

**BUREAU OF INDIAN STANDARDS****MINUTES**

<b>Name of the Committee</b>	<b>No. of Meeting</b>	<b>Date</b>	<b>Time</b>	<b>Venue</b>
Agriculture and Food Processing Equipment Sectional Committee, FAD 20	22nd	17 October 2023 (Tuesday)	09:00 AM	Lal C Verman Hall Bureau of Indian Standards, HQ, New Delhi (Virtual+Physical)

**CHAIRPERSON**

**Dr. S. N. Jha**  
(Chairperson, FAD 20)  
Deputy Director General  
(Agricultural Engineering),  
ICAR, New Delhi

**MEMBER SECRETARY**

**Pradeep Sharma**  
(Member Secretary, FAD 20)  
Scientist-B / Assistant Director  
Food & Agriculture Department,  
Bureau of Indian Standards, New  
Delhi

**Note** — Attendance is enclosed at Annex A (see Page 10 to Page 11)

**ITEM 0 GENERAL****0.1 Welcome**

Mr. Pradeep Sharma, Scientist - B and Member Secretary of the Agriculture and Food Processing Equipment Sectional Committee, FAD 20 cordially welcomed all the committee members to the 22nd meeting of the Sectional Committee, FAD 20.

**0.2 Opening Remarks by the Chairman**

Dr S. N. Jha, Deputy Director General (Agricultural Engineering), ICAR New Delhi and Chairperson, FAD 20, extended a warm welcome to all the members.

In his opening remarks, he strictly suggested all the committee members to attend the next meeting in person only, however, he considered the case when there is any special situation but only for one or two cases and not all the time for any one individual.

He shared the discussion made in the meeting of Food and Agriculture Organization (FAO) held in Rome which was joined by around 30 countries (very few were from developed countries), where the topic was on decarbonization, robotics and safety in agriculture. He as a representative from India, gave presentation about the role and importance of standards developed by India for decarbonization, agricultural mechanization and safety and highlighted the functions of Bureau of Indian Standards (BIS), Food Safety and Standards Authority of India (FSSAI), Bureau of Energy Efficiency (BEE). However, due to lack of resources and evidence/empirical data he could not able to show the same with proper statistics. Therefore, he suggested BIS to run an Impact Assessment Study to evaluate and collect the information and data to show the on ground importance and benefits of standards for country.

## ITEM 1 CONFIRMATION OF THE MINUTES OF THE TWENTITH MEETING

The committee confirmed the minutes of the 21<sup>st</sup> meeting of, Agriculture and Food Processing Equipment Sectional Committee, FAD 20 held on 2 June 2023 through hybrid mode (virtual & physical) as circulated to the members vide email dated 12 June 2023 without any modification. The chairperson of the committee urged all the members to go through minutes and to comment if they found any error in decision recording.

## ITEM 2 SCOPE, ACTIVITIES AND COMPOSITION OF THE SECTIONAL COMMITTEE

### 2.1 Scope & Program of Work of The Committee

The committee noted the scope and program of work of FAD 20 as given in Item 2.1 of the agenda.

### 2.2 Composition of The Sectional Committee

The committee noted the updated composition of the sectional committee, FAD 20 as given in Annex 2 of the agenda and following organization were recommended to Food and Agriculture Division Council (FADC) for co-opting them in the committee.

- a) Sahyadri Farmers Producer Company (FPC), Nashik
- b) Confederation of Food & Agro-Processing Machinery Enterprises (COFAME)
- c) ICAR, New Delhi
  - i. Assistant Director General, Process Engineering as an principal member (*by designation*)
  - ii. Assistant Director General , Farm Engineering as an alternate member (*by designation*)

### 2.3 Directives from the Office of Hon'ble Minister Consumer Affairs, Food & Public Distribution, Regarding Review of Committee Composition:

The committee noted all the directives/tasks received from Hon'ble Minister, and accordingly reviewed the composition of the committee for individual directive/task and accordingly following decisions were taken.

- a) The committee observed that Dr V G Arude, Central Institute for Research on Cotton Technology (CIRCOT), Mumbai is representing in the committee for more than 10 years. Therefore, the committee recommended FADC to withdraw him as per Task 714. Subsequently, the committee requested member secretary to write to Director, CIRCOT Mumbai to nominate another expert.
- b) The committee observed that, Dr K. Alugusundaram (in personal capacity) and Dr Jix Antony (in personal capacity) not attended the last three consecutive meetings. Therefore, the committee recommended FADC to withdraw both of them as per the Task 715.

### ITEM 3 INDIAN STANDARDS PUBLISHED

The committee noted the information regarding all the Indian Standards published by the committee, appreciated the work of all the members who were involved in the same.

### ITEM 4 FINALISATION OF DRAFT INDIAN STANDARDS

#### 4.1 Draft Revision of Indian Standards related to rice milling equipment.

The committee deliberated on these revised drafts of rice milling equipment and noted that no comment was received during the wide circulation stage. However, the other comment regarding the requirement of guard strength of equipment mentioned in the item 4.1 of the agenda was discussed among the committee and accordingly accepted for these rice milling equipment also. After due deliberation, the committee finalized the revised drafts and decided to send the following drafts for publication.

- a) FAD 20 (21045) Agricultural Produce Milling Machinery — Mini Rice Mill — Specification (*first revision of IS 12792*)
- b) FAD 20 (20655) Rice Polisher — Specification (*third revision of IS 9555*)
- c) FAD 20 (20660) Rice Length Grader — Specification (*first revision of IS 10048*)
- d) FAD 20(20711) Paddy Separator — Specification (*second revision of IS 10507*)
- e) FAD20 (20699) Paddy Dehusker — Rubber Roller Type — Specification (*first revision of IS 11787*)
- f) FAD 20 (20702) Paddy Dehusker – Centrifugal Type — Specification (*first revision of IS 12411*)
- g) FAD 20(20718) Paddy Cleaner — Specification (*first revision of IS 12396*)

#### 4.2 Draft Revision of Indian Standards Related to Chaff Cutter

a) Doc. FAD 20 (21454) IS 7898 Manually Operated Chaff Cutter – Specification, Test Code and Safety (*Third Revision of IS 7898*)

b) Doc FAD 20 (21455) IS 11459 Power Operated Chaff Cutter – Specification, Test Code and Safety (*First Revision of IS 11459*)

The committee noted that the above two drafts were revised by merging all existing Indian Standards related to chaff cutter (IS 1511, IS 7897, IS 7898, IS 11459 and IS 15542) to make a single standard, one for manually and one for power operated chaff cutter encompassing specifications, test methods and safety requirements. Subsequently, the committee noted that these two revised drafts had completed the wide circulation stage and comment received during that were suitably incorporated in the revised draft as enclosed in the agenda. After due deliberation among the committee members, these revised drafts were finalized and decided to send for publication. The committee also recommended to withdraw IS 1511, IS 7897 and IS 15542 once IS 7898 and IS 11459 are published.

### ITEM 5 APPROVAL OF DRAFT STANDARDS FOR WIDE CIRCULATION (WC)

5.1 Doc. No. FAD 20 (22769) Cleaner Cum Grader for Millets with Pre-Cleaner — Specification

**5.2 Doc. No. FAD 20 (22779) Centrifugal Type Millet Dehusker — Specification****5.2 Doc. No. FAD 20 (22779) Centrifugal Type Millet Dehusker — Specification****5.3 Doc. No. FAD 20 (22780) Destoner for Millets — Specification**

The committee noted that the above four drafts (5.1, 5.2, 5.3 and, 5.4) had completed the preliminary draft circulation stage of 21 days, and the comments received during this circulation were incorporated into the drafts as enclosed in the agenda. After due deliberation and considering the importance of publishing these standards in the International Year of Millets (IYoM) — 2023 itself in the committee, Dr Ravindra Naik, Convenor FAD20/P16, "Formulate New Standards on Millet Processing", recommended reducing the time for wide circulation. Accordingly, the committee decided to send this draft for wide circulation for a period of only 30 days.

5.5 The committee noted the point submitted by the panel FAD20/P16 that the working draft for millet pearler and polisher is under preparation and will be completed soon. Therefore, the committee considered the urgency of the subject and approved the draft in advance for a P-draft circulation for a period of 21 days among the committee members.

**5.5 Revision of Indian standards on Agricultural Produce Milling Machinery Under the Scope of Panel FAD20/P19**

The committee noted that the following revised drafts had been prepared by the panel after having due discussion in the two-panel meeting of FAD20/P19. However, all the drafts were again quickly reviewed by the committee during the meeting and accordingly the recommendations and decisions made for individual standard.

*5.5.1 Draft Revision of IS 10520: 1989 Agricultural Produce Milling Machinery - Emery Stones for Burr Flour Mills*

The committee reviewed the revised draft and recommended to update the diagram for both vertical and horizontal emery stone. After noting all other changes made in this revision and due deliberation, the committee approved this draft to send into wide circulation for a period of 60 days to seek comments.

*5.5.2 Draft Revision of IS 10892: 1984 Recommendations for aperture size of sieves for seed cleaners*

The committee noted that this draft had been revised to make it in line with "Indian Minimum Seed Certification Standards" issued by the Central Seed Certification Board (GOI) in 2013 as recommended by the panel. After due deliberation, the committee approved this draft to send into wide circulation for a period of 60 days to seek comments.

*5.5.3 Draft Revision of IS 12833: 1989 Agricultural Produce Milling Machinery-Roller Flour Mills – Flow Diagram*

The committee reviewed this revised draft. However, no major changes were made but some modifications and corrections were made in the terminology clause. Considering the same and after discussing among all attendees, the committee approved this draft to send into wide circulation for a period of 60 days to seek comments.

#### *5.5.4 Draft Revision of IS 13793: 1993 Agricultural produce milling Machinery-Milling of pulses – Flow Diagram*

The committee reviewed this draft and suggested some correction to be made in flow diagram and the recommended units to be converted in SI units only for figure 9 in the draft as enclosed in the agenda. Simultaneously, the committee requested member secretary to correct it accordingly and send it to Dr S K Giri, CIAE Bhopal and Dr Suchita V. Gupta, PDKV Akola to check the draft again and submit it to the committee. The committee decided to send this draft into wide circulation for a period of 60 days after receiving it from Dr Giri and Dr Gupta.

#### *5.5.5 Draft Revision of IS 11041: 1984 Air-Screen Seed Cleaner — Specification*

The committee reviewed the revised draft and noted all the changes made in this revision. However, the committee suggested some modification regarding performance requirement, constructional requirement and marking clause. Subsequently, the committee decided to send this draft into wide circulation for a period of 60 days to seek more comments.

### **5.6 Revision of Indian Standards on seed processing plants**

The committee noted the following draft revision which were coming under the purview of FAD20/P8 and revised based on the comments received from Dr R. Viswanathan. However, no major changes or modifications made in this revision but after due deliberation, the committee decided to send these revised drafts into wide circulation for a period of 60 days to seek more comments.

- a) **IS 5718: 2000 Agricultural produce processing equipment – Seed cleaners – Test Code**
- b) **IS 12576: 1989 Seed processing machinery – Indented cylinder grader – Test Code**
- c) **IS 14460: 1997 – Seed Processing Equipment – Gravity Separator**

#### **5.7 Doc. No. FAD 20 (17388) P Draft Indian Standard – Seeds and Grain Processing and Storage Engineering — Terminology**

As per the decision taken in the 21<sup>st</sup> meeting of the committee, all the members were requested to add the proper terminology related to seeds and grain processing and storage engineering. However, not all but some members had contributed accordingly in terms of adding more terminologies as per the decision. The committee noted the latest modified draft and suggested members secretary to send it again to all the committee members. The committee also decided to send it into wide circulation for a period of 60 days after receiving the terms with proper definitions from all the members.

#### **5.8 Draft Amendment 1 of IS 18267: 2023 Food Serving Utensils Made from Agri By-product — Specification**

The committee noted the recommendation made by the concerned panel to issue an amendment based on the comments received from the stakeholders during the Manak Manthan organized by various branch offices of BIS. Dr R. Viswanathan mentioned that the draft amendment is currently under preparation in the panel; therefore, the committee decided to send the draft amendment into wide circulation for a period of 30 days once it is completed.

## ITEM 6 NEW STANDARDS FOR STANDARDIZATION

### 6.1 Doc. No. FAD20 (21766) Draft Indian Standard – Single Screw Extruder – Specification

The committee noted the comments received from Shri Sudeep Mukherjee, MD, Basic Technology Pvt Ltd, Kolkata to develop Indian Standard on Twin Screw Extruder (TSD). However, the committee did not drop the subject of Single Screw Extruder (SSD). The committee noted that the working draft of SSD is already well prepared, therefore, it was decided to prepare a single draft standard for both TSD & SSD. Accordingly, for this purpose, a panel was constituted named as FAD20/P20 “*To develop an Indian Standard on Food Screw Extruder*” and following expert members were recommended for this panel.

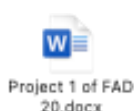
- a) Dr R. Viswanathan (Convenor)
- b) Dr H. N. Mishra, IIT Kharagpur
- c) Dr S. K. Giri, CIAE Bhopal
- d) Dr Manikantan M. R., CPCRI Kasaragod
- e) Shri Sudeep Mukherjee, Basic Technology Pvt Ltd, Kolkata

### 6.2 Mobile Agro Processing Units – Safety Requirements

As per the decision made in 21<sup>st</sup> meeting, it was recommended to send this draft to Dr M. S. Alam, PAU Ludhiana, Dr Palani V. Muthu, UAS Bengaluru and Dr V. K. Sehgal, IARI New Delhi for seeking their expert inputs. Accordingly, the draft were sent to all the recommended experts. However, the inputs were received from Dr M. S. Alam only and same was noted by the committee. Subsequently, the committee approved this draft for P-draft circulation for a period of 21 days.

## ITEM 7 R & D PROPOSAL

7.1 The committee noted the request made by Dr Vinod H. Kalbande for an R & D project to develop the research based empirical data and guideline for the application of oxygen and carbon dioxide sensor to separate the dead seed (seeds having higher respiration rate and releasing CO<sub>2</sub>) from the flow of seeds. And the same was again well explained by Dr Kalbande during the meeting, therefore, considering the importance of this subject, the committee recommended to take up this project. However, the Terms of Reference (ToR) for this project were not discussed and has to be approved among the committee, therefore, the prepared ToR is enclosed below for the committee’s consideration, if there is any comment, please submit it to the committee.



7.2 The noted the subject for development of Indian Standard on “*Test code of equipment and machineries related to cold plasma technology*” which was identified under the Standards National Action Plan (SNAP) – 2022. However, for time being, the committee didn’t take up this work.



7.3 While reviewing the standards for equipment used in seed cleaning and grading, the committee observed that the running hours specified for the long-run test were decided many years ago, and testing institutes continue to follow the same standards today. However, there is no scientific justification behind the designated running hours mentioned in the standard. Therefore, in order to optimize the number of running hours for long-run tests under both loaded and unloaded conditions, the committee recommended initiating an R&D project for empirical analysis to determine the optimal running hours for the long-run test of ten important agricultural processing machinery under loaded and unloaded conditions.

For this purpose, the committee recommended including CIPHET, Ludhiana, CIAE, Bhopal, and CIAE, Coimbatore in the project. However, the Terms of Reference (ToR) for this project have not been prepared yet, but they will be circulated to the committee soon.

## **ITEM 8 NEW WORK ITEM PROPOSAL (NWIP)**

### **8.1 Development of Indian Standard on Test Code for Hammer Mill and Mini Rice Mill (Combined Dehusker Cum Polisher)**

The committee noted the request received from Dr. Sandeep P. Dawange and Dr. Pankaj Dawange from CIPHET Ludhiana to develop Indian Standards for the Test Code for Hammer Mill and Mini Rice Mill (Combined Dehusker Cum Polisher), and the following decisions were made:

- a) Although the combined Dehusker cum polisher is being distributed and subsidized by some state governments, the concept of combined dehusking and polishing goes against the modernization of the rice milling industry, and it is not being promoted by the Government of India either. Therefore, the committee decided not to develop a standard on this subject.
- b) The committee acknowledged the request for a hammer mill and deliberated on the matter. During the discussion, it was observed that there was an existing Indian Standard, IS 10444:1983, titled "Specifications for Hammer Mill," in the Chemical Engineering Plants and Related Equipment Sectional Committee, MED 17, in the Mechanical Engineering Department of BIS. However, the standard was withdrawn by this committee for certain reasons. Therefore, the committee requested the member secretary to inquire about the reasons behind the withdrawal, and this request will be discussed again in the next meeting.

### **8.2 Development of Indian Standard on "Test Code for Power Operated Jute Decorticator"**

The committee noted and deliberated on the request received from the Director NINFET, Kolkata to develop an Indian Standard for the Test Code for Power-Operated Jute Decorticator. The committee also acknowledged the New Work Item Proposal (NWIP) for this subject, which was submitted by NINFET Kolkata, and it was further explained and justified by Dr. V. B. Shambhu and Er. Prateek Srivastava from NINFET Kolkata. However, the committee noted that this equipment, the Power-Operated Jute Decorticator, is not widely manufactured and does not have licensed manufacturers. Therefore, the committee suggested to the proposer that they should first grant licenses for this equipment and then re-propose the same subject.

## **ITEM 9 STATUS OF RAMAINING SUBJECTS NOT COVERED IN ABOVE AGENDA ITEMS**

Sl No.	Item	Status	Decision Taken
1.	<b>Doc. FAD 20 (21781) C Draft Amendment No. 1 to IS 15561 : 2005 Sugarcane Crushers – Safety Requirements</b>	Published	The committee noted the information.
2.	<b>Doc. No. FAD 20 (20567) Draft Indian Standard Spiral Grader – Test Code</b>	Sent into Wide Circulation with the last date of comment as 27 October 2023	The committee noted the information.
3	<b>Doc. No. FAD 20 (17385) C Draft Indian Standard – Grader — Citrus — Size Based (first revision of IS 15831)</b>	Draft is under Preparation by Dr Nachiket Kotwaliwale, Dr Sandhya Singh and Dr Eyarki Nambi	The committee noted the information.
4	<b>a) IS 15855: 2010 – Cotton Seed Delinting Machinery-Surge Bin Machine – Specification.</b> <b>b) IS 15856: 2010 – Cotton Seed Delinting Machinery-Pre-Heating Machine – Specification.</b>	Comments received from Dr Vinod Kalbande, Dr V G Arude and Dr Pitam Chandra were included and the drafts are under preparation for WC.	The committee noted the information.
5	<b>IS 14442 : 1997 Agricultural Produce Milling Machinery - Burr Mill - Test Code</b>	Drafts is under preparation by Dr R Vishwanathan	The committee noted the information.
6.	<b>a) IS 15858 : 2013 Cotton Seed Delinting Machinery - Delinting Machine with Electrical Heating and Hydraulic System – Specification</b> <b>b) IS 15859 : 2013 Cotton Seed Delinting Machinery - Buffing Machine With Air Jet and Nylon Brush – Specification</b> <b>c) IS 15860 : 2013 Cotton Seed Delinting Machinery - Ammonia Cotton Seed Neutralizer Machine With Ammonia Vaporizer – Specification</b>	A letter was sent to Dr Sujeet Kumar Shukla, Director CIRCOT vide mail and which is followed by telephonic communication also to nominate the experts for the revision of	The committee requested member secretary to write him again for the same.



	<p><b>d) IS 15861 : 2013 Cotton Seed Delinting Machinery - Pollution Control System with Scrubber, Cyclone, Chimney, Hoods and Ducting – Specification</b></p> <p><b>e) IS 15862 : 2013 Cotton Seed Delinting Machinery - HCL Gas Generation Unit - Specification</b></p>	<p>these Indian Standards. However, no response has been received from him</p>	
8.	<b>Food Grain ATM - Specification</b>	<p>No response or inputs were received from the panel expert members.</p>	<p>The committee suggested to drop this subject for time being.</p>

#### **ITEM 10 TIME AND PLACE FOR THE NEXT MEETING**

The committee decided the time and place for the next meeting were decided as Manak Bhawan, New Delhi and last week of January 2023 respectively.

**ANNEX-A****ATTENDANCE FOR****22<sup>ND</sup> MEETING OF AGRICULTURE AND FOOD PROCESSING EQUIPMENT  
SECTIONAL COMMITTEE, FAD 20***(17<sup>th</sup> October 2023 in Hybrid (Virtual + Physical) Mode)*

Samvaad (Green room), BIS HQ, New Delhi

<b>Sl. No.</b>	<b>Organization Name</b>	<b>Member Name</b>	<b>Mode of Present</b>
1.	Indian Council of Agricultural Research, New Delhi	Dr. Shyam Narayan Jha (Chairperson)	In Person
2.	Agriculture Machinery Manufacturers Association, Pune	Dr. Surendra Singh, Shri Mitul Panchal	Virtual
3.	Dr Panjabro Deshmukh Krishi Vidyapeeth, Akola	Dr. Suchita V. Gupta, Dr. Bhagyashree N. Patil	Virtual
4.	ICAR - Central Institute for Research on Cotton Technology, Mumbai	Dr. V. G. Arude	Virtual
5.	ICAR - Central Institute of Agricultural Engineering, Bhopal	Dr S. K. Giri,	In Person
		Dr Ravindra Naik	In Person
6.	ICAR - Central Institute of Post-Harvest Engineering and Technology, Ludhiana	Dr Sandeep Mann, Dr Sandeep P. Dawange	Virtual
7.	Indosaw Industrial Products Private Limited, Ambala Cantt.	Dr. Vinod H. Kalbande	Virtual
8.	Mahatma Phule Krishi Vidyapeeth, Rahuri	Prof. Vikram Parasharam Kad	Virtual
9.	Ministry of Agriculture, Department of Agriculture, New Delhi	Shri C. R. Lohi	Virtual
		Shri Y. K. Rao	In Person
10.	National Committee on Precision Agriculture and Horticulture, New Delhi	Shri Anand Zambre, Dr Krishna Kumar Kaushal	Virtual
11.	National Institute of Food Technology, Entrepreneurship and Management, Thanjavur	Dr. S. Bhuvana	Virtual

12.	North Eastern Region Farm Machinery Training and Testing Institute, Biswanath Chariali	Dr. P. P. Rao, Shri S. G. Pawar	Virtual
13.	Northern Region Farm Machinery Training and Testing Institute, Hisar	Dr. Mukesh Jain, Er Sanjay Kumar	Virtual
14.	Punjab Agricultural University, Ludhiana	Dr Sandhya Singh Dr Maninder Kaur Dr Rohit Sharma	Virtual
15.	Tamil Nadu Agricultural University, Coimbatore	Dr. V. Thirupathi, Dr. P. Sudha	Virtual
16.	In Personal Capacity	Dr. R. Vishwanathan	In Person
17.	In Personal Capacity	Shri S. D. Deshpande	In Person
18.	Food & Agriculture Department, BIS, New Delhi	Mrs. Suneeti Toteja (Head, Scientist – E)	In Person
19.	Food & Agriculture Department, BIS, New Delhi	Shri Pradeep Sharma (Scientist – B)	In Person
<b>Participant as an Observer</b>			
20.	ICAR - Central Institute of Post-Harvest Engineering and Technology, Ludhiana	Bhupendra Ghodki	Virtual
21.	ICAR – National Institute of Natural Fibre Engineering and Technology, Kolkata	Dr. V. B. Shambhu Shri Er. Prateek Shrivastava	Virtual