

**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>
Agricultural Machinery and Equipment Sectional Committee, FAD 11	25 <sup>th</sup>	24 November 2023 (Friday)	10:30am	Hybrid Mode Lal C Verman Hall, Bureau of Indian Standards, HQ, New Delhi

**CHAIRPERSON:**

**Dr. C R Mehta**  
(Chairperson, FAD 11)  
Director,  
ICAR–Central Institute of Agricultural Engineering,  
Bhopal

**MEMBER SECRETARY:**

**Vikrant Chauhan**  
(Member Secretary, FAD 11)  
Scientist-B / Assistant Director  
Food & Agriculture Department,  
Bureau of Indian Standards, New  
Delhi

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

Shri Vikrant Chauhan, Scientist-B/Assistant Director, Food and Agriculture Department, BIS welcomed Dr. C R Mehta, Chairperson, FAD 11 and members of FAD 11 to the 25th meeting of the committee. Shri Vikrant apprised the committee members regarding actions taken since the 24th meeting of the committee, participation in ISO meetings and publication of various new Indian Standards. Requesting for support from the committee, Shri Vikrant urged for fruitful and conclusive deliberation on the issues raised in the agenda.

Smt. Suneeti Toteja, Head, Food and Agriculture Department (FAD), BIS extended a warm welcome to Chairperson, FAD 11 and all the members of the committee who joined physically as well as virtually. Smt. Toteja on behalf of BIS, also welcomed International Trainees who joined to witness a Technical Committee Meeting as a part of their Training Program on “Standardisation and Conformity Assessment” organised by NITS, Noida. She briefed the ITP members regarding the composition of technical committee and how a technical committee functions. Further, Head, FAD requested all the members for active participation in the meeting.

**0.2 Opening Remarks by the Chairperson**

Dr. CR Mehta, Director, ICAR-Central Institute of Agricultural Engineering, Bhopal and Chairperson, Agricultural Machinery and Equipment Sectional Committee, FAD 11 giving a vote of thanks to Head FAD, in his opening remarks extended a warm welcome to the members of the Committee to its 25th meeting. Dr. Mehta extended a special welcome to the International Trainees who have joined for witnessing the committee meeting. Dr. Mehta appreciated the contribution made by all the experts in the committee and panels in different aspects from sharing comments/inputs on circulated documents to providing revised drafts of various pre-2000 Indian Standards. Further to this, Dr. Mehta also appreciated the active participation of committee members in ISO meetings and contribution towards ISO balloting. Further, appreciating the physical participation of majority of members, he urged the committee members to actively

participate in the meeting and have a fruitful, to the point discussion to reach consensus on different issues raised in the agenda.

## **ITEM 1 CONFIRMATION OF THE MINUTES OF THE TWENTY FOURTH MEETING**

The committee confirmed the minutes of the 24th meeting of Agricultural Machinery and Equipment Sectional Committee, FAD 11 held on 23 June and 6 July 2023 (through hybrid mode) as circulated vide our email dated 08 August 2023, without any change.

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

### **2.1 Scope & Program of Work of the Committee**

**2.1.1** The committee noted the scope of Agricultural Machinery and Equipment Sectional Committee, FAD 11 as mentioned in **2.1.1** of the agenda.

**2.1.2** The committee noted the program of work of FAD 11 as enclosed in *Annex 1* of the agenda.

### **2.2 Composition of the Sectional Committee**

**2.2.1** The committee noted the information provided in **2.2.1** of the agenda and deliberated on the composition of Agricultural Machinery and Equipment Sectional Committee, FAD 11 and the decisions regarding modification of composition taken in the view of necessary participation from organizations and change in designations/ organizations of the members.

**2.2.2** Further, as per the direction received from Director General, BIS on “Reforms measures taken in the Standardization Process”, the committee recommended withdrawal of nominations of following organizations due to their lack of participation in two or more consecutive meetings of FAD 11.

1. National Innovation Foundation, Delhi
2. Shri Suhas Manohar, In Personal Capacity

**2.2.3** Further, the committee requested updated nominations from following organizations:

1. ICAR - All India Coordinated Research Project on Ergonomics and Safety in Agriculture, Bhopal
2. Odisha University of Agriculture and Technology, Bhubaneswar

The updated composition of FAD 11 is enclosed below at *Annex A*:



### **2.3 Composition of Panels/WG Under the Committee**

The committee noted the composition of the different panels under FAD 11. As per the directions received from DG, BIS regarding limiting the strength of panels and working groups, the committee after due deliberation decided to reconstitute several panels and working groups and keeping only one representative from one organisation. The updated compositions of panels/working groups is as under:

S.No.	Panel of FAD 11	Composition
1.	Panel-I: Panel to formulate and review Indian Standards on Harvesters	a) Dr. Mukesh Jain, (Convenor), NRFMTTI, Hisar b) Shri KP Singh, CLAAS, Chandigarh c) Shri Sujit Hinge, CNH, Pune d) Shri Chandrashekhhar Deshmukh, John Deere, Pune e) Shri Ashok Kumar, Kubota, Faridabad f) Shri Jaydeep Desai, M&M, Mumbai g) Shri Vishwa, Shaktiman, Gujarat h) Dr. Rajesh Goyal, PAU, Ludhiana
2.	Panel- III: Panel to formulate and review Indian Standards on Gardening & Forestry Tools & Agricultural Implements	a) Dr. Surendra Singh, (Convenor) AMMA-India, Pune b) Dr. Sachin Madhukar Nalwade, MPKV, Rahuri c) Shri Chandrashekhhar Deshmukh, John Deere, Pune d) Dr. Dilip Jat, CIAE, Bhopal e) Shri Gurchintan Singh, Falcon Garden Tools, Ludhiana f) Shri Gangadhar M. Varpe, ASPEE, Mumbai
3.	Panel-V: Panel to formulate and review Indian Standards on Tractor	a) Dr. CR Mehta, (Convenor) CIAE, Bhopal b) Shri Himanshu Mishra, CNH, Pune c) Director, CFMTTI, Budni d) Shri Nitin Jangra, Escorts Kubota, Faridabad e) Shri Mansingh Jagdale, John Deere f) Shri Pradeep Shinde, M&M, Mumbai g) Shri Mohit Kumar, TMA h) Shri Vivek Gupta, TI Clean Mobility, Chennai i) Shri G S Tanawade, ARAI, Pune
4.	Panel- VI: Panel To formulate and review Indian Standards on Power Tillers	a) Dr. B M Nandede, Director, SRFMTTI as Convenor b) Shri AR Ganesh Kumar, VST Tillers Tractors Ltd, Bangalore c) Shri P C Sajimon, KAMCO, Kerala d) Shri Kunal Patil, Kirloskar, Pune e) Shri Sayan Bhattacharjee, Shrachi
5.	Panel- VII: Panel to formulate Indian Standards on Drone Seeder and Drone Sprayer	a) Dr. R. Kavitha (Convenor), TNAU, Coimbatore b) Dr. Satya Prakash Kumar, CIAE, Bhopal c) Shri Sourabh Srivastava, Iotech World, Gurgaon d) Shri Chandrashekhhar Deshmukh, John Deere, Pune e) Dr. A. Surendra Kumar, TNAU, Coimbatore f) Dr. Sachin Madhukar Nalawade, MPKV, Rahuri g) Dr. Narendra Kumar, ASPEE h) Dr. Rajaram Thripathi, AIFA
	<b>WG</b>	<b>Composition</b>
6.	WG 1 : Electric Tractor (under FAD 11/P5)	a) Dr. S.P. Singh, AICRP on UAE, CIAE, Bhopal b) Shri Mohit Kumar, TMA c) Director, CFMTTI, Budni d) Shri Vivek Gupta, Murugappa Group e) Shri Mansingh Jagdale, John Deere f) Shri Nitin Jangra, Escorts Kubota

		<ul style="list-style-type: none"> <li>g) Shri Pradeep Shinde Mahindra &amp; Mahindra, Mumbai</li> <li>h) Shri. Philip Koshy, IITL</li> <li>i) Shri P G Mengaji, ARAI</li> <li>j) A representative from ICAR</li> <li>k) Shri. C R Lohi, MoA</li> <li>l) Dr. Rajaram Thripathi, AIFA</li> </ul>
7.	WG 2 : To formulate Indian standards on cotton farming mechanisation	<ul style="list-style-type: none"> <li>a) Shri Chandrashkar Deshmukh, John Deere, Convenor</li> <li>b) Dr. Ashutosh Pandiwar, CIAE, Bhopal</li> <li>c) Dr. Anoop Kumar Dixit, PAU, Ludhiana</li> <li>d) Shri Santosh Rao, CNH</li> <li>e) Shri Parag, Shaktiman</li> <li>f) Dr. VG Arude, Principal Scientist, CIRCOT</li> <li>g) Dr. Mohan Kumar, TNAU</li> </ul>
8.	WG 3 : Electrostatic Sprayer (under FAD 11:01)	<ul style="list-style-type: none"> <li>a) Shri Chandrashekar Deshmukh, John Deere</li> <li>b) Shri Bikram Jyoti</li> </ul>
9.	WG 4 : Square Baler Machine	<ul style="list-style-type: none"> <li>a) Dr. Surendra Singh, AMMA-India (Project Leader)</li> <li>b) Shri Sujit Hinje, CNH</li> <li>c) Shri Chandrashekar Deshmukh, John Deere</li> <li>d) Shri KP Singh, CLAAS</li> <li>e) Shri Parag, Shaktiman</li> </ul>

## 2.4 New/Revised Indian Standards Published

**2.4.1** The committee noted the list of newly published Indian Standards as given in **2.4.1** of the agenda. As all the standards were ISO adoptions, the committee requested BIS secretariat to circulate the soft copies of Indian Standards among the committee members.

## 2.5 Withdrawal of Indian Standards

**2.5.1** The committee noted the list of Indian standards provided in **2.5.1** of the agenda approved by Food and Agriculture Division council in its 28th meeting dated 21 August 2023 for withdrawal.

**ITEM 3 FINALISATION OF DRAFT STANDARDS**

The committee took the following decisions on the drafts(new/revised) which were circulated into wide circulation (WC):

Sl.No.	Document No.	Title	Decision of the Committee, FAD 11 (25 <sup>th</sup> Meeting held on 24 November)
1.	Doc No. FAD 11 (22793)	Equipment for harvesting and conservation — Round balers — Part 2 Performance test method	Noting that no technical comments have been received during WC stage, the committee approved the draft to be sent for publication after making necessary editorial corrections.
2.	Doc No. FAD 11 (23041)	Crop protection equipment — Droplet-size spectra from atomizers — Measurement and classification (Adoption of ISO 25358 : 2018)	The committee noting that no comments have been received during the wide circulation staged, approved the following drafts for publication:  Doc No. FAD 11(23041) Doc No. FAD 11(22734) Doc No. FAD 11 (22739) Doc No. FAD 11 (21502) Doc No. FAD 11(21511) Doc No. FAD 11 (21450) Doc No. FAD 11(22874) Doc No. FAD 11 (22877) Doc No. FAD 11 (23232) Doc No. FAD 11 (23226) Doc No. FAD 11 (21509) Doc No. FAD 11 (23216) Doc No. FAD 11 (23117)
3.	Doc No. FAD 11 (22734)	Budding and grafting knife combined — Specification ( <i>Second Revision of IS 3122</i> )	
4.	Doc No. FAD 11 (22739)	Garden rake — Specification ( <i>Second Revision of IS 2559</i> )	
5.	Doc No. : FAD 11 (21502)	Pruning and slashing knives, hooked and curved — Specification ( <i>Third Revision of IS 619</i> )	
6.	Doc No.: FAD 11(21511)	Bill-hook — Specification ( <i>Second Revision of IS 3094</i> )	
7.	Doc No. FAD 11 (21450)	Dah — Specification ( <i>Second Revision of IS 3093</i> )	
8.	Doc No.: FAD 11(22874)	Khurpi — Specification ( <i>First Revision of IS 10683</i> )	
9.	Doc No. FAD 11 (22877)	Pruning secateur — Specification ( <i>Second Revision of IS 3494</i> )	
10.	Doc No. FAD 11 (23232)	Tractors for agriculture and forestry — Noise measurement — Method of test part 2 noise emitted when in motion [ <i>Second Revision of IS 12180 (Part 2)</i> ]	

11.	Doc No. FAD 11 (23226)	Tractors for agriculture and forestry — Noise measurement — Method of test part 1 noise at the operator's position — survey method [ <i>Second Revision of IS 12180 (Part 1)</i> ]	
12.	Doc No. FAD 11 (21509)	Rubber draining and tapping knife — Specification ( <i>Second Revision of IS 3092</i> )	
13.	Doc No.: FAD 11 (23216)	Guidelines for actuating forces, location and operation of operator controls on agricultural tractors and self-propelled machinery ( <i>Amendment to IS 8133</i> )	
14.	Doc No. FAD 11 (23117)	Glossary of terms relating to forestry equipment ( <i>First Revision of IS 11850</i> )	
15.	Doc No. FAD 11 (23132)	Agricultural tractors — Rear-mounted power take-off types 1, 2, 3 and 4 — Part 1: General specifications, safety requirements, dimensions for master shield and clearance zone ( <i>Fourth Revision of IS 4931</i> )  Adoption of ISO 500-1	The committee deliberated upon the comments received from TMA, regarding minor modification (see <i>Annex 3</i> of the agenda) in the technical content of ISO 500-1 and ISO 500-2 which are being adopted. The committee after due deliberation, accepted the comments and decided to incorporate the modification in the National Foreword of the adoption and send the documents for publication.
16.	Doc No. FAD 11 (23141)	Agricultural tractors — rear-mounted power take-off types 1, 2, 3 and 4 — Part 2: Narrow-track tractors, dimensions for master shield and clearance zone ( <i>Fourth Revision of IS 4931</i> )  Adoption of ISO 500-2	ISO 500-1 : 2014 and ISO 500-2 : 2004 would be technically equivalent standards.
17.	Doc No. FAD 11 (23142)	Agricultural tractors — Rear-mounted power take-off types 1, 2, 3 and 4 — Part 3: Main PTO dimensions and spline dimensions, location of PTO ( <i>Fourth Revision of IS 4931</i> )  Adoption of ISO 500-3	The committee after due deliberation decided to send the draft into publication as no comments were received during the WC stage.
18.	Doc No.: FAD 11 (23114)	Knife back for harvesting machines — Specification ( <i>First Revision of IS 10738</i> )	The committee noting that no comments have been received during the wide circulation staged approved

19.	Doc No.: FAD 11 (21505)	Animal drawn ridger — Specification ( <i>Second Revision of IS 2565</i> )	the drafts Doc No. FAD 11 (23114) and Doc No. FAD 11 (21505) for publication.
20.	Doc No. FAD 11 (16313)	Paddy transplanter — test code, and recommendations on selected performance characteristics	The draft was prepared by Dr. Surendra Singh, AMMA India. The committee requested Dr. Surendra Singh, convenor FAD 11/P3 to hold a meeting for discussing the comments (enclosed at <i>Annex 4 and 5</i> of the agenda) on the draft standard and if only minor modifications are made in the draft, the draft will send into publication after the approval of Chairperson, FAD 11.
21.	DOC No.: FAD 11 (23581)	Pedal-operated paddy threshers — Specification ( <i>second revision of IS 3327</i> )	The committee duly deliberated upon the comments received from Dr. SP Singh, CIAE Bhopal (AICRP on UAE) enclosed at <i>Annex 6</i> of the agenda. The committee noted that, for all manually operated equipment, it is important that who is going to operate the equipment. The committee, requested Dr. SP Singh and Dr. KN Agrawal to re-review the draft ( <i>clause 6.3.1</i> ) and also incorporate operator details and requirements.  Upon receipt, the draft will be sent for publication after the approval of Chairperson, FAD 11.
22.	Doc No. FAD 11 (23727)	Knife sections for harvesting machines — Specification ( <i>second revision of IS 6025</i> )	The committee after due deliberation agreed to the comments (enclosed at <i>Annex 7</i> of the agenda) on draft revision of IS 6025 and decided to send it for publication.
23.	DOC No. FAD 11 (23761)	Sugarcane planter, semi- automatic — Specification ( <i>first revision of IS 11976</i> )	The committee noted that till date (24 November 2023) no comments have been received on both the documents.
24.	Doc No.: FAD 11 (22325)	Straw management system (SMS) for combine harvesters — Performance test method	Therefore, the committee decided to send the draft revision of IS 11976 and draft standard FAD 11(22325) into publication after the approval of Chairperson, FAD 11 if no comments are received during the wide circulation period.

**ITEM 4 APPROVAL OF DRAFT INDIAN STANDARDS FOR WIDE CIRCULATION****4.1 Draft Revision of IS 13373: 1992 Horticultural equipment – Grass shear – Specification**

The committee decided to send the draft revision (*see 4.1* of the agenda) of IS 13373 into wide circulation for a period of 60 days for commenting.

**4.2 Draft Tractor Drawn Laser Land Leveller — Specification and Test Code**

As requested, Shri Chandrasekhar Deshmukh, John Deere submitted the raw material requirement for soil cutting blade used in Laser Leveller. However, hardness requirement was still missing. Therefore, the committee requested AMMA India to take inputs on raw material and hardness requirement of soil cutting blade from manufacturers of Laser Leveller. Upon incorporation, the draft will be sent into wider circulation for a period of 60 days for commenting.

**ITEM 5 NEW SUBJECTS FOR STANDARDIZATION****5.1 Draft Indian Standard on Square Baler Machine**

The committee noted the draft standard (*see Annex 8* of the agenda) on square baler and comments (*see Annex 8a* of addenda to agenda) received from Shri KP Singh, CLAAS. The committee after due deliberation, requested the WG 4 to conduct a meeting to discuss the comments and the draft. Thereafter, the draft will be circulated among the committee members as P-draft for a period of 21 days for commenting.

**5.2 Draft Indian Standard on Drone Seeder and Drone Sprayer**

**5.2.1** The committee appreciated the efforts made by Dr. Kavitha, Convenor, FAD 11/P 7 and her team in preparing the draft Indian Standard on Drone Sprayers (enclosed at Annex 9a of the agenda). The committee requested BIS Secretariat to circulate the document among the FAD 11/P 7 members, FAD 11: 01 Sub-Committee members and as well as among the committee members as P-draft for a period of 21 days for commenting.

Further, committee requested Dr. Kavitha for submitting the draft on Drone Seeder by 31 December 2023 which upon receipt will be circulated among the FAD 11/P 7 members, FAD 11 : 01 Sub-Committee members and as well as among the committee members as P-draft for period of 21 days for commenting.

The committee also requested FAD 11/P 7 to mention major modifications made in the draft standard of Drone Sprayer corresponding to ISO 23117-1, from where assistance has been derived in preparing the draft.

**5.2.2** Dr. Rajaram Tripathi, AIFA showed interest in participation in the FAD 11/P 7. He apprised the committee regarding areal spraying in Bastar, Chattisgarh where small helicopters are also being used for spraying of Pesticides in large farmlands (land owned by group of farmers/Farms Cluster). However, due to unavailability of any standard or guidelines, there is no check upon those. He also apprised that, generally organic pesticide solution is being used which is not harmful to the environment and the method saves around 40 % of the spraying liquid when compared with manual spraying. Therefore, Dr. Rajaram proposed for development of a standard on aerial spraying as well.

The committee noted the fact that, concept of aerial spraying is not new and is being in use since a long time, however it is much popular in foreign countries where land holdings are large.



Further to this, Shri Deshmukh, John Deere apprised the committee, that there already exists ISO standards as given below which can be referred for aerial spraying.

1. **ISO 16119-5 : 2023** “Agricultural and forestry machinery Environmental requirements for sprayers Part 5: Aerial spray systems”
2. **ISO 16122-5 : 2020** “Agricultural and forestry machines Inspection of sprayers in use Part 5: Aerial spray systems”

The committee requested BIS Secretariat to send a soft copy of the ISO Standards to Dr. Rajaram as well as among FAD 11/P 7 members for review.

### 5.3 Draft Indian Standard on Electric Tractor

The committee duly deliberated upon the issues raised by Tractor Manufacturers and CFMTTI Budni regarding development of Indian Standard for testing of Electric Tractors. Listening to issues raised, the committee took the following decisions to expedite the process of development of the standard:

1. The committee expanded the composition of Working Group 1 on Electric Tractor (WG 1) to develop the draft standard on a faster pace. The new composition is as under:
  - a. Dr. S.P. Singh, CIAE, Bhopal (AICRP on UAE) as *Convenor* of the WG 1
  - b. Shri Mohit Kumar, TMA
  - c. Director, CFMTTI, Budni
  - d. Shri Vivek Gupta, Murugappa Group (TI Clean Mobility)
  - e. Shri Mansingh Jagdale, John Deere
  - f. Shri Nitin Jangra, Escorts Kubota
  - g. Shri. Pradeep Shinde Mahindra & Mahindra, Mumbai
  - h. Shri. Philip Koshy, IITL
  - i. Shri P G Mengaji, ARAI
  - j. A representative from ICAR
  - k. Shri. C R Lohi, MoA
  - l. Dr. Rajaram Thripathi, AIFA
2. The committee requested all the tractor manufacturers and CFMTTI, Budni to share available data on Electric Tractor Testing which will contribute to the development of the draft standard.
3. The committee requested WG 1 to initially focus on developing a draft Test Code for testing Electric Tractor which in future would be used for generating more data on Electric Tractor performance.
4. Following drafts enclosed at *Annex 24, 25 and 26* of the addenda to agenda were shared by TI Clean Mobility, Murugappa Group on Drawbar and PTO Testing Procedure for Electric Tractors:
  1. Drawbar Testing Procedure for Electric Tractor (assistance taken from IS 12226)
  2. PTO Testing Procedure for Electric Tractor (assistance taken from IS 12036)
  3. Labelling of Electric Tractor (assistance taken from IS 10273)

The committee requested WG 1 to consider these drafts for review and modify them as per inputs of different experts within the WG.

5. Considering the paucity of time and importance of the subject matter, the committee requested the WG 1 to develop a draft test code by **end of February 2024** and submit to the FAD 11 committee for further discussion.

#### 5.4 Draft Indian Standard on Electrostatic Sprayer

The committee noted the modified draft Indian Standard (see Annex 10a enclosed in Addenda to Agenda) on Electrostatic Sprayer submitted by WG 3 under FAD 11:01. The committee requested BIS Secretariat to circulate the draft among the members of FAD 11:01 Sub-Committee for review and after that, the draft will be circulated as P-Draft among committee members for commenting.

### 6 NEW WORK ITEM PROPOSAL

#### 6.1 Pneumatic Planter for Cotton Seeds

The committee noting the information provided in 6.1 of the standards decided to allocate the work for development of draft standard on **Multi-Crop Pneumatic Planter** to FAD 11/Panel 3.

Further, the committee noted that, Cotton Picker standards as mentioned below were recently developed, therefore there is no need to develop anymore standard on cotton picker as of now.

1. **IS 17156 (Part 1) : 2019** Cotton Picker Machine : Part 1 Terminology
2. **IS 17156 (Part 2) : 2020** Cotton Picker Machine : Part 2 Performance Test

However, the committee requested : **WG 2**“ To formulate Indian standards on cotton farming mechanisation” to explore the potential areas in Cotton Farming, if there is a need of standard development.

### ITEM 7 REVIEW OF INDIAN STANDARDS

**7.1** The committee decided to reaffirm all the Pre-2000 Indian Standards pertaining to agricultural machinery which were due for review as per BISs 5 yearly review policy and simultaneously taking them up for review while for Post-2000 Indian Standards, the committee requested respective expert or Panel to review the standard, based on which standard will be reaffirmed or taken up for revision. The decision of the committee on various standards due for review enclosed at *Annex B*.



#### 7.2 Research projects to be taken up for inclusion of empirical data and insights

The committee noted the information provided under 7.2 of the agenda and requested the members of the committee for proposing new work items for standard formulation which can be taken up as R&D projects. Member Secretary briefed the committee regarding the new guidelines issued by Standards Coordinating and Management Department, BIS for taking up Research Projects. The committee requested BIS Secretariat to circulate the guidelines for funding an R&D project among the committee members.

In its 24<sup>th</sup> meeting of FAD 11 held on 23 June and 6 July 2023, the committee discussed IS 9164 : 1979 “Guide for Estimating Cost of Farm Machinery Operation” regarding various formulas (given at Clause 4.1 of the Standard) to calculate variable cost of operation of farm machinery and it was concluded that a detailed study/research is need to validated those formulas.

In its 25<sup>th</sup> meeting of FAD 11, the committee again deliberated upon the issues and several suggestions were received from members. It was proposed to conduct a 3 years study which will be including running of various kind of agricultural machinery for various agricultural operation at different locations in the country. Log book will be maintained for recording the running in, fuel expense, repair and maintenance cost and other costs linked with farm machinery operation. Member Secretary apprised the committee, that as per the R&D guidelines issued by BIS, a project has to be completed within a period of 6 months, therefore for the above study BIS is not in a position to fund as of now.

Therefore, the committee requested Dr. KN Agrawal, Project Coordinator, All India Coordinated Research Project on Farm Implements and Machinery (AICRP-FIM) to consider taking up the study under AICRP-FIM.

Till then, the committee decided to revise the standard as per the decision taken in the 24<sup>th</sup> meeting and send revise draft into wide circulation for a period of 60 days.

### 7.3 Revision of Pre-2000 Indian Standards and Standards due for Review on Tractors

The committee took the following decision regarding review Pre-2000 Indian Standards and other standards which were due for review as per BIS’s 5 yearly review policy on Tractors :


**TABLE 1**

S.No.	IS to be reviewed	Decision of the Committee, FAD 11 (25 <sup>th</sup> Meeting held on 24 November)
1.	IS 11442 : 1996 Agricultural tractors – Operator’s field of vision -test procedures	The committee noted the information provided in Sl.No. 1 and 2 under 7.3 of the agenda and requested BIS Secretariat to expedite the process of sending draft revision of IS 11442 and IS 11082 into wide circulation.
2.	IS 11082: 1984 Technical requirements of agricultural tractors for wet land cultivation	
3.	<u>IS 12180 (Part 1) : 2000/ISO 5131: 1996</u> Tractors and Machinery for Agriculture and Forestry - Noise Measurement - Method of test : Part 1 Noise at the Operator's Position - Survey Method (First Revision)	Approved for publication ( see S.No. 10 and 11 under Item 3)
4.	<u>IS 12180 (Part 2) : 2000/ISO 7216: 1992</u> Tractors and Machinery for Agriculture and Forestry - Noise Measurement - Method of Test : Part 2 Noise Emitted When in Motion (First Revision)	
5.	<u>IS 9864 : 1981</u> Guidelines for Stocking Spare Parts of Agricultural Tractors	The committee noting the information provided in S.No. 5 under 7.3 of the agenda

6.	<u>IS 11822 : 1986</u> Methods of test for Spark Arrester of Agricultural Tractors	decided to archive IS 9864 while requested BIS Secretariat to expedite the process of sending draft revision of IS 11822 and IS 6840 into wide circulation.
7.	<u>IS 6840 : 2013</u> Preventive Maintenance of Agricultural Wheeled Tractors - Code of Practice (First Revision)	
8.	<u>IS 9164 : 1979</u> Guide for Estimating Cost of Farm Machinery Operation	<i>see 7.2</i>
9.	<u>IS 12362 (Part 1) : 2007/ISO 6489-1: 2001</u> Agricultural Vehicles - Mechanical Connections Between Towed and Towing Vehicles : Part 1 Dimensions of Hitch - Hooks (Second Revision)	The committee noting the information provided in S.No. 9 and 10 under 7.3 of the agenda, requested BIS Secretariat to expedite the process of send draft revision of the standards into wide circulation.
10.	<u>IS 12953 : 1990</u> Drawbar for Agricultural Tractors - Link Type – Specification	
11.	<u>IS 11859 : 2004</u> Agricultural Tractors - Turning and Clearance Diameters - Methods of Test (First Revision)	The committee noted the information provided in S.No 7 under 7.3 of the agenda.
12.	<u>IS 12239 (Part 1) : 2018/ISO 4254-1: 2013</u> Guide for Safety and Comfort of Operator of Agricultural Tractors and Power Tillers Part 1 General Requirements (Second Revision)	The committee noting the information provided in S.No. 12 and 13 under 7.3 of the agenda, requested BIS Secretariat to expedite the process of send draft revision of the standards into wide circulation
13.	<u>IS 12224: 1987</u> Method of Test for Hydraulic Power and Lifting Capacity of Agricultural Tractors.	
14.	<u>IS 10743 : 1983</u> Method for Determination of Centre of Gravity of Agricultural Tractors	The committee requested CFMTTI, Budni to submit the revised draft of IS 10743 by 31 December 2023.

TABLE 2

S.No.	IS No.	Decision of the Committee, FAD 11 (25 <sup>th</sup> Meeting held on 24 November)
	To be Reviewed Under 5 Yearly Review Policy/PRE-2000	
1.	<b>IS 9939 : 1981</b> Glossary of Terms Relating to Agricultural Tractors and Power Tillers	The committee requested Shri Mohit Kumar, TMA to submit the revised draft of IS 9939 by 31 December 2023.
2.	<b>IS 10740 : 1983</b> Recommendation for Operating Requirement for Power Take – Off Driven Implements	The committee noted the information provided in S.No. 2 under 7.3 (Table 2) of the agenda.
3.	<b>IS 10273 : 1987</b> Guidelines for Declaration of Power and Specific Fuel Consumption and Labelling of Agricultural Tractors <i>First Revision</i>	The committee requested Shri Mohit Kumar, TMA to submit the revised draft of IS 10273 and IS 12062 by 31 December 2023.
4.	<b>IS 12062 : 1987</b> Method for Measurement of Exhaust Smoke Emitted by Agricultural Tractors	

5.	<b>IS 12363 : 1988</b> Recommendation on Track Width of Agricultural Tractors	The committee noted the information provided in S.No. 5 under 7.3 (Table 2) of the agenda and requested BIS Secretariat to expedite the process for sending draft revision of IS 12363 into wide circulation.
6.	<b>IS 10274 : 1993</b> Agricultural Wheeled Tractors Maximum Travel Speed – Method of Determination <i>First Revision</i>	The committee requested Shri Mohit Kumar, TMA to submit the revised draft of IS 10274 by 31 December 2023
7.	<b>IS 11081 : 1993</b> Agricultural Tractors - Half Cage Wheel - Specification <i>First Revision</i>	The committee requested Shri Jagdale to submit the revised draft of IS 11081 by 31 December 2023
8.	<b>IS 13642 : 1993</b> Agricultural Tractors – Silencers Technical Requirements	The committee noted that requirements for silencers are already covered in AIS 115 Part 1 & Part 2 which are under process to be converted into Indian Standards. Therefore, the committee decided to archive IS 13062, until AIS 115 is converted into Indian Standard and then IS 13642 may be withdrawn.
9.	<b>IS 12061 : 1994</b> Agricultural Tractors – Braking Performance - Method of Test <i>First Revision</i>	The task for review of IS 12061 was allocated to Shri Mohit Kumar, TMA and Shri KP Singh, CLAAS. The committee requested Shri Mohit and Shri KP Singh to submit the revised draft of IS 12061 by 31 December 2023
10.	<b>IS 6847 : 1995</b> Code of Practice for Installation of Agricultural Wheeled Tractor <i>First Revision</i>	The committee noted the information provided in S.No. 10 under 7.3 (Table 2) of the agenda.
11.	<b>IS 14683 : 1999</b> Agricultural Tractors and Machinery - Lighting Devices for Travel on Public Roads	The committee was apprised to the fact that IS 14683 is not being referred by the tractor industry. In place of IS 14683, AIS 030 is being followed by Tractor industry which is also under revision. AIS 30 takes a little reference of IS 14683, however contains much more requirements as per CMVR. Therefore, the committee after due deliberation decided to archive IS 14683 till the time AIS 030 is revised and converted into Indian Standard.
12.	<b>IS 9253 : 2013</b> Agricultural wheeled tractors - Field performance and haulage tests - Guidelines <i>Third Revision</i>	The committee requested CFMTTI, Budni to submit revised draft of IS 9253 by 31 December 2023.
13.	<b>IS 12226 : 1995</b> Agricultural Tractors - Power Tests for Drawbar - Test Procedure <i>First Revision</i>	Dr. AK Upadhyaya, Director, CFMTTI, Budni shared comments on both IS 12226 and 12036 as enclosed at <b>Annex C</b> below.
14.	<b>IS 12036 : 1995</b> Agricultural Tractors – Test Procedures – Power tests for Power Take Off <i>First Revision</i>	 <p>The committee noted that, testing requirements mentioned in IS 12226 and 12036 are essential as per Indian Conditions, therefore the committee decided to revise the standards in</p>

		<p>latest style and format with necessary editorial changes.</p> <p>However, Shri Mohit Kumar apprised the committee that Indian Standards which are referred in the standard are also to be updated. The committee requested Shri Mohit Kumar to submit the of both standards by 31 December 2023, which upon receipt will be send into wide circulation for a period of 60 days for commenting.</p>
15.	<b>IS 12239 (Part 2) :1999</b> Tractors and Machinery for Agriculture and Forestry - Technical Means for Ensuring Safety Part 2 Tractors <i>First Revision</i>	The committee noted the draft submitted by Shri Mohit Kumar as enclosed at Annex 13 of the agenda and requested FAD 11/P5 to discuss it in their next panel meeting.
16.	<b>IS 16952 (Part 1) : 2018/ISO 3776-1 : 2006</b> Tractors and Machinery for Agriculture - Seat Belts Part 1 Anchorage Location Requirements	The committee noted the information provided in S.No. 16, 17, 18, 19, 20 and 21 under 7.3 (Table 2) of the agenda.
17.	<b>IS 16952 (Part 2) : 2018/ISO 3776-2: 2013</b> Tractors and Machinery for Agriculture - Seat Belts Part 2 Anchorage Strength Requirements	
18.	<b>IS 16952 (Part 3) :2018/ISO 3776-3 : 2015</b> Tractors and Machinery for Agriculture - Seat Belts Part 3 Requirements for Assemblies	
19.	<b>IS 11821 (Part 2) :2018/ISO 5700: 2013</b> Method of Tests and Acceptance Conditions for Protective Structures of Agricultural Tractors Part 2 Static Test <i>Second Revision</i>	
20.	<b>IS 11821 (Part 1): 2019/ISO 3463: 2006</b> Tractors for Agriculture and Forestry - Roll – Over Protective Structures ROPS Part 1 Dynamic Test Method and Acceptance Conditions <i>Second Revision</i>	
21.	<b>IS 17231 : 2019/ISO 730: 2009</b> Agricultural Wheeled Tractors - Rear - Mounted Three – Point Linkage - Categories 1N 1 2N 2 3N 3 4N and 4	
<b>Pre-2000</b>		
22.	<b>IS 12180 : 1987</b> Method for Noise Measurement of Agricultural Tractors	The committee noted the information provided in S.No. 22 and 23 under 7.3 (Table 2) of the agenda.
23.	<b>IS/ISO 789-8: 1991/ISO 789 : PART 8 : 1991</b> Agricultural Tractors	

	- Test Procedures Part 8 Engine Air Cleaner	
24.	<b>IS 8265 : 1996</b> Agricultural Tractors - Guards for Power Take - Off PTO Drive - Shafts <i>Second Revision</i>	As decided in the last meeting of FAD 11, ISO/DIS 5674 “Tractors and machinery for agriculture and forestry Guards for power take-off (PTO) drive-shafts Strength and wear tests and acceptance criteria” was circulated among the committee members for review. The committee decided to wait for publication of ISO 5674 and then will consider to adopt it as revision of IS 8265. Till the time, the standard may be reaffirmed and taken up for revision.

#### 7.4 Revision of Standards Related to POWER TILLERS

The committee noting the information provided under 7.4 off the agenda took the following decision regarding review Pre-2000 Indian Standards and other standards which were due for review as per BIS’s 5 yearly review policy on Power Tillers :

S. No.	IS No./Title	Decision of the Committee, FAD 11 (25 <sup>th</sup> Meeting held on 24 November)
1.	<b>IS 6690 : 1981</b> Specification for Blades for Rotavator for Power Tillers (First Revision)	The committee noted the information provided in S.No. 1 under 7.4 of the agenda and as recommended by FAD 11/P 3, the committee decided to re-review IS 6690. The committee requested FAD 11/P 3 to review the standard and submit revised draft before next committee meeting.
2.	<b>IS 10282 : 1982</b> Specification for Cage Wheel for Power Tillers	The committee noted the information provided in S.No. 2 under 7.4 of the agenda and requested BIS Secretariat to expedite the process for sending draft revision of IS 10282 into wide circulation.
3.	<b>IS 13064 : 1991</b> Power Tillers – Installation and Preventive: Maintenance – Guidelines	The committee noting the information provided in under 7.4 of the agenda, requested FAD 11/P 6 to expedite the process of review of all the allocated standards and submit their feedback/ comments to the committee by 31 December 2023.
4.	<b>IS 9935 : 2002</b> Power Tiller - Test Code (Second Revision)	
5.	<b>IS 11858 : 1986</b> Specification for Handle Grip for Power Tiller	
6.	<b>IS 10747 : 1983</b> Dimensions of Hitch for Power Tillers	

7.	<b>IS 13539 : 2018</b> Power Tiller – Recommendations on Selected Performance and Other Characteristics ( <i>Second Revision</i> )	
8.	<b>IS 11905 : 1986</b> Specification for Shaft Assembly for Rotavator for Power Tiller	
9.	<b>IS 10806 : 2003</b> Trailers for Power Tillers - Specification <i>First Revision</i>	
10.	<b>IS 9980 : 1988</b> Guidelines for Field Performance and Haulage Tests of Power Tillers ( <i>First Revision</i> )	
11.	<b>IS 12239 (Part 3) :1988</b> Guide for Safety and Comfort of Operator of Agricultural Tractors and Power Tillers Part 3 Requirements Relating to Power Tillers	

### 7.5 Revision of Pre-2000 Indian Standards on Plant Protection Equipment

The committee took the following decision regarding review Pre-2000 Indian Standards and other standards which were due for review as per BIS's 5 yearly review policy on Plant Protection Equipment :

S.No.	IS No./Title	Decision of the Committee, FAD 11 (25 <sup>th</sup> Meeting held on 24 November)
<b>Pre 2000 Indian Standards Related to PPE</b>		
1.	<b>IS 3062 : 1995</b> Crop Protection Equipment -Rocker Sprayer - Specification <i>Fourth Revision</i>	The committee noting the information provided in S.No. 1 under 7.5 of the agenda, requested BIS Secretariat to send the draft revision of IS 3062 into wide circulation for a period of 60 days .
2.	<b>IS 3652 : 1995</b> Crop Protection Equipment – Foot Sprayer - Specification <i>Fourth Revision</i>	The committee noting the information provided in S.No. 2 and 3 under 7.5 of the agenda, requested BIS Secretariat to expedite the process for sending draft revision of IS 3652 and 3906 into wide circulation.
3.	<b>IS 3906 : 1995</b> Crop Protection Equipment – Hand operated Knapsack Sprayer Piston Type	
4.	<b>IS 5135 (Part 1) :1994</b> Specification for Hand – Rotary Duster Part 1 Belly – Mounted Type <i>Second Revision</i>	The committee noting the information provided in S.No. 4 under 7.5 of the agenda, requested FAD 11 : 01 sub-committee to review IS 5135 (Part 1) and submit its feedback in the next committee meeting.
5.	<b>IS 7593 (Part 1) :1986</b> Specification for Power – Operated Pneumatic Sprayer - Cum – Duster Part 1 Knapsack Type <i>First Revision</i>	The committee requested Dr. KN Agrawal to expedite the review of IS 7593 (Part 1) and submit the revise draft by 31 December 2023.
6.	<b>IS 10134 : 1994</b> Methods of Test for Manually - Operated Sprayers <i>First Revision</i>	The committee noted that, all the test methods of manually operated sprayers are covered in respective standards (IS 1970, IS 1971, IS 3652, IS 3906 and IS 3062) and after publication of



		those, IS 10134 may be withdrawn. Therefore, the committee decided to archive the standard for the time being.
7.	<b>IS 11429 : 1985</b> Methods for Calibration of Sprayers	Shri Deshmukh apprised the committee about ISO 5682 series which should be reviewed for adoption. The committee requested BIS Secretariat to circulate all the ISO 5682 series standards among FAD 11:01 members for review.
8.	<b>IS 14459 : 1997</b> Crop Protection Equipment - Battery Operated Rotary Atomiser Disc Type ULV sprayer — Specification	Member Secretary apprised the committee that certain requirements of droplet size, thread size of bottle, etc as mentioned in 2nd Paragraph of Foreword were not covered when the standard was published in 1997. Noting this, the committee requested FAD 11 : 01 Sub-Committee to again review the document and submit its feedback before net committee meeting.
9.	<b>IS 12482 : 1988</b> Methods of Test for Manually Operated Dusters	The committee requested BIS Secretariat to expedite the process for sending the draft revision of IS 12482 into wide circulation.
10.	<b>IS 14855 (Part 1) : 2000</b> Plant Protection and Vector Control Equipment – Fogging Machines - Specification Part 1 Pulse - Jet - Type thermal Fogger	The committee requested Shri GM Varpe, ASPEE group to provided inputs for review of IS 14855 Part 1.
<b>Post 2000 Indian Standards Related to PPE</b>		
11.	<b>IS 14855 (Part 2) :2001</b> Plant Protection and Vector control Equipment - Fogging Machines - Specification Part 2 Air – Blower Type Thermal Fogger	The committee requested Shri GM Varpe, ASPEE group to provided inputs for review of IS 14855 Part 2.
12.	<b>IS 12239 (Part 6) :2019</b> <b>ISO 4254-6: 2013</b> Agricultural Machinery – Safety Part 6 Sprayers and Liquid Fertilizer Distributors	The committee noting the information provided in S.No. 12 and 13 under 7.4 of the agenda, requested BIS Secretariat to expedite the process for sending draft revision of IS 12239 (Part 6) and IS 15921 into wide circulation.
13.	<b>IS 15921 : 2011 /ISO 14710:1996</b> Equipment for Crop Protection - Air - Assisted Sprayers - Dimensions of Nozzle Swivel Nuts	

## 7.6 Revision of Pre-2000 and standards due for review on Agricultural Machinery (Tillage Machinery, Sowing Machinery, Harvesting Machinery and Other Implements/Tools)

7.6.1 The committee noted the information provided under 7.6.1 of the agenda regarding transfer of 20 Indian Standards on forestry tools to Production & General Engineering Division Council, PGDC, BIS.

7.6.2 The committee noted the information provided under 7.6.2 of the agenda and appreciated the efforts made by FAD11/P 3. Further, the committee agreed to all the recommendation of FAD 11/P3

on the standards which were allocated to the panel (*see* Annex 15 of the Agenda) and took following decisions regarding some standards :

- a) **IS 8122 (Part 1) : 1994** “Test Code for Combine Harvester - Thresher Part 1 Terminology First Revision” and **IS 8122 (Part 2) : 2000** “Combine Harvester - Thresher - Test Code Part 2 Performance Test First Revision” will also be referred to FAD 11/P1 for review. Further as recommended by FAD 11/P1 general title of the revised standard will be “Combine harvester”.
- b) **IS 9877 : 1981** “Code of Practice for Installation Operation and Preventive Maintenance of Grain Combine” will also be referred to FAD 11/P1 for review.
- c) The committee agreed to take up new subjects proposed by FAD 11/P 3 for standard formulation. However, the committee recommended FAD 11/P3 to initially complete the review task and then start working on new subjects.
- d) Further, the committee suggested FAD 11/P3 for including more members in the panel if required.

#### ITEM 7.7 Revision of ISO Adopted Standards

S.No.	IS No./Title	Decision of FAD 11 25th Meet
1.	<b>IS 14980 (Part 1) : 2001/ISO 8759-1: 1998</b> Agricultural Wheeled Tractors - Front - Mounted Equipment : Part 1 Power Take - Off and Three - Point Linkage	Member Secretary apprised the committee that draft revision of IS 14980 (Part 1) which is an identical adoption of ISO 8759-1 : 2018 was wide circulated for 30 days and last date of commenting is 24 December 2023. Further, draft identical adoption of ISO 8759-2 & 3 : 2018 were also wide circulated for 30 days and last date of commenting is 24 December 2023. The committee noting this decided to send the drafts into publication after taking approval of Chairperson, FAD 11, in case no further comments are received during the wide circulation period.
2.	<b>IS 13581 : 1993/ ISO 5007 : 1990</b> Agricultural Wheeled Tractors -Operator Seat – Laboratory Measurement of Transmitted Vibration	Member Secretary apprised the committee that draft revision of IS 13581 which is an identical adoption of ISO 5007 : 2003 was wide circulated for 30 days and last date of commenting is 24 December 2023. The committee noting this decided to send the drafts into publication after taking approval of Chairperson, FAD 11, in case no further comments are received during the wide circulation period.

*The committee may NOTE.*

#### ITEM 8 INTERNATIONAL ACTIVITIES

The committee noted the information provided under **8.1, 8.2 and 8.3** of the agenda and appreciated the participation of the Indian Delegation in **41<sup>st</sup> Plenary Meeting of ISO/TC 23/SC 6, 39<sup>th</sup> Plenary Meeting of ISO/TC 23/SC 4 and 34<sup>th</sup> Plenary Meeting of ISO/TC 23/SC 19**. Respective Head of the Indian Delegation briefed the committee regarding major projects taken up by the ISO committees and ongoing work.

Shri Deshmukh, briefed the committee about NWIP on “Cyber Security for agricultural machinery” taken up by the ISO/TC 23/SC 19 “Agricultural Electronics” committee. Further, he also apprised about ISO 18497 series i.e. standards on safety of Partially automated, semi-autonomous and autonomous machinery which are under development and will be published in 2024. The committee requested BIS Secretariat to share draft of those documents among the committee members.

Further, the committee appreciated the efforts and contribution made by several experts at ISO and requested other committee members to ensure effective participation in international activities by technical contribution in ISO ballots and participation in various working groups.

#### 8.4 Status of ISO Balloting

The committee noted the excel sheet enclosed at Annex 21 of the agenda showing the status the ISO Balloting.

#### 8.5 Creation of Mirror Working Groups for ISO related Activities

The committee noted the list of experts within the committee and Panel (see 8.5 of the agenda) proposed by Member Secretary for the mirror working groups parallel to the different sub-committees under ISO/TC 23.

The committee after due deliberation decided to include certain more members in MWG for effective contribution through balloting. The updated composition is as follows:

S.No.	ISO Technical Committee 23 (Participatory Member)	Mirror Working Group and their Composition
1.	Tractors and machinery for agriculture and forestry, ISO TC 23	<b>MWG 1/FAD 11</b> <ol style="list-style-type: none"> <li>1. Dr. C R Mehta, Director, CIAE, Bhopal</li> <li>2. Dr. Surendra Singh, AMMA India</li> <li>3. Dr. VP Chaudhary, CIAE</li> <li>4. Dr. KN Agrawal, CIAE (AICRP on FIM)</li> <li>5. Dr. SP Singh, CIAE, (AICRP on UAE)</li> <li>6. Director, CFMTTI</li> <li>7. Director, NRFMTTI</li> <li>8. Director, SRFMTTI</li> <li>9. Director, NERFMTTI</li> <li>10. Dr. Sachin Nalawade, MPKV, Rahuri</li> <li>11. Dr. R Kavitha, TNAU</li> <li>12. Shri Chandrashekhar Deshmukh, John Deere</li> <li>13. Shri Rajanand, John Deere</li> <li>14. Shri Ashish Kumar, Kubota</li> <li>15. Shri Mohit Kumar, TMA</li> <li>16. Shri K P Singh, CLAAS</li> </ol>
2.	Safety and comfort, ISO TC 23/SC 3	<b>MWG 2</b> <ol style="list-style-type: none"> <li>1. Dr. C R Mehta, Director, CIAE, Bhopal</li> <li>2. Shri Chandrashekhar Deshmukh, John Deere</li> <li>3. Shri Pratik Duraphe, John Deere</li> <li>4. Dr. Surendra Singh, AMMA India</li> <li>5. Dr. Mahesh Narang, PAU</li> <li>6. Dr. KN Agrawal, CIAE (AICRP on FIM)</li> </ol>

		<ul style="list-style-type: none"> <li>7. Dr. SP Singh, AICRP on UAE, CIAE</li> <li>8. Dr. Surendra Kumar, TNAU</li> <li>9. Dr. Sachin Nalawade, MPKV</li> <li>10. Shri Sarbjeet Singh, Dasmesh</li> <li>11. Shri Parag Badgujar, Shaktiman</li> <li>12. Shri Mitul Panchal, AMMA India</li> <li>13. Shri Sujit Hinje, CNH</li> <li>14. Shri Mohit Kumar, TMA</li> <li>15. Shri Ashish Kumar, Kubota</li> <li>16. Shri KP Singh, CLAAS</li> </ul>
3.	Tractors, ISO TC 23/SC 4	<p><b>MWG 3/FAD 11-P5</b></p> <p>The members of FAD 11/Panel 5 “To Review and Formulate Indian Standards on Agricultural Tractors” will be the members of MWG 3.</p>
4.	Equipment for crop protection, ISO TC 23/SC 6	<p><b>MWG 4/FAD 11:01</b></p> <p>The members of FAD 11: 01 Sub-Committee “Plant Protection Equipment” will be the members of MWG 4.</p> <p>Also,</p> <ul style="list-style-type: none"> <li>1. Dr. R Kavitha, TNAU</li> <li>2. Dr. Surendra Kumar, TNAU</li> <li>3. Dr. Satyaprakash, CIAE</li> <li>4. Dr. Ramesh Sahani, CIAE</li> </ul>
5.	Equipment for harvesting and conservation, ISO TC 23/SC 7	<p><b>MWG 5/FAD 11-P 1</b></p> <p>The members of FAD 11/Pane 1 “Panel to formulate and review Indian Standards on Harvesters” will be the members of MWG 4.</p>
6.	Powered lawn and garden equipment, ISO TC 23/SC 13	<p><b>MWG 6/FAD 11-P 3</b></p> <p>The members of FAD 11/P 3 “To formulate and review Indian Standards on Gardening &amp; Forestry Tools &amp; Agricultural Implements” will be the members of MWG 6</p>
7.	Agricultural Electronics, ISO TC 23/SC 19	<p><b>MWG 7</b></p> <ul style="list-style-type: none"> <li>1. Shri Chandrashekhar Deshmukh, John Deere</li> <li>2. Shri Pratik Duraphe, John Deere</li> <li>3. Dr. Mukesh Jain, NRFMTTI</li> <li>4. Shri Pradeep Shinde, Mahindra &amp; Mahindra</li> <li>5. Shri Sujit Hinje, CNH</li> <li>6. Shri K P Singh, CLAAS</li> <li>7. Shri Philip Koshy, TMA</li> <li>8. Shri Mohit Kumar, TMA</li> <li>9. Dr. NS Chandel, CIAE</li> <li>10. Director, CFMTTI, Budni</li> </ul>

### 8.6 List of Published ISO Standards and Status of Adoption

The committee requested BIS Secretariat to share the list of published/under development ISO standards (enclosed at Annex 22 of the agenda) among the committee members for review.

### ITEM 9 ANY OTHER BUSINESS

Shri Sujit Hinje, CNH Industrial Pvt Ltd, Pune requested for amendment in IS 17626 : 2021 “Self-Propelled Sugarcane Harvester — Test Methods” to include Administrative & Technical extension criteria in the standard. The committee asked Shri Sujit to submit his request to BIS Secretariat and further requested FAD 11/P 1 to take up the issue for discussion.

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

After due deliberation, the committee decided to hold its 26th meeting in the 4<sup>th</sup> week of March 2024 in Physical Mode. The venue and exact date of the meeting will be finalised in consultation with Chairperson, FAD 11 later and will be communicated to members accordingly.

## ANNEX D

Attendance for 25<sup>th</sup> Meeting of Agriculture Machinery and Equipment Sectional Committee  
FAD 11 held on 24 November, 2023

Sl.No.	Organization Represented	Members
1.	ICAR - Central Institute of Agricultural Engineering, Bhopal	Dr. C.R. Mehta ( <i>Chairperson</i> , FAD 11)
2.	Agriculture Machinery Manufacturers Association (AMMA), Pune	Dr. Surendra Singh
3.	All India Farmers Alliance, New Delhi	Dr. Rajaram Tripathi
4.	CLAAS India Private Limited, Chandigarh	Shri Krishna Prabhakar Singh
5.	CNH Industrial India Private Limited, Pune	Shri Sujit Hinge
6.	Central Farm Machinery Training and Testing Institute, Budni, MP	Dr. A.K. Upadhaya
7.	Dasmesh Mechanical Works Private Limited, Amargarh	Shri Sarbjeet Singh Panesar
8.	ICAR - All India Coordinated Research Project on Farm Implements and Machinery, Bhopal	Dr. K.N. Agrawal
9.	ICAR - All India Coordinated Research Project on Utilization of Animal Energy, Bhopal	Dr. S.P. Singh
10.	ICAR - Central Institute of Agricultural Engineering, Bhopal	Dr. V.P. Chaudhary
11.	John Deere India Private Limited, Pune	Shri Anand Raj Shri Chandrashekhar Deshmukh
12.	Kerala Agro Machinery Corporation Ltd. (KAMCO), Athani	Shri P.C. Sajimon
13.	Kubota Agricultural Machinery India Private Limited, Faridabad	Shri Ashish Kumar Mallarh
14.	Mahindra and Mahindra Limited, Mumbai	Shri Pradeep Shinde
15.	North Eastern Region Farm Machinery Training and Testing Institute, Biswanath Chariali	Dr. P.P. Rao Shri P.C. Meshram ( <i>invitee</i> )
16.	Power Tillers Manufacturers Association, Kolkata	Shri A.R. Ganesh Kumar
17.	Punjab Agricultural University, Ludhiana	Dr. Mahesh Kumar Narang
18.	Southern Region Farm Machinery Training and Testing Institute, Tractor Nagar	Dr. B.M. Nandede
19.	Tirth Agro Technology Pvt. Ltd. 'Shaktiman', Bhunava, Gujarat	Shri Parag Devidas Badgujar
20.	Tractor and Mechanization Association, New Delhi	Shri Mansingh Jagdale
21.	Tube Investments Clean Mobility Private Limited, Chennai	Shri Vivek Gupta
<b>Members Joined Virtually</b>		
22.	Agriculture Machinery Manufacturers Association (AMMA), Pune	Shri Mitul Panchal
23.	Aspee Agro Equipment Private Limited, Mumbai	Shri Gangadhar M. Varpe Shri Nikhil ( <i>invitee</i> ) Dr. Narendra Kumar ( <i>invitee</i> )
24.	Automotive Research Association of India, Pune	Shri A. Akbar Badusha Shri Gangaram Auti
25.	CCS Haryana Agricultural University, Hisar	Dr. Vijaya Rani
26.	Consumer Guidance Society of India, Mumbai	Shri Sitaram Dixit

27.	Indian Council Of Agricultural Research, New Delhi	Dr. Panna Lal Singh
28.	John Deere India Private Limited, Pune	Shri Pratik Duraphe ( <i>invitee</i> )
29.	Kubota Agricultural Machinery India Private Limited, Faridabad	Shri Arun Kumar ( <i>invitee</i> )
30.	Maharana Pratap University of Agricultural And Technology, Udaipur	Dr. Sanwal Singh Meena
31.	Mahatma Phule Krishi Vidyapeeth, Rahuri	Dr. Sachin Madhukar Nalawade Shri Vikram Parasharam Kad
32.	Ministry of Agriculture, Department of Agriculture, New Delhi	Dr. V.N. Kale
33.	National Institute of Plant Health Management, Hyderabad	Dr. Vidhu Kampurath P. Shri Er. Mutyala Udaya Bhanu
34.	North Eastern Region Farm Machinery Training And Testing Institute, Biswanath Chariali	Shri S. G. Pawar
35.	Northern Region Farm Machinery Training and Testing Institute, Hisar	Shri Sanjay Kumar
36.	Southern Region Farm Machinery Training and Testing Institute, Tractor Nagar	Shri Promod Yadav ( <i>invitee</i> )
37.	Tamil Nadu Agricultural University, Coimbatore	Dr. R. Kavitha Dr. Surendra Kumar Dr. A.P. Mohan Kumar
38.	Tirth Agro Technology Pvt. Ltd. 'Shaktiman', Bhunava, Gujarat	Shri Audhi Narayan Reddy ( <i>invitee</i> )
39.	Tractor and Mechanization Association, New Delhi	Shri Mohit Kumar
40.	Tube Investments Clean Mobility Private Limited, Chennai	Shri S. O. TYagi
41.	Voluntary Organisation In Interest of Consumer Education (Voice), New Delhi	Shri B. K. Mukhopadhyay