



Asia-Pacific Legal Metrology Forum

2013 Report

Working Group on Quality Measurements of Agricultural Products

To be reported on 6 November, 2013

1. Calling for host economy of a training program on grain moisture measurement in the 'self-funded' scheme

In reply to the survey from our WG, Indonesia and Thailand kindly proposed to host training courses with a 'self-funded' scheme. Thanks to their proposals, an "APLMF Training Course on Traceability in Rice Moisture Measurement" was conducted on 28 May-1 June, 2012 in Bandung, Indonesia, and another course is going to be held in this November.

Because many participants in 2012 course requested to continue a training program in this field, a "Survey on a Training Program for Grain Moisture Measurement (2013)" was sent from the secretariat to the member economies (see separate document) in October 2013 in order to find additional needs and another host economy for 2014. The WG accepts any kind of proposals or requests at the 20th APLMF Forum Meeting, or later.

2. Conduct a training course on Grain Moisture Measurement in Thailand in 2013

With strong support of CBWM (Central Bureau of Weights and Measures) in Thailand, next training course is scheduled in Chiang Mai (Thailand) soon after this WG Meeting on 25-29 November (see separate document). NMIJ (National Metrology Institute of Japan) and Kett Electric Laboratory Co. Ltd. proposed to provide trainers for this program. At present, the WG received many requests or interests of participation from Thailand and other economies.

3. Drafting of a new APLMF Guide Document on Grain Moisture Measurement

The WG has provided an outline of a new "APLMF Guide Document on Grain Moisture Measurement" (see separate document). This guide document is under development in order to provide practical procedures to calibrate, verify and test grain moisture meters, which are not covered by the OIML recommendations or ISO documents. Materials used in the previous training courses on rice moisture measurement will be used as the base material of this guide document.

4. Contribution to OIML TC 17

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Asia-Pacific Legal Metrology Forum

The WG continuously monitored the activities of OIML TC 17/SC 1 (Humidity) and TC 17/SC 8 (Instruments for quality analysis of agricultural products) in regard to the two documents shown below. In 2013, the chairperson attended the TC 17/SC 1 & SC 8 meetings held in July at NIST (National Institute of Standards and Technology) in Maryland, USA. The current progresses regarding the two documents are introduced briefly in the following two clauses.

(1) TC 17/SC 1 R 59 "Moisture Meters for Cereal Grains and Oilseeds (1984)":

Discussion to revise the present recommendation is under progress. CD6 (6th committee draft) of R59 was sent from the secretariat in USA to the P members in March, 2013. Discussion on the CD6 took place at the SC1 meeting in July. The SC 1 secretariat proposed to bring this draft into the final approval by the subcommittee (SC 1), and after an approval, it would be brought to upper level of CIML (International Committee in Legal Metrology).

(2) TC 17/SC 8 on "Protein Measuring Instruments for Cereal Grains and Oilseeds (New)":

Discussion to draft a new recommendation is under progress. CD4 was sent from the secretariat in Australia to the P members in April 2013. Discussion on the CD4 took place at the SC 8 meeting in July.

5. Monitor activity on BIPM and APMP on rice moisture measurement, and others

In cooperation with BIPM and APMP, the WG informed NMIJ delegates attending their meetings the activities of the WG including training courses. The WG continuously exchanged information between the researchers in NMIJ about a new measurement method for grain moisture content using electromagnetic wave. In Japan, the WG chair attended a domestic mirror committee to OIML TC17 and exchanged information between the manufacturers of moisture meters and protein measuring instruments.



2014 Work Plan

Working Group on Quality Measurements of Agricultural Products

To be reported on 6 November, 2013

1. Planning next training program on grain moisture measurement in the 'self-funded' scheme with calling for another host economy

Even after finishing the training course in Thailand in this November, the WG will continue calling for host economy of a training program on grain moisture measurement in the 'self-funded' scheme. The host economy for 2014 should ideally be different from the economy which hosted the 2013 program in order to give an even chance of participation to all member economies. A survey for next training program is under progress.

2. Drafting of a new APLMF Guide Document on Grain Moisture Measurement

The WG continue to drafting the new "APLMF Guide Document on Grain Moisture Measurement" in cooperation with WG on Training Coordination and WG on Metrological Control System. A preliminary draft shall be proposed by the 21st Forum Meeting and WG Meetings in 2014.

3. Contribution to the OIML TC 17

The WG continue to contribute OIML TC 17/SC 1 and TC 17/SC 8 by sending delegates to their meetings. The WG also aims to contribute to harmonize between the activities of the two Subcommittees of OIML and APLMF in agricultural measurements.

5. Monitor activities of BIPM and APMP on grain moisture measurement

The WG continues to monitor activities in scientific metrology including BIPM and APMP, in regard to the traceability and uncertainty in grain moisture measurements. These organizations recognize the importance of grain moisture measurement as an important application of scientific metrology. We consider the WG is at an appropriate position because NMJJ, to which the chair belongs, is responsible for both scientific metrology and legal metrology.



ASIA-PACIFIC
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Survey on a Training Program for Grain Moisture Measurement (2013)

APLMF Working Group on Quality Measurements of Agricultural Products

Provided on 17 October, 2013

Introduction

Working Group on Quality Measurements of Agricultural Products (WG on QMAP) conducted six training programs on grain moisture measurement in 2001, 2002, 2004, 2005 and 2009 with support partly from the APEC fund. However, it became difficult for APEC to continue providing financial support to such programs. On the other hand, there are strong needs from rice-producing economies to continue such programs. In addition, a universal protocol is still under development that will be utilized for traceability as well as intercomparisons in rice moisture measurement.

In order to meet such needs, the WG proposed an alternative scheme to continue the training by self-funding at the 18th and 19th APLMF Forum meetings. In response to the proposal, Indonesia and Thailand have volunteered to host training courses. Based on these proposals, an “APLMF Training Course on Traceability in Rice Moisture Measurement” was conducted on 28 May - 1 June, 2012 in Bandung in Indonesia, and next course is going to be held on 25-29 November, 2013 in Chiang Mai in Thailand.

With this survey, the WG ask for another economy who will volunteer the next training program in 2014 (or later). The details of the plan are explained below.

Proposed Plan

1. **Host economy:** The host economy for this training program shall be rotated to give an equal opportunity to other economies. The host economy for 2014 should therefore be selected from those other than that hosted the 2013 program. The economy will be selected based on the replies to this survey. If two or more economies wish to host the same program, the priority will be decided after a discussion among the Secretariat, WG on QMAP and WG on Training Coordination.
2. **Timing:** It will be decided based on an agreement among WG on QMAP, Secretariat and the host economy. The WG expects that the next training program will be held in 2014 or later within a period of 5 days.

3. **Trainers:** Trainers/speakers will participate from APLMF economies basically with a voluntary basis using their own funds. The WG accepts trainers/speakers from any APLMF member economy. If necessary, the WG on QMAP is prepared for providing trainers from Japan.
4. **Trainees:** Trainees are expected to attend mostly from the host economy. Trainees from economies other than the host economy will be also welcomed if they travel and attend the training program at their own expense. Participants or observers from non-APLMF economies will be eligible after an approval by the APLMF Secretariat.
5. **Language:** Because this training will be an international program organized by APLMF, the official language for the training shall be **English**.
6. **Funding:** The meeting room, equipment, meals (lunch) and travel expenses of the local trainees are expected to be provided by the host economy. Additional support from APLMF may be provided after an approval by the Secretariat.
7. **Management:** APLMF Secretariat and WG on QMAP will be responsible for organizing the program in cooperation with WG on Training Coordination and the host economy.

If you have an interest in this program as a host economy or a participating economy, please inform us by filling out the survey on the third page, and please send it to the APLMF Secretariat by **31 December, 2013**. Your economy may also express an interest to the WG chair at the 20th APLMF WG meeting in Yogyakarta on 6 November, 2013.

Reply Form

APLMF Survey on Training Program for Grain Moisture Measurement in 2013

Name of Economy : _____.

Name of Contact Person : _____ (E-mail address: _____)

Question 1: Does your economy wish to **host a training program** for moisture measurements of grains (rice, corn, wheat, coffee, etc.)? If you reply "yes", please proceed to the question 2. Otherwise, proceed to the question 3.

Question 2 to the economies that will host the training: Please provide a tentative plan for the training program including time, place and length of period. Then, proceed to the question 4.

Question 3 to the economies that will NOT host the training: If APLMF will organize a training program for grain moisture outside your economy, will you nominate trainee(s) to this program with your own fund? If yes, how many trainees will be likely to attend?

Question 4: Do you have a plan to provide a **trainer** or **speaker** (regardless hosting the training)?

Question 5: What kinds of **agricultural products** do you produce where you have a requirement to make moisture measurements?

Question 6: Do you have any additional requests about the **topics** and/or **contents** of the training program? The proposed program will include; a lecture on theoretical basis, a practical training in a laboratory or farm, a traceability system in grain moisture, and an international protocol used for intercomparisons.

10. Draft Program

| | | |
|----------------------------------|-------------|---|
| Day 1 25 Nov. (Mon) | 8:30-9:00 | Registration |
| | 9:00-10:00 | Opening ceremony: addresses from APLMF, WG on QMAP and CBWM. A group photo session. |
| | 10:00-10:30 | Coffee break |
| | 10:30-11:30 | Economy reports by each economy |
| | 11:30-12:00 | Explanation of schedule and outline of training (Matsumoto) |
| | 12:00-13:30 | Lunch break |
| | 13:30-15:00 | Lecture on traceability in grain moisture measurement (Matsumoto) |
| | 15:00-15:30 | Coffee break |
| | 15:30-17:00 | Lecture on OIML-R59 / ISO-7700 |
| Day 2 26 Nov. (Tue) | 9:00-10:00 | Lectures on ISO-712 & JPN-105 °C Instruction to prepare reference samples and demonstration of oven method |
| | 10:00-10:30 | Coffee break |
| | 10:30-12:00 | Continue demonstration |
| | 12:00-13:30 | Lunch break |
| | 13:30-15:00 | Continue demonstration |
| | 15:00-15:30 | Coffee break |
| | 15:30-17:00 | Continue demonstration / Preparation of instruments & materials |
| Day 3 27 Nov. (Wed) | 9:00-10:00 | Practice using ovens based on ISO-712 |
| | 10:00-10:30 | Coffee break |
| | 10:30-12:00 | Start drying based on ISO-712 |
| | 12:00-13:30 | Lunch break |
| | 13:30-15:00 | Stop drying / Lecture on moisture meters / Measurement of dried sample based on ISO-712 |
| | 15:00-15:30 | Coffee break |
| | 15:30-17:00 | Computation of moisture contents |
| Day 4 28 Nov. (Thu) | 9:00-10:00 | Explanation of standard & working standard meters / Measurement of reference samples using resistivity & capacitance types. |
| | 10:00-10:30 | Coffee break |
| | 10:30-12:00 | Continue measurement |
| | 12:00-13:30 | Lunch break |
| | 13:30-15:00 | Continue measurement |
| | 15:00-15:30 | Coffee break |
| | 15:30-17:00 | Comparison & analysis between drying method and standard meters. |
| Day 5 29 Nov. (Fri) | 9:00-12:00 | Technical tour to the facility for testing and verifying moisture meters by host economy (tentative) |
| | 12:00-13:30 | Lunch break |
| | 13:30-14:30 | Final reports by each group and evaluation (all participants) Summary discussion (chaired by Matsumoto) |
| | 14:30-15:00 | Closing ceremony attended by all trainers, trainees and staffs of CBWM with bestowal of the certificates. |

8. Other Information:

Language:

Official language used in the training course is **English**.

Access from the airport:

The host will provide transportation to pick all delegates up from Chiang Mai Airport to the Imperial Mae Ping Hotel. The delegates are requested to inform the host their flight detail by E-mail.

Weather:

The average temperature in November is generally about 25 °C (range from 19 °C to 30 °C).

Currency:

Thai's currency is the Thai Baht and show on currency table as THB. Bank note come in 1,000 baht, 500 Baht, 100 Baht, 50 Baht and 20 Baht denomination, along with 10 Baht, 5 Baht, 2 Baht, 1 Baht, 50 Satang and 25 Satang coins.

Wear, equipment and meals:

Trainees shall wear long sleeved shirts and long pants during the training for safety reasons. Equipment and materials needed for the training, and lunch / tea break during the training will be provided by the host economy and the trainers.

Electricity Supply:

Voltage is 220 volts 50 Hz AC. The power plugs in Thailand is A-type with two blades.

Local Time:

GMT +7

9. Contact persons for the training course:

1. APLMF Secretariat (registration)

Mr. GUO Su

Department of Metrology, General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China (AQSIQ),

No. 9, Madiandonglu, Haidian District, Beijing 100088, P.R. China

Tel: +86-10-8226-0335, Fax: +86-10-8226-0131

E-mail: sec@aplmf.org or aplmf@aqsiq.gov.cn

2. Host in Thailand (visa assistance, accommodation and venue)

Mr. Sakchai Hasamin

Central Bureau of Weights and Measures (CBWM), Thailand

44/100 Nonthaburi1 Rd., T.Bangkrasor, A.Muang, Nonthaburi 11000, Thailand

Tel: +662 5474351, Fax: +662 547 4356

Email: sakchai.h@dit.mail.go.th

5. Target Trainees

5.1. Eligible Trainees

Officials in governmental or public authorities in metrology in the APLMF economies, who are responsible for metrological control of grain moisture measurements, are expected to participate. Participants from non-APLMF economies and private sectors may be also accepted after permission by the APLMF secretariat. The trainees shall have at least **three years'** experience in practical measurement or calibration in grain moisture measurement.

5.2. Registration

Complete the attached "**Nomination Form**" by answering the questionnaire in the form, and send it to the APLMF secretariat by **10 October 2013**. The replies to the questionnaire will be examined by the APLMF secretariat and WG on QMAP to assess the eligibility of the applicant. Successful participation will be informed by the secretariat within one week. No registration fees will be required for trainees from APLMF member economies. Participation from non-APLMF economies will be approved independently by the secretariat.

5.3. Economy Report

All trainees are requested to provide a short country report (about 5 min) at the beginning of the training course. This report shall contain (1) objectives and/or motivations to attend the course, (2) metrological control system on grain moisture in your economy and (3) introduction of your organization as well as your responsibility. Trainees may use slides for the report. In this case, the slides shall be sent to the APLMF secretariat in advance by 15 November.

6. Travel

As it was agreed at the 19th APLMF Forum Meeting in 2012, this training course will be self-funded. Therefore, **no financial support** will be provided for the trainees. All trainees are expected to fund their own travel and accommodation expenses.

If you need a visa to enter Thailand, please contact Mr. Sakchai Hasamin of the host economy. On your request, the host economy will send an official letter of invitation to support visa applications.

7. Venue and Accommodation:

Venue: Northern Weights and Measures Center in Chiang Mai Province

257 Moo 13 Ban Me, San Pa Tong, Chiang Mai 50120, Thailand

Website: http://www.nwmc.go.th/index_eng.html

Accommodation: The Imperial Mae Ping Hotel (with the rates below)

| | | | |
|---------------|-------------|-----------------|--------------------|
| Superior Room | Single/Twin | 1,400/1,500 THB | per room per night |
| Deluxe Room | Single/Twin | 1,600/1,800 THB | per room per night |
| Royal Suite | Single/Twin | 3,500/3,500 THB | per room per night |

Address: 153 Sridonchai Road, Changklan, Muang, Chiang Mai 50100, Thailand

Tel: + 66 53 283900, Fax: +66 53 270181

Website: <http://www.imperialhotels.com>

(Use separate reservation form to reserve this hotel.)



**APLMF Training Course on Traceability in Rice Moisture Measurement
25-29 November, 2013
in Chiang Mai, Thailand**

Draft Program as of 18 July, 2013

1. Organizer:

1. Asia-Pacific Legal Metrology Forum (APLMF)

2. Supporting Organizations:

1. Central Bureau of Weights and Measures (CBWM), Thailand
2. Kett Electric Laboratory
3. National Metrology Institute of Japan (NMIJ), AIST

3. Objective:

Grain moisture is an important area of measurement in legal metrology that is closely related to our confidence in international trade and our quality of life. In order to improve regional skills in the area of grain moisture measurements, the APLMF Working Group Quality Measurement on Agricultural Products (QMAP) had conducted six training courses on traceability in rice moisture in 2001-2005 and 2012, and three workshops in 2007-2009. This follow-up program is aimed specifically at training trainers who will lead the establishment of a national or regional traceability system in grain moisture measurement.

This training course is composed of lectures and practical activities. The lectures cover: basic understanding of grain moisture; traceability in grain moisture measurement; understanding of related international standards / recommendations; outline of drying method as the standard reference method; and instructions how to use the rice moisture meters including calibration procedure. The practical component will include the use of rice moisture meters, dry ovens, and precise weighing instruments.

4. Organizer and Trainers

Dr. Tsuyoshi Matsumoto (organizer)

Chair of WG on Quality Measurement on Agricultural Products (QMAP)
National Metrology Institute of Japan (NMIJ),
National Institute of Advanced Industrial Science and Technology (AIST)
AIST Tsukuba Central 3-9, 1-1-1 Umezono, Tsukuba, Ibaraki 305-8563, Japan
E-mail: ty-matsumoto@aist.go.jp

Mr. Norihiro Yoshida, Ms. Mihoko Yabe and additional trainers (TBA)

Kett Electric Laboratory
1-8-1 Minami-Magome, Ota-ku, Tokyo 143-8507, Japan