



Working Group Report of 2017 Quality Measurement of Agricultural Products (QMAP)

Dr. Tsuyoshi Matsumoto

National Metrology Institute of Japan (NMIJ), AIST
at

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SECTION 1 – Details of the membership of WG

1.1. Brief history

1.2. Membership



- 1996: A study on rice moisture meters was initiated with a coordinator of Australia.
- 1997: WG on **Rice Moisture Meters** was established.
- 2001: Mr. Issei Akamastu of NMIJ took the chair. Mr. Hiroshi Kitano (2005) and Dr. Tsuyoshi Matsumoto (2007) took over the chair.
- 2007: WG was renamed as present to cover a wide range of grains.
- WG conducted **12 training courses** and **workshops** since 2001.
- WG members may be the economies participated in the training courses; **Cambodia, PR China, Chinese Taipei, Indonesia, Rep. Korea, Malaysia, Mongolia, Philippines, Thailand and Viet Nam.**



APLMF Training Courses / Workshops on Rice Moisture Measurement and Quality of Agricultural Products

Course Title	Date (d/m/y)	Place (Host)	Trainers / Speakers	Trainees
Study tour for rice moisture meas.	30/9-5/10/2001	Several places in Japan (NMIJ)	I. Akamatsu (NMIJ) and others (JP)	9 from 7 econ.
Training courses on traceability of rice moisture meters (partly supported by APEC)	19-30/8/2002	Khon Kaen, Thailand (CBWM)	Akamatsu, H. Tanaka (NMIJ), T. Watanabe & N. Yoshida (Kett Co.)	23 from 7 econ.
	30/8-10/9/2004	Bien-hoa, Vietnam (STAMEQ)	Akamatsu (NMIJ), Watanabe, Yoshida & T. Suzuki (Kett Co.)	About 20
	11-29/11/2004	Chiang Mai, Thailand (CBWM)	Akamatsu, Tanaka (NMIJ), Watanabe, Yoshida & M. Yabe (Kett)	About 23 from ASEAN
	15-26/8/2005	Manila, Philippines (ITDI)	Akamatsu, Tanaka (NMIJ), Watanabe & Yoshida (Kett)	From ASEAN
Workshops on metrology of agricultural products and food safety (supported by APEC)	7-9/2/2007	Chiang Mai, Thailand (CBWM)	24 from 11 econ. including JP	About 80 incl. speakers
	4-6/6/2008	Hangzhou, PR China (AQSIQ)	24 from 14 econ. including JP	About 70 including speakers
	23-25/9/2009	Ho Chi Minh City, Vietnam (STAMEQ)	18 from 10 econ. including JP	20 from 11 economies
Training courses on traceability in rice moisture measurement (supported by MEDEA since 2015)	28/5-1/6/2012	Bandung, Indonesia (DoM)	T. Matsumoto (NMIJ), Yoshida & Yabe (Kett)	36 from 3 economies
	25-29/11/2013	Chiang Mai, Thailand (CBWM)	Matsumoto, Yoshida, Yabe, K. Emori & H. Noji (Kett).	33 from 8 economies
	16-20/11/2015	Phnom Penh, Cambodia (NMC)	Matsumoto, Yoshida, Yabe, Emori & R. Takahashi (Kett).	20 (+10 obs.) from 8 economies
	17-21/7/2017 (12 th event)	Selangor, Malaysia (NMIM/SIRIM)	Matsumoto (NMIJ), Haslina bte Abdul Kadir (NMIM), Yoshida, Yabe & Takahashi (Kett).	18 (+8 obs.) from 10 economies

SECTION 2 – Key activities of 2016/17

2.1. Training courses on grain / rice moisture measurement **The last course in Malaysia**



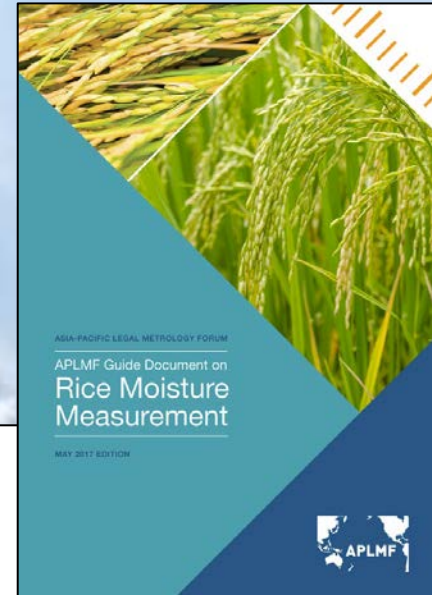
- Conducted at a hotel and the institute in Sepang, Malaysia on **17-21 July**, 2017 hosted by **NMIM** ([National Metrology Institute of Malaysia](#)), SIRIM Bhd. and supported by MEDEA
- **18 trainees + 8 observers** from **10 economies**; Bhutan, Cambodia, Indonesia, Malaysia, Mongolia, Myanmar, Nepal, Philippines, Thailand and Viet Nam.
- **APLMF representative**: Mr. Phil Sorrell ([MBIE, New Zealand](#))
- **Trainers**: Dr. Tsuyoshi Matsumoto ([NMIJ](#)), Ms. Haslina bte Abdul Kadir ([NMIM](#)), Mr. Norihiro Yoshida, Ms. Mihoko Yabe & Mr. Rikiya Takahashi ([Kett Elec. Lab.](#))
- One-day **lecture** and 4-days **practical** activities in 3 groups.
- **Equipment** was provided by NMIM and Kett Elec. Lab.
- Reference **samples** of rice were provided by NMIM.
- A technical tour to a **rice-processing factory** was provided on the final day.



SECTION 2 – Key activities of 2016/17

2.2. APLMF **guide document** on rice moisture measurement

- In Nov. 2016, the **second draft** of a new APLMF **Guide Document on Rice Moisture Measurement** was provided and comments were requested.
- In May 2017, it was **published** on the APLMF Website.
- This document aims to provide **practical procedures** to establish a regional **traceability** system and to **calibrate** grain moisture meters, which are **not covered** by OIML Recommendations or ISO documents.
- **Materials** used in the previous training courses on rice moisture measurement are used as the basis of this guide document.
- **Other economies** outside APLMF are also interested in this guide.





SECTION 2

– Key activities of 2016/17

2.3. Contributed to OIML

- WG is monitoring the activities of OIML **TC 17/SC 1** (humidity) and **TC 17/SC 8** (inst. for quality analysis of agri. products).

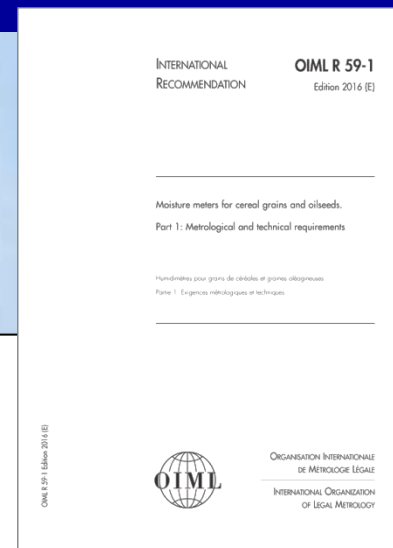
(1) TC 17/SC 1 on **R 59** *Moisture Meters for Cereal Grains and Oilseeds* (2016)

A new version of R 59 was **published** in March, 2017 after a long effort by the joint secretariat of USA and PR China.

(2) TC 17/SC 8 on **R 146** *Protein Measuring Instruments for Cereal Grains and Oilseeds* (2016: new)

A new R 146 was **published** in February 2017, after a long effort by the secretariat in Australia.

- WG submitted many **comments** in these revisions.
- In Japan, the WG chair attends domestic **mirror committees** to OIML and exchanges information with the stakeholders.



SECTION 2 – Key activities of 2016/17

2.4. Cooperation with BIPM and APMP



- The WG **exchanged information** regarding the grain moisture measurement with the scientists in NMIJ, who cooperates with **BIPM** (International Bureau of Weights and Measures) and **APMP** (Asia-Pacific Metrology Programme).
- Grain moisture is **one** of the **common topics** of concern for both scientific metrology and legal metrology as an important application of metrology.
- There is a **group** in NMIJ, which is developing a measurement technique for grain moisture using **electromagnetic wave**.



SECTION 3 – Future focus – Recommendations

3.1. **Taking over the chair** for the next generation (important key change 1)



- NMIJ determined to **FINISH** the **WG** chair.
As a background, NMIJ is not responsible for the quality of agricultural products. Another ministry (**MAFF**) supervises it in Japan.
- APLMF Secretariat is seeking for **an alternative economy** of the chair.
A call for nominees is found in the APLMF Newsletter (**13 Sept.**).
- The chair should **coordinate** training courses (**hosting is not required**).
Significant **funding** support from the economy is **not** requested.
- Present chair will **support** the new chair as a member. This proposal meets a new policy of APLMF (**WG maintained with a real group**).
- This is a transition to the **next generation**. Competent **trainees** should be the **trainers** in the future who support the new chair.

SECTION 3 – Future focus – Recommendations

3.2. **Transfer** of training to a **regional level** (important key change 2)



Besides taking over the chair:

- The main concept of APLMF training programs has been “**train the trainers**” course for a long time.
- An international training activity should then gradually be transferred to a **regional** or **domestic program**.
- Considering the **well-established** contents of the training program on grain moisture measurement, it is a **good timing** for transfer.
- WG encourages **competent trainees** to plan and conduct **regional training courses** in each economy as the trainers.

SECTION 3 – Future focus – Recommendations

3.3. **Continue** of training courses

3.4. **Experts** on this topic

Regardless taking over the chair:

- Many economies request **continuing** training.
- Many economies need a **traceability** and more practical **knowledge/skills**.

There are needs for:

- A long (**2 weeks**) **advanced course** for prospective trainers.
- A short training course for the **beginners** or aiming a **specific target**.
- A **wider range of products** (**wheat, corn, beans, coffee...**).
- Contents for **preventing fraud** and adjusting meters.
- Practical lectures for **measurement uncertainty**.
- Practical contents for preparing **reference samples**.

Competent experts for trainers in the future:

- WG recommends **experts** from Indonesia, Malaysia, Philippines, Thailand and Viet Nam.



SECTION 3 – Future focus

Other works to be continued

3.5. Revision of APLMF guide document

3.6. Contribution to OIML

3.7. Monitoring activities of BIPM and APMP

Regardless taking over the chair:

- WG should continue to review and update the APLMF **Guide Document** on Rice Moisture Measurement. The ‘**rice**’ in the title should be replaced with ‘**grain**’ to cover wider range of products.
- WG should continue to contribute to OIML **TC 17/SC 1** and **TC 17/SC 8** even after the R 59 and R 146 were published. WG should **harmonize** between the activities of **OIML** and **APLMF** in agricultural measurements.
- WG should continue to monitor the activities in **scientific metrology**.



SECTION 4 – Future focus – Emerging issues

4.1. Taking over the **assets** of WG

4.2. Special **remarks** on grain moisture

- The transfer of the chair shall proceed **not to lose** the **valuable assets** of WG (**experience and materials**).
- **Management with a group** including the former chair could be a good solution.
- Because grain moisture measurement strongly depends on practical skills, **practical component** is a **core item** to be maintained.
- **Reference samples** of grain is another core item for a training as well as a traceability. There is a **critical difference** between a grain sample and a physical standard (**mass, etc.**) as its quality is not stable.
- **Preparation phase** of a training plays an important role. The quality of a training depends on the facility, equipment and samples. WG and trainers should **communicate closely** with the host institute in the preparation phase.



SECTION 4 – Future focus – Emerging issues

4.3. Synergy among the **stakeholders**

4.4. Cooperation with the **private** sectors

- A **framework** in an economy for grain moisture measurement is frequently maintained by several **independent ministries** of the government. A synergy among such ministries is **another important issue** to be remembered when we organize a training course.
→ Malaysia provided a good coordination in July!
- **Support from private sectors** is another important factor. Such a training program essentially connected closely to the **equipment, instruments and knowledge** which are provided **commercially**. In reality, the organizer still needs support from **private sectors**. WG should find a **good compromise** with the private sectors for continuing training.





SECTION 4 – Future focus – Emerging issues

4.5. **IT technologies** supporting training

- Since 2015, a new system ([Google Drive](#)) realized a **paper-less course** gradually.
- Another online system ([Survey Monkey](#)) provided by PTB facilitated collection of **feedback comments** from the participants.
- Recently, many participants bring their own **PCs/tablets** which enable usage of such IT systems.
- Such an operation **lessened the workload** of the host as well as the trainers. WG encourages continuing such an operation using IT technologies.
- WG could not provide **e-learning materials** yet. WG recommends such material be provided with a **special session** for demonstration.

Thank you for your kind attention!

Tsuyoshi Matsumoto
<ty-matsumoto@aist.go.jp>