose)	FSAM-481-NCML	Sunset Yellow
153	Cane Jaggery (Loose)	FSAM-2418-NCML	Sunset Yellow
154	Cane Jaggery (Loose)	FSAM-302-NCML	Sunset Yellow
155	Cane Jaggery (Loose)	FSAM-303-NCML	Sunset Yellow
156	Cane Jaggery (Loose)	FSAM-306-NCML	Sunset Yellow
157	Cane Jaggery (Loose)	FSAM-305-NCML	Tartrazine
158	Cane Jaggery (Loose)	FSAM-951-NCML	Sunset Yellow
159	Cane Jaggery (Loose)	FSAM-1984-NCML	Sunset Yellow
160	Cane Jaggery (Loose)	FSAM-1985-NCML	Tartrazine
161	Cane Jaggery (Loose)	FSAM-1986-NCML	Sunset Yellow
162	Cane Jaggery (Loose)	FSAM-1987-NCML	Sunset Yellow
163	Cane Jaggery (Loose)	FSAM-2500-NCML	Sunset Yellow
164	Cane Jaggery (Loose)	FSAM-1674-NCML	Sunset Yellow
165	Cane Jaggery (Powdered-Loose)	FSAM-1672-NCML	Sunset Yellow
166	Cane Jaggery (Powdered-Loose)	FSAM-41-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
167	Cane Jaggery (Loose)	FSAM-1509-NCML	Sunset Yellow
168	Cane Jaggery (Powdered-Loose)	FSAM-25-NCML	Sunset Yellow
169	Cane Jaggery (Powdered-Loose)	FSAM-26-NCML	Sunset Yellow
170	Cane Jaggery (Powdered-Loose)	FSAM-33-NCML	Sunset Yellow
171	Cane Jaggery (Loose)	FSAM-2435-NCML	Sunset Yellow
172	Cane Jaggery (Loose)	FSAM-2430-NCML	Tartrazine
173	Cane Jaggery (Loose)	FSAM-1564-NCML	Tartrazine
174	Cane Jaggery (Loose)	FSAM-2432-NCML	Tartrazine
175	Cane Jaggery (Loose)	FSAM-1566-NCML	Sunset Yellow
176	Cane Jaggery (Loose)	FSAM-1567-NCML	Sunset Yellow
177	Cane Jaggery (Loose)	FSAM-1561-NCML	Sunset Yellow
178	Cane Jaggery (Loose)	FSAM-2436-NCML	Sunset Yellow
179	Cane Jaggery (Loose)	FSAM-1562-NCML	Sunset Yellow
180	Cane Jaggery (Loose)	FSAM-1565-NCML	Sunset Yellow
181	Cane Jaggery (Loose)	FSAM-304-NCML	Sunset Yellow
182	Cane Jaggery (Loose)	FSAM-1563-NCML	Sunset Yellow
183	Cane Jaggery (Loose)	FSAM-827-NCML	Tartrazine
184	Cane Jaggery (Loose)	FSAM-2431-NCML	Sunset Yellow
185	Cane Jaggery (Loose)	FSAM-1597-NCML	Sunset Yellow
186	Cane Jaggery (Loose)	FSAM-1599-NCML	Sunset Yellow
187	Cane Jaggery (Loose)	FSAM-1601-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
188	Cane Jaggery (Loose)	FSAM-1600-NCML	Sunset Yellow
189	Cane Jaggery (Loose)	FSAM-34-NCML	Sunset Yellow
190	Cane Jaggery (Loose)	FSAM-1603-NCML	Sunset Yellow
191	Cane Jaggery (Loose)	FSAM-2446-NCML	Sunset Yellow
192	Cane Jaggery (Loose)	FSAM-2448-NCML	Sunset Yellow
193	Cane Jaggery (Loose)	FSAM-2450-NCML	Sunset Yellow
194	Cane Jaggery (Loose)	FSAM-1602-NCML	Sunset Yellow
195	Cane Jaggery (Loose)	FSAM-2449-NCML	Sunset Yellow
196	Cane Jaggery (Loose)	FSAM-1598-NCML	Tartrazine
197	Cane Jaggery (Loose)	FSAM-2447-NCML	Tartrazine
198	Cane Jaggery (Loose)	FSAM-2441-NCML	Tartrazine
199	Cane Jaggery (Powdered-Loose)	FSAM-102-NCML	Tartrazine
200	Cane Jaggery (Powdered-Loose)	FSAM-1842-NCML	Sunset Yellow
201	Cane Jaggery (Loose)	FSAM-2413-NCML	Sunset Yellow
202	Cane Jaggery (Loose)	FSAM-1843-NCML	Sunset Yellow
203	Cane Jaggery (Loose)	FSAM-101-NCML	Sunset Yellow
204	Cane Jaggery (Loose)	FSAM-1845-NCML	Sunset Yellow
205	Cane Jaggery (Loose)	FSAM-2412-NCML	Sunset Yellow
206	Cane Jaggery (Powdered-Loose)	FSAM-1844-NCML	Tartrazine
207	Cane Jaggery (Loose)	FSAM-1841-NCML	Tartrazine
208	Cane Jaggery (Packed)	FSAM-2371-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
209	Cane Jaggery (Packed)	FSAM-2319-NCML	Sunset Yellow
210	Cane Jaggery (Loose)	FSAM-1969-NCML	Tartrazine
211	Cane Jaggery (Loose)	FSAM-2523-NCML	Tartrazine
212	Cane Jaggery (Powdered-Loose)	FSAM-27-NCML	Sunset Yellow
213	Cane Jaggery (Loose)	FSAM-2437-NCML	Sunset Yellow
214	Cane Jaggery (Loose)	FSAM-28-NCML	Sunset Yellow
215	Cane Jaggery (Loose)	FSAM-1636-NCML	Sunset Yellow
216	Cane Jaggery (Loose)	FSAM-1637-NCML	Sunset Yellow
217	Cane Jaggery (Loose)	FSAM-2440-NCML	Sunset Yellow
218	Cane Jaggery (Loose)	FSAM-2438-NCML	Sunset Yellow
219	Cane Jaggery (Loose)	FSAM-1634-NCML	Sunset Yellow
220	Cane Jaggery (Loose)	FSAM-2443-NCML	Sunset Yellow
221	Cane Jaggery (Loose)	FSAM-1640-NCML	Sunset Yellow
222	Cane Jaggery (Loose)	FSAM-2439-NCML	Sunset Yellow
223	Cane Jaggery (Loose)	FSAM-2442-NCML	Sunset Yellow
224	Cane Jaggery (Loose)	FSAM-1635-NCML	Sunset Yellow
225	Cane Jaggery (Loose)	FSAM-1638-NCML	Sunset Yellow
226	Cane Jaggery (Loose)	FSAM-1639-NCML	Sunset Yellow
227	Cane Jaggery (Loose)	FSAM-2410-NCML	Sunset Yellow
228	Cane Jaggery (Loose)	FSAM-2411-NCML	Sunset Yellow
229	Cane Jaggery (Loose)	FSAM-1414-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
230	Cane Jaggery (Loose)	FSAM-2726-NCML	Sunset Yellow
231	Cane Jaggery (Loose)	FSAM-94-NCML	Sunset Yellow
232	Cane Jaggery (Loose)	FSAM-526-NCML	Sunset Yellow
233	Cane Jaggery (Loose)	FSAM-2068-NCML	Sunset Yellow
234	Cane Jaggery (Loose)	FSAM-2067-NCML	Sunset Yellow
235	Cane Jaggery (Loose)	FSAM-2066-NCML	Sunset Yellow
236	Cane Jaggery (Loose)	FSAM-527-NCML	Sunset Yellow
237	Cane Jaggery (Loose)	FSAM-525-NCML	Sunset Yellow
238	Cane Jaggery (Loose)	FSAM-2069-NCML	Sunset Yellow
239	Cane Jaggery (Loose)	FSAM-2070-NCML	Sunset Yellow
240	Cane Jaggery (Loose)	FSAM-524-NCML	Sunset Yellow
241	Cane Jaggery (Loose)	FSAM-1505-NCML	Tartrazine
242	Cane Jaggery (Loose)	FSAM-2384-NCML	Tartrazine
243	Cane Jaggery (Loose)	FSAM-2385-NCML	Tartrazine
244	Cane Jaggery (Loose)	FSAM-1506-NCML	Tartrazine
245	Cane Jaggery (Loose)	FSAM-1507-NCML	Tartrazine
246	Cane Jaggery (Powdered-Loose)	FSAM-17-NCML	Tartrazine
247	Cane Jaggery (Loose)	FSAM-1560-NCML	Tartrazine
248	Cane Jaggery (Loose)	FSAM-1554-NCML	Tartrazine
249	Cane Jaggery (Powdered-Loose)	FSAM-18-NCML	Sunset Yellow
250	Cane Jaggery (Loose)	FSAM-1556-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
251	Cane Jaggery (Loose)	FSAM-2350-NCML	Sunset Yellow
252	Cane Jaggery (Loose)	FSAM-826-NCML	Sunset Yellow
253	Cane Jaggery (Loose)	FSAM-2349-NCML	Sunset Yellow
254	Cane Jaggery (Loose)	FSAM-2352-NCML	Sunset Yellow
255	Cane Jaggery (Loose)	FSAM-825-NCML	Sunset Yellow
256	Cane Jaggery (Powdered-Loose)	FSAM-2351-NCML	Sunset Yellow
257	Cane Jaggery (Powdered-Loose)	FSAM-828-NCML	Sunset Yellow
258	Cane Jaggery (Loose)	FSAM-1007-NCML	Sunset Yellow
259	Cane Jaggery (Loose)	FSAM-1008-NCML	Sunset Yellow
260	Cane Jaggery (Loose)	FSAM-1010-NCML	Sunset Yellow
261	Cane Jaggery (Loose)	FSAM-1009-NCML	Sunset Yellow
262	Cane Jaggery (Loose)	FSAM-2339-NCML	Tartrazine
263	Cane Jaggery (Loose)	FSAM-1026-NCML	Tartrazine
264	Cane Jaggery (Loose)	FSAM-2318-NCML	Sunset Yellow
265	Cane Jaggery (Powdered-Loose)	FSAM-2317-NCML	Tartrazine
266	Cane Jaggery (Loose)	FSAM-1023-NCML	Sunset Yellow
267	Cane Jaggery (Loose)	FSAM-1046-NCML	Sunset Yellow
268	Cane Jaggery (Loose)	FSAM-1044-NCML	Sunset Yellow
269	Cane Jaggery (Loose)	FSAM-1047-NCML	Sunset Yellow
270	Cane Jaggery (Powdered-Loose)	FSAM-1175-NCML	Tartrazine
271	Cane Jaggery (Loose)	FSAM-942-NCMl	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
272	Cane Jaggery (Loose)	FSAM-941-NCML	Tartrazine
273	Cane Jaggery (Loose)	FSAM-1077-NCML	Sunset Yellow
274	Cane Jaggery (Loose)	FSAM-2370-NCML	Sunset Yellow
275	Cane Jaggery (Loose)	FSAM-2369-NCML	Sunset Yellow
276	Cane Jaggery (Loose)	FSAM-1078-NCML	Sunset Yellow
277	Cane Jaggery (Loose)	FSAM-1045-NCML	Sunset Yellow
278	Cane Jaggery (Loose)	FSAM-2354-NCML	Sunset Yellow
279	Cane Jaggery (Powdered - Packed)	FSAM-2388-NCML	Sunset Yellow
280	Cane Jaggery (Loose)	FSAM-2725-NCML	Sunset Yellow
281	Cane Jaggery (Loose)	FSAM-968-NCML	Sunset Yellow
282	Cane Jaggery (Packed)	FSAM-2313-NCML	Tartrazine
283	Cane Jaggery (Packed)	FSAM-2382-NCML	Sunset Yellow
284	Cane Jaggery (Loose)	FSAM-1176-NCML	Tartrazine
285	Cane Jaggery (Powdered-Loose)	FSAM-2414-NCML	Tartrazine
286	Cane Jaggery (Packed)	FSAM-2311-NCMl	Sunset Yellow
287	Cane Jaggery (Packed)	FSAM-2380-NCML	Sunset Yellow
288	Cane Jaggery (Packed)	FSAM-2367-NCML	Sunset Yellow
289	Cane Jaggery (Powdered - Packed)	FSAM-2374-NCML	Sunset Yellow
290	Cane Jaggery (Powdered-Loose)	FSAM-1586-NCML	Sunset Yellow
291	Cane Jaggery (Powdered-Loose)	FSAM-1590-NCML	Sunset Yellow
292	Cane Jaggery (Powdered-Loose)	FSAM-39-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
293	Cane Jaggery (Powdered-Loose)	FSAM-1587-NCML	Sunset Yellow
294	Cane Jaggery (Packed)	FSAM-2445-NCML	Sunset Yellow
295	Cane Jaggery (Loose)	FSAM-1178-NCML	Sunset Yellow
296	Cane Jaggery (Loose)	FSAM-1179-NCML	Sunset Yellow
297	Cane Jaggery (Packed)	FSAM-2372-NCML	Sunset Yellow
298	Cane Jaggery (Packed)	FSAM-938-NCML	Sunset Yellow
299	Cane Jaggery (Packed)	FSAM-2398-NCML	Sunset Yellow
300	Cane Jaggery (Powdered - Packed)	FSAM-93-NCML	Sunset Yellow
301	Cane Jaggery (Loose)	FSAM-1508-NCML	Tartrazine
302	Cane Jaggery (Powdered-Loose)	FSAM-2409-NCML	Sunset Yellow
303	Cane Jaggery (Packed)	FSAM-2381-NCML	Sunset Yellow
304	Cane Jaggery (Packed)	FSAM-2335-NCML	Tartrazine
305	Cane Jaggery (Packed)	FSAM-2387-NCML	Sunset Yellow
306	Cane Jaggery (Packed)	FSAM-2314-NCML	Sunset Yellow
307	Cane Jaggery (Packed)	FSAM-2353-NCML	Sunset Yellow
308	Cane Jaggery (Packed)	FSAM-2502-NCML	Sunset Yellow
309	Cane Jaggery (Packed)	FSAM-2396-NCML	Sunset Yellow
310	Cane Jaggery (Packed)	FSAM-966-NCML	Sunset Yellow
311	Cane Jaggery (Loose)	FSAM-1413-NCML	Sunset Yellow
312	Cane Jaggery (Loose)	FSAM-1504-NCML	Sunset Yellow
313	Cane Jaggery (Loose)	FSAM-2407-NCML	Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
314	Cane Jaggery (Powdered-Loose)	FSAM-16-NCML	Sunset Yellow
315	Cane Jaggery (Powdered-Loose)	FSAM-1510-NCML	Sunset Yellow
316	Cane Jaggery (Packed)	FSAM-1079-NCML	Sunset Yellow
317	Cane Jaggery (Packed)	FSAM-2312-NCML	Sunset Yellow
318	Cane Jaggery (Powdered-Loose)	FSAM-15-NCML	Sunset Yellow
319	Cane Jaggery (Packed)	FSAM-2433-NCML	Sunset Yellow
320	Cane Jaggery (Packed)	FSAM-2383-NCML	Sunset Yellow
321	Cane Jaggery (Packed)	FSAM-2342-NCML	Sunset Yellow
322	Cane Jaggery (Packed)	FSAM-2444-NCML	Sunset Yellow
323	Cane Jaggery (Packed)	FSAM-2379-NCML	Sunset Yellow
324	Cane Jaggery (Packed)	FSAM-2315-NCML	Sunset Yellow
325	Cane Jaggery (Powdered - Packed)	FSAM-2394-NCML	Sunset Yellow
326	Cane Jaggery (Packed)	FSAM-2336-NCML	Sunset Yellow
327	Cane Jaggery (Packed)	FSAM-2341-NCML	Sunset Yellow
328	Cane Jaggery	FSAM-2617-NCML	Erythrosine
329	Cane Jaggery	FSAM-1246-NCML	Erythrosine
330	Cane Jaggery	FSAM-1243-NCML	Erythrosine
331	Cane Jaggery	FSAM-2618-NCML	Erythrosine
332	Cane Jaggery	FSAM-2215-NCML	Ponceau 4R ,Tartrazine
333	Cane Jaggery	FSAM-2678-NCML	Sunset Yellow
334	Cane Jaggery	FSAM-2679-NCML	tartrazine

S. No.	SampleName	Sample ID	Name of colour (If identified)
335	Cane Jaggery	FSAM-1523-NCML	Sunset Yellow
336	Cane Jaggery	FSAM-1455-NCML	Sunset Yellow; Tartrazine
337	Cane Jaggery	FSAM-320-NCML	Sunset Yellow
338	Cane Jaggery	FSAM-2125-NCML	Sunset Yellow; Tartrazine
339	Cane Jaggery	FSAM-2126-NCML	Tartrazine, Ponceau 4R
340	Cane Jaggery	FSAM-2123-NCML	Erythrosine
341	Cane Jaggery	FSAM-1383-NCML	Erythrosine
342	Cane Jaggery	FSAM-78-NCML	Erythrosine
343	Cane Jaggery	FSAM-77-NCML	Erythrosine
344	Cane Jaggery	FSAM-1820-NCML	Erythrosine
345	Cane Jaggery	FSAM-1247-NCML	Erythrosine
346	Cane Jaggery	FSAM-2616-NCML	Erythrosine
347	Cane Jaggery	FSAM-1262-NCML	Erythrosine
348	Cane Jaggery	FSAM-1264-NCML	Erythrosine
349	Cane Jaggery	FSAM-1263-NCML	Erythrosine
350	Cane Jaggery	FSAM-1265-NCML	Erythrosine
351	Cane Jaggery	FSAM-1266-NCML	Erythrosine
352	Cane Jaggery	FSAM-2627-NCML	Erythrosine
353	Cane Jaggery	FSAM-2626-NCML	Erythrosine
354	Cane Jaggery	FSAM-2628-NCML	Erythrosine
355	Cane Jaggery	FSAM-2624-NCML	Erythrosine
356	Cane Jaggery	FSAM-2625-NCML	Erythrosine

S. No.	SampleName	Sample ID	Name of colour (If identified)
357	Cane Jaggery	FSAM-1495-NCML	Erythrosine
358	Cane Jaggery	FSAM-1496-NCML	Tartrazine
359	Cane Jaggery	FSAM-1497-NCML	Erythrosine
360	Cane Jaggery	FSAM-1498-NCML	Erythrosine
361	Cane Jaggery	FSAM-1421-NCML	Tartrazine
362	Cane Jaggery	FSAM-1054-NCML	Erythrosine
363	Cane Jaggery	FSAM-2490-NCML	Erythrosine
364	Cane Jaggery	FSAM-1531-NCML	Sunset Yellow
365	Cane Jaggery	FSAM-1141-NCML	Sunset Yellow
366	Cane Jaggery	FSAM-1139-NCML	Erythrosine
367	Cane Jaggery (Solid)	FSAM-3071-NCML	Sunset Yellow
368	Cane Jaggery (Solid)	FSAM-3033-NCML	Tartrazine & Sunset Yellow
369	Cane Jaggery (Solid)	FSAM-3034-NCML	Tartrazine & Sunset Yellow
370	Cane Jaggery (Solid)	FSAM-2187-NCML	Tartrazine & Sunset Yellow
371	Cane Jaggery (Solid)	FSAM-1349-NCML	Tartrazine & Sunset Yellow
372	Cane Jaggery (Solid)	FSAM-1355-NCML	Tartrazine & Sunset Yellow
373	Cane Jaggery (Solid)	FSAM-2912-NCML	Tartrazine & Sunset Yellow
374	Cane Jaggery (Solid)	FSAM-2911-NCML	Tartrazine & Sunset Yellow
375	Cane Jaggery (Solid)	FSAM-2910-NCML	Tartrazine & Sunset Yellow
376	Cane Jaggery (Solid)	FSAM-2285-NCML	Tartrazine & Sunset Yellow
377	Cane Jaggery (Solid)	FSAM-2289-NCML	Tartrazine & Sunset Yellow
378	Cane Jaggery (Solid)	FSAM-2284-NCML	Tartrazine & Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
379	Cane Jaggery (Solid)	FSAM-57-NCML	Tartrazine & Sunset Yellow
380	Cane Jaggery (Solid)	FSAM-2569-NCML	Tartrazine & Sunset Yellow
381	Cane Jaggery (Solid)	FSAM-2568-NCML	Tartrazine & Sunset Yellow
382	Cane Jaggery (Solid)	FSAM-997-NCML	Tartrazine & Sunset Yellow
383	Cane Jaggery (Solid)	FSAM-2914-NCML	Tartrazine & Sunset Yellow
384	Cane Jaggery (Solid)	FSAM-2039-NCML	Sunset Yellow
385	Cane Jaggery (Solid)	FSAM-2042-NCML	Tartrazine & Sunset Yellow
386	Cane Jaggery (Solid)	FSAM-1145-NCML	Tartrazine & Sunset Yellow
387	Cane Jaggery (Solid)	FSAM-566-NCML	Sunset Yellow
388	Cane Jaggery (Solid)	FSAM-564-NCML	Tartrazine & Sunset Yellow
389	Cane Jaggery (Solid)	FSAM-594-NCML	Sunset Yellow
390	Cane Jaggery (Solid)	FSAM-957-NCML	Tartrazine
391	Cane Jaggery (Solid)	FSAM-2885-NCML	Tartrazine & Sunset Yellow
392	Cane Jaggery (Solid)	FSAM-969-NCML	Sunset Yellow
393	Cane Jaggery (Solid)	FSAM-974-NCML	Sunset Yellow
394	Cane Jaggery (Solid)	FSAM-970-NCML	Sunset Yellow
395	Cane Jaggery (Solid)	FSAM-973-NCML	Tartrazine & Sunset Yellow
396	Cane Jaggery (Solid)	FSAM-972-NCML	Tartrazine & Sunset Yellow
397	Cane Jaggery (Solid)	FSAM-971-NCML	Tartrazine
398	Cane Jaggery (Solid)	FSAM-1001-NCML	Tartrazine & Sunset Yellow
399	Cane Jaggery (Solid)	FSAM-2894-NCML	Tartrazine & Sunset Yellow
400	Cane Jaggery (Solid)	FSAM-2893-NCML	Tartrazine & Sunset Yellow

S. No.	SampleName	Sample ID	Name of colour (If identified)
401	Cane Jaggery (Solid)	FSAM-2892-NCML	Tartrazine & Sunset Yellow
402	Cane Jaggery (Solid)	FSAM-658-NCML	Tartrazine & Sunset Yellow
403	Cane Jaggery (Solid)	FSAM-659-NCML	Tartrazine & Sunset Yellow
404	Cane Jaggery (Solid)	FSAM-459-NCML	Tartrazine & Sunset Yellow
405	Cane Jaggery (Solid)	FSAM-884-NCML	Tartrazine & Sunset Yellow
406	Cane Jaggery (Solid)	FSAM-883-NCML	Tartrazine & Sunset Yellow
407	Cane Jaggery (Solid)	FSAM-881-NCML	Tartrazine & Sunset Yellow
408	Cane Jaggery (Solid)	FSAM-880-NCML	Sunset Yellow
409	Cane Jaggery (Powdered)	FSAM-3014-NCML	Tartrazine & Sunset Yellow

ANNEXURE-XXX QUALITY PARAMETER WISE STATE/UT WISE CONTRIBUTION TO NON-COMPLIANCE

Sulfite				
S No	State/ UT	No. of Samples	No. of non-compliant Samples	% Non-compliant Samples
1	Gujarat	160	57	35.6%
2	Rajasthan	152	47	30.9%
3	Lakshadweep	10	3	30.0%
4	Manipur	20	6	30.0%
5	Himachal Pradesh	70	19	27.1%
6	Haryana	176	45	25.6%
7	Punjab	184	38	20.7%
8	Ladakh	10	2	20.0%
9	Nagaland	20	4	20.0%
10	Puducherry	10	2	20.0%
11	Jammu & Kashmir	16	2	12.5%

Sulfite				
S No	State/ UT	No. of Samples	No. of non-compliant Samples	% Non-compliant Samples
12	Andaman& Nicobar Islands	10	1	10.0%
13	Dadra Nagar Haveli	10	1	10.0%
14	Telangana	46	4	8.7%
15	Assam	36	3	8.3%
16	Chhattisgarh	36	3	8.3%
17	West Bengal	139	11	7.9%
18	Andhra Pradesh	104	8	7.7%
19	Tamil Nadu	232	14	6.0%
20	Goa	36	2	5.6%
21	Arunachal Pradesh	20	1	5.0%
22	Sikkim	20	1	5.0%
23	Bihar	86	4	4.7%
24	Kerala	98	4	4.1%
25	Uttar Pradesh	413	16	3.9%
26	Karnataka	242	7	2.9%
27	Odisha	72	2	2.8%
28	Maharashtra	312	7	2.2%
29	Delhi	48	1	2.1%
30	Chandigarh	16	0	0.0%
31	Jharkhand	36	0	0.0%
32	Madhya Pradesh	128	0	0.0%
33	Meghalaya	32	0	0.0%
34	Tripura	20	0	0.0%
35	Uttarakhand	40	0	0.0%
	Grand Total	**3060**	**315**	**10.3%**

ANNEXURE-XXXI QUALITY PARAMETER WISE VARIANT WISE CONTRIBUTION TO NON-COMPLIANCE

Sulfite				
S No.	Sample Type	No. of Samples	No. of non-compliant Samples	% Non-compliant Samples
1	Cane Jaggery (Liquid)	28	1	3.6%
2	Cane Jaggery (Powdered)	227	8	3.5%
3	Cane Jaggery (Solid)	2728	305	11.2%
4	Coconut Jaggery	13	1	7.7%
5	Date Palm Jaggery	17	0	0.0%
6	Palm Jaggery	47	0	0.0%
	Grand Total	**3060**	**315**	**10.3%**

ANNEXURE-XXXII DETAILS OF SULFITE VALUES MORE THAN THE SPECIFIED LIMIT

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
1	Cane Jaggery (Solid)	FSAM-1276-NCML	160.1
2	Cane Jaggery (Solid)	FSAM-296-NCML	84.88
3	Cane Jaggery (Solid)	FSAM-294-NCML	176.63
4	Cane Jaggery (Solid)	FSAM-3052-NCML	90.16
5	Cane Jaggery (Solid)	FSAM-2835-NCML	86.22
6	Cane Jaggery (Solid)	FSAM-2213-NCML	70.12
7	Cane Jaggery (Solid)	FSAM-1021-NCML	90.64
8	Cane Jaggery (Solid)	FSAM-857-NCML	89.73
9	Cane Jaggery (Powdered)	FSAM-2529-NCML	108.36
10	Cane Jaggery (Solid)	FSAM-2768-NCML	82.6
11	Cane Jaggery (Solid)	FSAM-652-NCML	125.55
12	Cane Jaggery (Solid)	FSAM-943-NCML	71.79
13	Cane Jaggery (Solid)	FSAM-2762-NCML	88.59
14	Cane Jaggery (Solid)	FSAM-889-NCML	71.84
15	Cane Jaggery (Powdered)	FSAM-2095-NCML	79.01

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
16	Cane Jaggery (Solid)	FSAM-963-NCML	98.06
17	Cane Jaggery (Solid)	FSAM-961-NCML	109.6
18	Cane Jaggery (Solid)	FSAM-2816-NCML	112.22
19	Cane Jaggery (Solid)	FSAM-1204-NCML	120.6
20	Cane Jaggery (Solid)	FSAM-1203-NCML	86.45
21	Cane Jaggery (Solid)	FSAM-1254-NCML	78.46
22	Cane Jaggery (Solid)	FSAM-2190-NCML	273
23	Cane Jaggery (Solid)	FSAM-1225-NCML	280.7
24	Cane Jaggery (Solid)	FSAM-1224-NCML	141.72
25	Cane Jaggery (Solid)	FSAM-2852-NCML	80.13
26	Cane Jaggery (Solid)	FSAM-661-NCML	191.8
27	Cane Jaggery (Solid)	FSAM-660-NCML	74.29
28	Cane Jaggery (Solid)	FSAM-427-NCML	68.73
29	Cane Jaggery (Solid)	FSAM-1314-NCML	83.24
30	Cane Jaggery (Solid)	FSAM-3057-NCML	63.18
31	Coconut Jaggery	FSAM-2989-NCML	109.79
32	Cane Jaggery (Liquid)	FSAM-2992-NCML	123.41
33	Cane Jaggery (Powdered)	FSAM-1647-NCML	64.27
34	Cane Jaggery (Solid)	FSAM-1649-NCML	74.3
35	Cane Jaggery (Solid)	FSAM-1657-NCML	71.91
36	Cane Jaggery (Solid)	FSAM-910-NCML	63.65
37	Cane Jaggery (Solid)	FSAM-923-NCML	59.8
38	Cane Jaggery (Solid)	FSAM-926-NCML	98.21
39	Cane Jaggery (Solid)	FSAM-931-NCML	170.49
40	Cane Jaggery (Solid)	FSAM-1683-NCML	129.06
41	Cane Jaggery (Solid)	FSAM-1772-NCML	74.79
42	Cane Jaggery (Solid)	FSAM-1755-NCML	172.09
43	Cane Jaggery (Solid)	FSAM-1771-NCML	73.25
44	Cane Jaggery (Solid)	FSAM-1712-NCML	184.05
45	Cane Jaggery (Solid)	FSAM-1166-NCML	116
46	Cane Jaggery (Solid)	FSAM-1168-NCML	74

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
47	Cane Jaggery (Solid)	FSAM-1181-NCML	50.8
48	Cane Jaggery (Solid)	FSAM-1300-NCML	75.5
49	Cane Jaggery (Solid)	FSAM-519-NCML	61.19
50	Cane Jaggery (Solid)	FSAM-1580-NCML	174.62
51	Cane Jaggery (Solid)	FSAM-1581-NCML	201.19
52	Cane Jaggery (Solid)	FSAM-1582-NCML	149.14
53	Cane Jaggery (Solid)	FSAM-559-NCML	65.18
54	Cane Jaggery (Solid)	FSAM-1933-NCML	77.66
55	Cane Jaggery (Solid)	FSAM-242-NCML	97.62
56	Cane Jaggery (Solid)	FSAM-172-NCML	85.21
57	Cane Jaggery (Solid)	FSAM-2505-NCML	63.84
58	Cane Jaggery (Solid)	FSAM-607-NCML	58.87
59	Cane Jaggery (Solid)	FSAM-2205-NCML	64.03
60	Cane Jaggery (Solid)	FSAM-956-NCML	55.87
61	Cane Jaggery (Solid)	FSAM-955-NCML	54.55
62	Cane Jaggery (Solid)	FSAM-1359-NCML	55.63
63	Cane Jaggery (Solid)	FSAM-882-NCML	180.65
64	Cane Jaggery (Solid)	FSAM-879-NCML	232.14
65	Cane Jaggery (Solid)	FSAM-1765-NCML	113.31
66	Cane Jaggery (Solid)	FSAM-1776-NCML	168.73
67	Cane Jaggery (Solid)	FSAM-1775-NCML	298.86
68	Cane Jaggery (Solid)	FSAM-2714-NCML	108.98
69	Cane Jaggery (Solid)	FSAM-1056-NCML	126.1
70	Cane Jaggery (Solid)	FSAM-1073-NCML	108.13
71	Cane Jaggery (Solid)	FSAM-2756-NCML	146.13
72	Cane Jaggery (Solid)	FSAM-2750-NCML	106.46
73	Cane Jaggery (Solid)	FSAM-2638-NCML	435.92
74	Cane Jaggery (Solid)	FSAM-2640-NCML	371.66
75	Cane Jaggery (Solid)	FSAM-1468-NCML	382.37
76	Cane Jaggery (Solid)	FSAM-1466-NCML	138.97
77	Cane Jaggery (Solid)	FSAM-1465-NCML	99.29

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
78	Cane Jaggery (Solid)	FSAM-2641-NCML	196.28
79	Cane Jaggery (Solid)	FSAM-1097-NCML	274.78
80	Cane Jaggery (Solid)	FSAM-1093-NCML	149.13
81	Cane Jaggery (Solid)	FSAM-1094-NCML	257
82	Cane Jaggery (Solid)	FSAM-1096-NCML	268.17
83	Cane Jaggery (Solid)	FSAM-2639-NCML	292
84	Cane Jaggery (Solid)	FSAM-1095-NCML	257.57
85	Cane Jaggery (Solid)	FSAM-2583-NCML	228.5
86	Cane Jaggery (Solid)	FSAM-1498-NCML	63.67
87	Cane Jaggery (Solid)	FSAM-2661-NCML	84.9
88	Cane Jaggery (Solid)	FSAM-2264-NCML	115.03
89	Cane Jaggery (Solid)	FSAM-2263-NCML	488.18
90	Cane Jaggery (Solid)	FSAM-2261-NCML	180.23
91	Cane Jaggery (Solid)	FSAM-1822-NCML	143.18
92	Cane Jaggery (Solid)	FSAM-1821-NCML	498.11
93	Cane Jaggery (Solid)	FSAM-1819-NCML	105.52
94	Cane Jaggery (Solid)	FSAM-77-NCML	191.6
95	Cane Jaggery (Solid)	FSAM-78-NCML	509.61
96	Cane Jaggery (Solid)	FSAM-1380-NCML	144.49
97	Cane Jaggery (Solid)	FSAM-1383-NCML	279.75
98	Cane Jaggery (Solid)	FSAM-2574-NCML	207.21
99	Cane Jaggery (Solid)	FSAM-1384-NCML	153.35
100	Cane Jaggery (Solid)	FSAM-2577-NCML	118.75
101	Cane Jaggery (Solid)	FSAM-1381-NCML	151.05
102	Cane Jaggery (Solid)	FSAM-1482-NCML	74.64
103	Cane Jaggery (Solid)	FSAM-1480-NCML	112.13
104	Cane Jaggery (Solid)	FSAM-2175-NCML	186.78
105	Cane Jaggery (Solid)	FSAM-2176-NCML	83.09
106	Cane Jaggery (Solid)	FSAM-2223-NCML	135.2
107	Cane Jaggery (Solid)	FSAM-741-NCML	114.92
108	Cane Jaggery (Solid)	FSAM-739-NCML	106.59

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
109	Cane Jaggery (Solid)	FSAM-738-NCML	138.89
110	Cane Jaggery (Solid)	FSAM-2163-NCML	173.24
111	Cane Jaggery (Solid)	FSAM-2162-NCML	159.71
112	Cane Jaggery (Solid)	FSAM-2161-NCML	141.52
113	Cane Jaggery (Solid)	FSAM-2160-NCML	263.41
114	Cane Jaggery (Solid)	FSAM-2250-NCML	87.67
115	Cane Jaggery (Solid)	FSAM-2599-NCML	174.48
116	Cane Jaggery (Solid)	FSAM-702-NCML	272.63
117	Cane Jaggery (Solid)	FSAM-2247-NCML	87.62
118	Cane Jaggery (Solid)	FSAM-701-NCML	249.78
119	Cane Jaggery (Solid)	FSAM-1455-NCML	156.06
120	Cane Jaggery (Solid)	FSAM-700-NCML	115.12
121	Cane Jaggery (Solid)	FSAM-1457-NCML	60.99
122	Cane Jaggery (Solid)	FSAM-2619-NCML	154.67
123	Cane Jaggery (Solid)	FSAM-1525-NCML	98.54
124	Cane Jaggery (Solid)	FSAM-2679-NCML	381.18
125	Cane Jaggery (Solid)	FSAM-2136-NCML	97.63
126	Cane Jaggery (Solid)	FSAM-2135-NCML	98.36
127	Cane Jaggery (Solid)	FSAM-2134-NCML	74.6
128	Cane Jaggery (Solid)	FSAM-456-NCML	65.16
129	Cane Jaggery (Solid)	FSAM-454-NCML	443.63
130	Cane Jaggery (Solid)	FSAM-2218-NCML	103.23
131	Cane Jaggery (Solid)	FSAM-1245-NCML	180.86
132	Cane Jaggery (Solid)	FSAM-755-NCML	80.77
133	Cane Jaggery (Solid)	FSAM-2255-NCML	155.39
134	Cane Jaggery (Solid)	FSAM-2231-NCML	183.2
135	Cane Jaggery (Solid)	FSAM-2235-NCML	182.56
136	Cane Jaggery (Solid)	FSAM-501-NCML	174.09
137	Cane Jaggery (Solid)	FSAM-2233-NCML	100.06
138	Cane Jaggery (Solid)	FSAM-502-NCML	82.9
139	Cane Jaggery (Solid)	FSAM-2232-NCML	69.77

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
140	Cane Jaggery (Solid)	FSAM-2234-NCML	123.38
141	Cane Jaggery (Solid)	FSAM-1783-NCML	751.25
142	Cane Jaggery (Solid)	FSAM-839-NCML	232.84
143	Cane Jaggery (Solid)	FSAM-838-NCML	229.41
144	Cane Jaggery (Solid)	FSAM-837-NCML	312.69
145	Cane Jaggery (Solid)	FSAM-836-NCML	314.86
146	Cane Jaggery (Solid)	FSAM-2245-NCML	467.26
147	Cane Jaggery (Solid)	FSAM-2243-NCML	320.63
148	Cane Jaggery (Solid)	FSAM-2242-NCML	169.14
149	Cane Jaggery (Solid)	FSAM-2241-NCML	134.25
150	Cane Jaggery (Solid)	FSAM-1138-NCML	82.9
151	Cane Jaggery (Solid)	FSAM-1478-NCML	247
152	Cane Jaggery (Solid)	FSAM-2646-NCML	227.47
153	Cane Jaggery (Solid)	FSAM-2645-NCML	216.38
154	Cane Jaggery (Solid)	FSAM-2643-NCML	68.43
155	Cane Jaggery (Solid)	FSAM-2494-NCML	501.34
156	Cane Jaggery (Solid)	FSAM-1815-NCML	81.23
157	Cane Jaggery (Solid)	FSAM-1541-NCML	186.04
158	Cane Jaggery (Solid)	FSAM-2683-NCML	231.49
159	Cane Jaggery (Solid)	FSAM-1529-NCML	198.34
160	Cane Jaggery (Solid)	FSAM-1152-NCML	82.78
161	Cane Jaggery (Solid)	FSAM-1867-NCML	189.25
162	Cane Jaggery (Solid)	FSAM-2693-NCML	117.65
163	Cane Jaggery (Solid)	FSAM-1864-NCML	113.09
164	Cane Jaggery (Solid)	FSAM-1866-NCML	134.58
165	Cane Jaggery (Solid)	FSAM-2696-NCML	369.48
166	Cane Jaggery (Solid)	FSAM-2700-NCML	143.57
167	Cane Jaggery (Solid)	FSAM-1865-NCML	135.11
168	Cane Jaggery (Solid)	FSAM-834-NCML	79.02
169	Cane Jaggery (Solid)	FSAM-1199-NCML	405.61
170	Cane Jaggery (Solid)	FSAM-2895-NCML	103.84

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
171	Cane Jaggery (Powdered)	FSAM-133-NCML	56.43
172	Cane Jaggery (Solid)	FSAM-206-NCML	56.22
173	Cane Jaggery (Solid)	FSAM-221-NCML	78.22
174	Cane Jaggery (Solid)	FSAM-299-NCML	54.33
175	Cane Jaggery (Solid)	FSAM-312-NCML	61.09
176	Cane Jaggery (Solid)	FSAM-351-NCML	56.21
177	Cane Jaggery (Solid)	FSAM-378-NCML	103.93
178	Cane Jaggery (Solid)	FSAM-437-NCML	62.33
179	Cane Jaggery (Solid)	FSAM-494-NCML	69.88
180	Cane Jaggery (Solid)	FSAM-496-NCML	60.22
181	Cane Jaggery (Solid)	FSAM-698-NCML	51.22
182	Cane Jaggery (Solid)	FSAM-1961-NCML	59.32
183	Cane Jaggery (Solid)	FSAM-1104-NCML	125.75
184	Cane Jaggery (Solid)	FSAM-1107-NCML	78.08
185	Cane Jaggery (Solid)	FSAM-647-NCML	90
186	Cane Jaggery (Solid)	FSAM-1972-NCML	197.98
187	Cane Jaggery (Solid)	FSAM-623-NCML	148.82
188	Cane Jaggery (Solid)	FSAM-1668-NCML	70.3
189	Cane Jaggery (Solid)	FSAM-2224-NCML	130.33
190	Cane Jaggery (Solid)	FSAM-785-NCML	431.56
191	Cane Jaggery (Solid)	FSAM-2167-NCML	213.88
192	Cane Jaggery (Solid)	FSAM-784-NCML	419.23
193	Cane Jaggery (Solid)	FSAM-2168-NCML	295.38
194	Cane Jaggery (Solid)	FSAM-783-NCML	394.74
195	Cane Jaggery (Solid)	FSAM-786-NCML	126.72
196	Cane Jaggery (Solid)	FSAM-782-NCML	402.17
197	Cane Jaggery (Solid)	FSAM-2165-NCML	495.43
198	Cane Jaggery (Solid)	FSAM-2166-NCML	436.67
199	Cane Jaggery (Solid)	FSAM-2164-NCML	149.68
200	Cane Jaggery (Solid)	FSAM-805-NCML	107.7
201	Cane Jaggery (Solid)	FSAM-803-NCML	300.12

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
202	Cane Jaggery (Solid)	FSAM-804-NCML	109.37
203	Cane Jaggery (Powdered)	FSAM-23-NCML	116.16
204	Cane Jaggery (Powdered)	FSAM-24-NCML	199.65
205	Cane Jaggery (Solid)	FSAM-2226-NCML	251.81
206	Cane Jaggery (Solid)	FSAM-2230-NCML	463.21
207	Cane Jaggery (Solid)	FSAM-2228-NCML	228.39
208	Cane Jaggery (Solid)	FSAM-806-NCML	138.08
209	Cane Jaggery (Solid)	FSAM-2229-NCML	123.87
210	Cane Jaggery (Solid)	FSAM-802-NCML	203.95
211	Cane Jaggery (Solid)	FSAM-2225-NCML	100.23
212	Cane Jaggery (Solid)	FSAM-808-NCML	114.93
213	Cane Jaggery (Solid)	FSAM-2227-NCML	124.89
214	Cane Jaggery (Solid)	FSAM-807-NCML	404.06
215	Cane Jaggery (Solid)	FSAM-2591-NCML	345.04
216	Cane Jaggery (Solid)	FSAM-1127-NCML	166.35
217	Cane Jaggery (Solid)	FSAM-2594-NCML	147.04
218	Cane Jaggery (Solid)	FSAM-147-NCML	433.49
219	Cane Jaggery (Solid)	FSAM-1129-NCML	196.9
220	Cane Jaggery (Solid)	FSAM-1126-NCML	251.61
221	Cane Jaggery (Solid)	FSAM-1128-NCML	285.16
222	Cane Jaggery (Solid)	FSAM-2588-NCML	255.64
223	Cane Jaggery (Solid)	FSAM-1131-NCML	439.65
224	Cane Jaggery (Solid)	FSAM-2593-NCML	246.09
225	Cane Jaggery (Solid)	FSAM-2592-NCML	183.45
226	Cane Jaggery (Solid)	FSAM-148-NCML	257.79
227	Cane Jaggery (Solid)	FSAM-2590-NCML	176.17
228	Cane Jaggery (Solid)	FSAM-2589-NCML	179.87
229	Cane Jaggery (Solid)	FSAM-2595-NCML	148.51
230	Cane Jaggery (Solid)	FSAM-1130-NCML	143.74
231	Cane Jaggery (Solid)	FSAM-1169-NCML	53.58
232	Cane Jaggery (Solid)	FSAM-1173-NCML	467.19

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
233	Cane Jaggery (Solid)	FSAM-1174-NCML	275.79
234	Cane Jaggery (Solid)	FSAM-165-NCML	86.07
235	Cane Jaggery (Solid)	FSAM-166-NCML	187.6
236	Cane Jaggery (Solid)	FSAM-1172-NCML	333.72
237	Cane Jaggery (Solid)	FSAM-1170-NCML	69.99
238	Cane Jaggery (Solid)	FSAM-2687-NCML	183.22
239	Cane Jaggery (Solid)	FSAM-2692-NCML	254.11
240	Cane Jaggery (Solid)	FSAM-2691-NCML	451.03
241	Cane Jaggery (Solid)	FSAM-2686-NCML	431.69
242	Cane Jaggery (Solid)	FSAM-2688-NCML	141.23
243	Cane Jaggery (Powdered)	FSAM-2690-NCML	212.36
244	Cane Jaggery (Solid)	FSAM-2689-NCML	75.61
245	Cane Jaggery (Solid)	FSAM-1171-NCML	237.54
246	Cane Jaggery (Solid)	FSAM-983-NCML	423.69
247	Cane Jaggery (Solid)	FSAM-2368-NCML	110.15
248	Cane Jaggery (Solid)	FSAM-2395-NCML	93.09
249	Cane Jaggery (Solid)	FSAM-2337-NCML	166.53
250	Cane Jaggery (Solid)	FSAM-2340-NCML	425.45
251	Cane Jaggery (Solid)	FSAM-1120-NCML	137.93
252	Cane Jaggery (Solid)	FSAM-1585-NCML	61.51
253	Cane Jaggery (Solid)	FSAM-2728-NCML	117.52
254	Cane Jaggery (Solid)	FSAM-1025-NCML	207.44
255	Cane Jaggery (Solid)	FSAM-2720-NCML	123.52
256	Cane Jaggery (Solid)	FSAM-2721-NCML	74.25
257	Cane Jaggery (Solid)	FSAM-1119-NCML	131.48
258	Cane Jaggery (Solid)	FSAM-1027-NCML	137.93
259	Cane Jaggery (Solid)	FSAM-2392-NCML	120.84
260	Cane Jaggery (Solid)	FSAM-1118-NCML	77.98
261	Cane Jaggery (Solid)	FSAM-965-NCML	77.98
262	Cane Jaggery (Solid)	FSAM-1836-NCML	131.48
263	Cane Jaggery (Solid)	FSAM-2722-NCML	120.84

S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
264	Cane Jaggery (Solid)	FSAM-2719-NCML	726.49
265	Cane Jaggery (Solid)	FSAM-2302-NCML	646.65
266	Cane Jaggery (Solid)	FSAM-980-NCML	128.61
267	Cane Jaggery (Solid)	FSAM-982-NCML	166.78
268	Cane Jaggery (Solid)	FSAM-2744-NCML	210.87
269	Cane Jaggery (Solid)	FSAM-1441-NCML	158.17
270	Cane Jaggery (Solid)	FSAM-1443-NCML	210.98
271	Cane Jaggery (Solid)	FSAM-1444-NCML	161.38
272	Cane Jaggery (Solid)	FSAM-1445-NCML	180.47
273	Cane Jaggery (Solid)	FSAM-2745-NCML	93.09
274	Cane Jaggery (Solid)	FSAM-1838-NCML	210.87
275	Cane Jaggery (Solid)	FSAM-2316-NCML	158.17
276	Cane Jaggery (Solid)	FSAM-1024-NCML	210.98
277	Cane Jaggery (Solid)	FSAM-2391-NCML	161.38
278	Cane Jaggery (Solid)	FSAM-1839-NCML	180.47
279	Cane Jaggery (Solid)	FSAM-306-NCML	63.84
280	Cane Jaggery (Solid)	FSAM-305-NCML	183.43
281	Cane Jaggery (Solid)	FSAM-951-NCML	252.44
282	Cane Jaggery (Solid)	FSAM-1673-NCML	61.21
283	Cane Jaggery (Solid)	FSAM-2435-NCML	122.1
284	Cane Jaggery (Solid)	FSAM-2436-NCML	174.55
285	Cane Jaggery (Solid)	FSAM-2431-NCML	55.2
286	Cane Jaggery (Solid)	FSAM-1843-NCML	66.87
287	Cane Jaggery (Solid)	FSAM-101-NCML	125.97
288	Cane Jaggery (Solid)	FSAM-1841-NCML	202.79
289	Cane Jaggery (Solid)	FSAM-28-NCML	103.11
290	Cane Jaggery (Solid)	FSAM-2439-NCML	115.76
291	Cane Jaggery (Solid)	FSAM-1411-NCML	240.51
292	Cane Jaggery (Solid)	FSAM-2724-NCML	207.44
293	Cane Jaggery (Solid)	FSAM-94-NCML	62.9
294	Cane Jaggery (Powdered)	FSAM-828-NCML	85.67

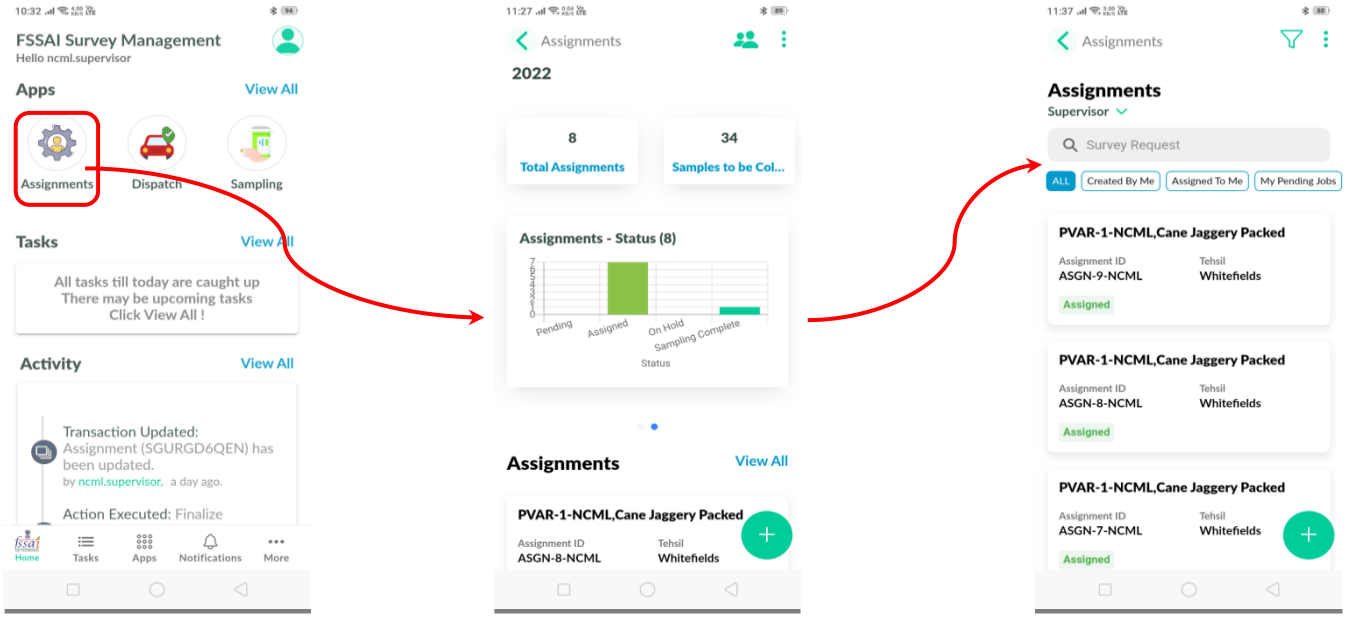
S.No	Variant Type	Sample Code	Sulfite as SO2 (mg/kg)
295	Cane Jaggery (Solid)	FSAM-1007-NCML	196.42
296	Cane Jaggery (Solid)	FSAM-1008-NCML	437.17
297	Cane Jaggery (Solid)	FSAM-1010-NCML	66.44
298	Cane Jaggery (Solid)	FSAM-1009-NCML	184.16
299	Cane Jaggery (Solid)	FSAM-2339-NCML	104.4
300	Cane Jaggery (Solid)	FSAM-2369-NCML	159.16
301	Cane Jaggery (Solid)	FSAM-1045-NCML	159.16
302	Cane Jaggery (Solid)	FSAM-984-NCML	227.77
303	Cane Jaggery (Solid)	FSAM-2306-NCML	139.01
304	Cane Jaggery (Solid)	FSAM-938-NCML	332.05
305	Cane Jaggery (Solid)	FSAM-2335-NCML	53.9
306	Cane Jaggery (Solid)	FSAM-2387-NCML	186.84
307	Cane Jaggery (Solid)	FSAM-2314-NCML	258.43
308	Cane Jaggery (Solid)	FSAM-1413-NCML	140.13
309	Cane Jaggery (Solid)	FSAM-2444-NCML	70.12
310	Cane Jaggery (Solid)	FSAM-952-NCML	436.95
311	Cane Jaggery (Solid)	FSAM-1520-NCML	103.96
312	Cane Jaggery (Solid)	FSAM-1519-NCML	354.24
313	Cane Jaggery (Solid)	FSAM-1518-NCML	452.2
314	Cane Jaggery (Solid)	FSAM-873-NCML	190.13
315	Cane Jaggery (Solid)	FSAM-861-NCML	252.97

ANNEXURE XXXIII THE FEATURES OF MOBILE APPLICATION

The survey has envisaged and made operational ‘workflows’ based on the ‘user roles. There are three roles viz., Regional Coordinators (Sampler Supervisor), Sampler and Food Safety Officer who are involved in the collection of samples.

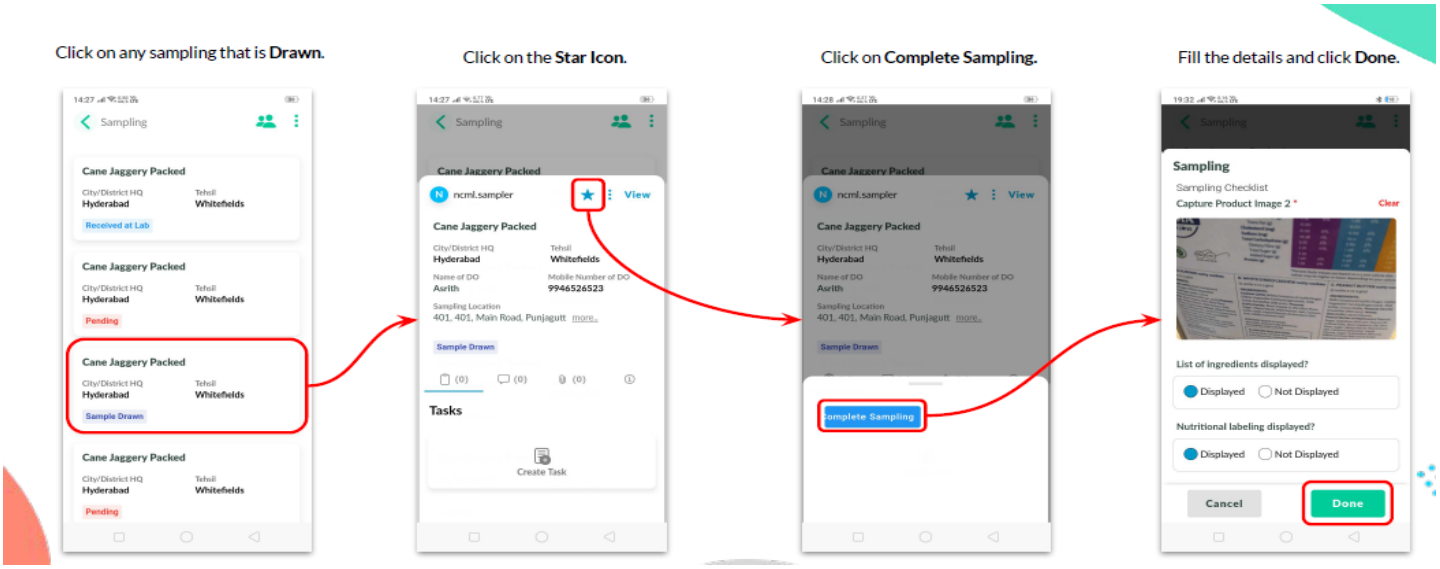
Role of Regional coordinators:

Regional coordinators can create view, edit and re-assign the assignments to the samplers who are mapped under region.



Role of Samplers:

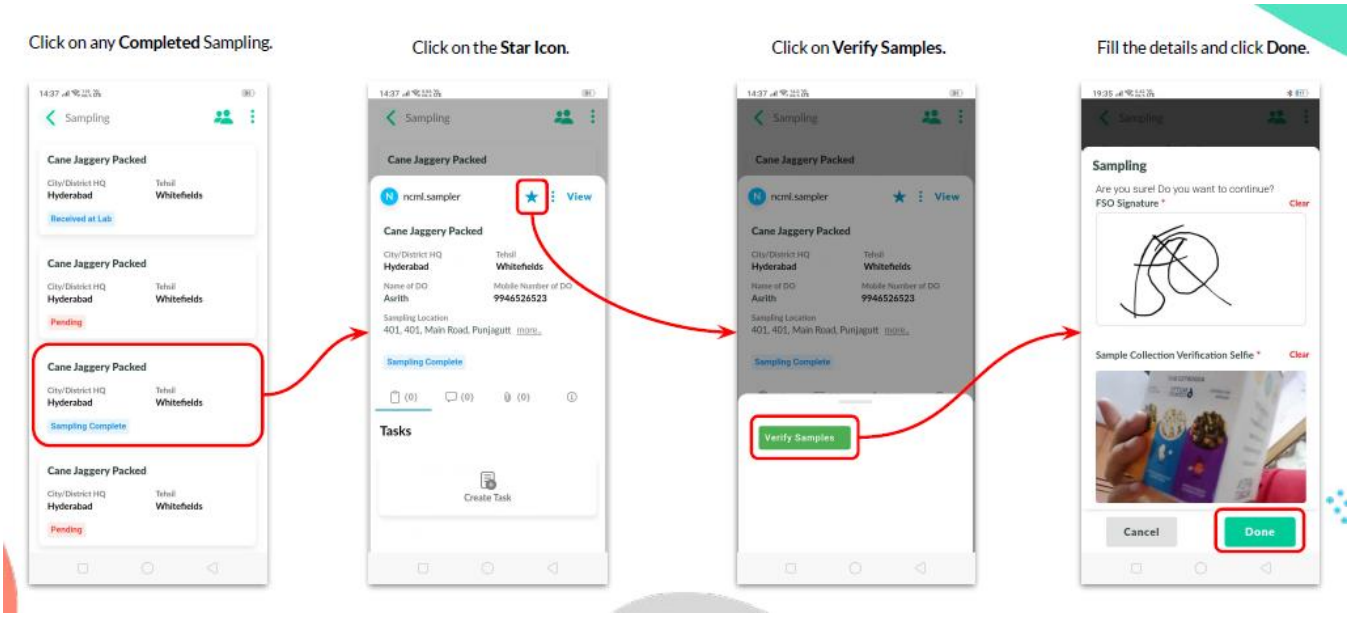
The sampler's sample details were captured as part of the sampling checklist. They were also able to use the application in offline mode wherever there were internet connectivity issues. After completion of sampling, they create dispatch and enter the required details to dispatch the consignment in the chosen mode of transport.



Role of FSO:

Food safety officer – FSO selected the commercial establishment for sampling randomly. Based on the assignment, FSO does sampling for the required number of samples and handed over the Sample &filled, verified &signed TRF to complete the sampling activity.

Sampling verification in APP (Mobile)



Role of Labs:

In order to track the samples from collection to testing, the data was filled by lab analysts. Only the samples that were fit were considered for testing They also provided details of the methods, CRMs etc. to ensure that the standard protocols were followed for all the laboratories.

Receive Dispatches in NCML LABS APP (Web)