



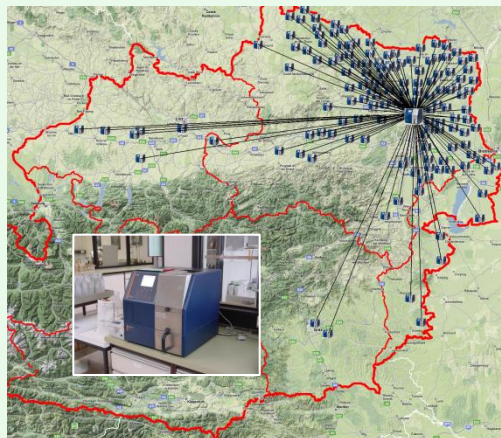
Seed Testing
Authorized by the government



Chemical-technological Testing
Quality of agricultural products

Agrarlabor

NIT-NET-System
150 members



Certification body
for moisture meters, bulk density and balances



First European Grain Network Meeting



The Austrian Legal System and Law

- „Maß- und Eichgesetz“: Approved measuring instruments used for trading to value grain have to be certified.
 - Moisture meters: verified and approved parameters are only moisture of grain and maize and bulk density (duty of certification every year)
 - Hopper, ¼ and 1 litre (duty of certification every two years)

- Limits of deviation to the moisture reference method (ISO 712, ISO 6540)
 - Grain till 10%: $\pm 0,3\%$
 - Grain more than 10%: $\pm (0,03 \cdot w)\%$
 - Maize till 10%: $\pm 0,4\%$
 - Maize more than 10%: $\pm (0,04 \cdot w)\%$

Moisture meters in Austria

Approval authority: "Bundesamt für Eich- und Vermessungswesen"



Infratec 1241



Granolyser



Inframatic 9500



AgriCheck



Supermatic 10 und 15



Granomat



GAC 2100



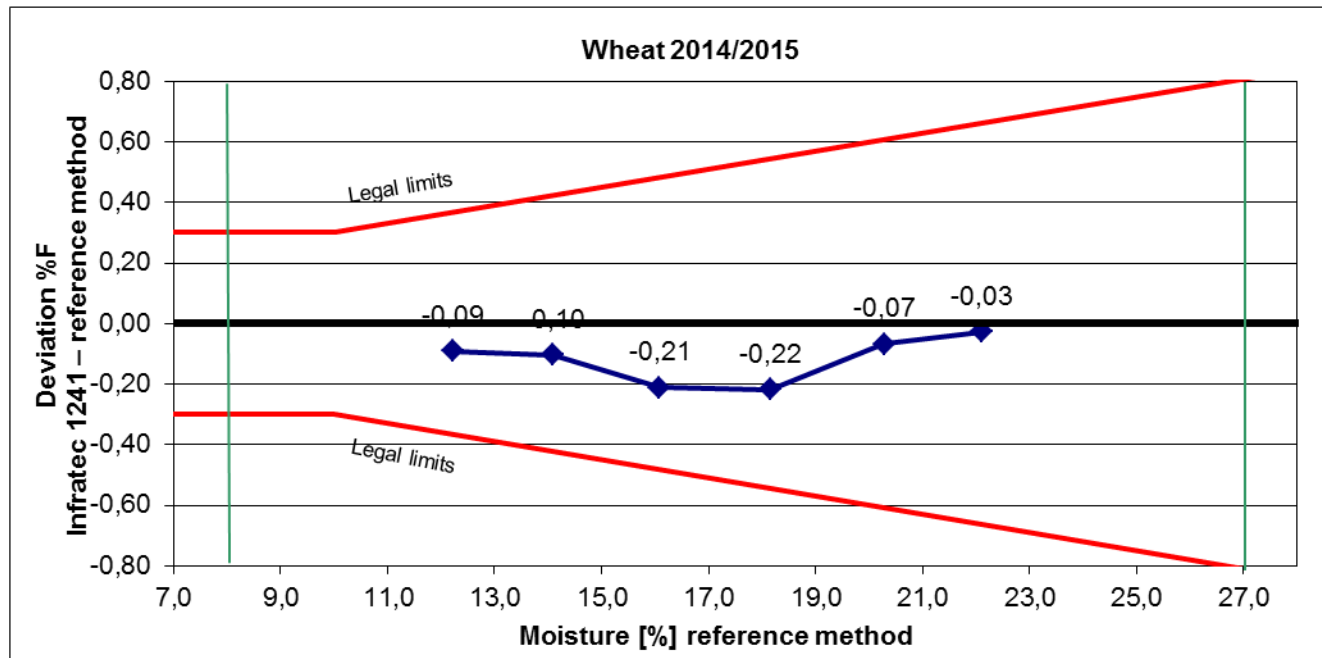
HE 90

The certification body RWA Agrarlabor

- Certification body since 2007 for
 - Moisture meters of grain and maize including bulk density
 - Hopper, ¼ and 1 litre
 - Not automatically balances used in these systems
- | |
|------------------|
| 500 – 600 a year |
| 30 – 40 a year |
| 100 – 180 a year |
- Accredited after the management system EN ISO/IEC 17025.
 - Since 2008 the only certification body for moisture meters in Austria.
 - Appointment arrangement with customers from January till July.
 - Unannounced checks by the authority; check rate 20 instruments a year.

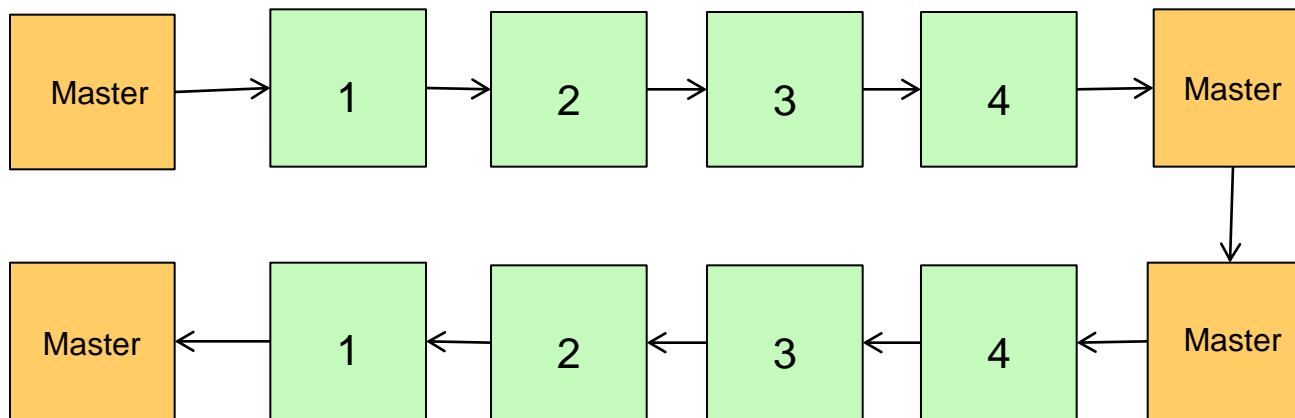
Certification procedure for moisture of grain

- Mixture of the most important varieties, 14% moisture.
- Preconditioning of the samples in 2% steps of the approved measuring range.
- Measurements with the master instrument and the reference method.



Certification procedure for moisture of grain

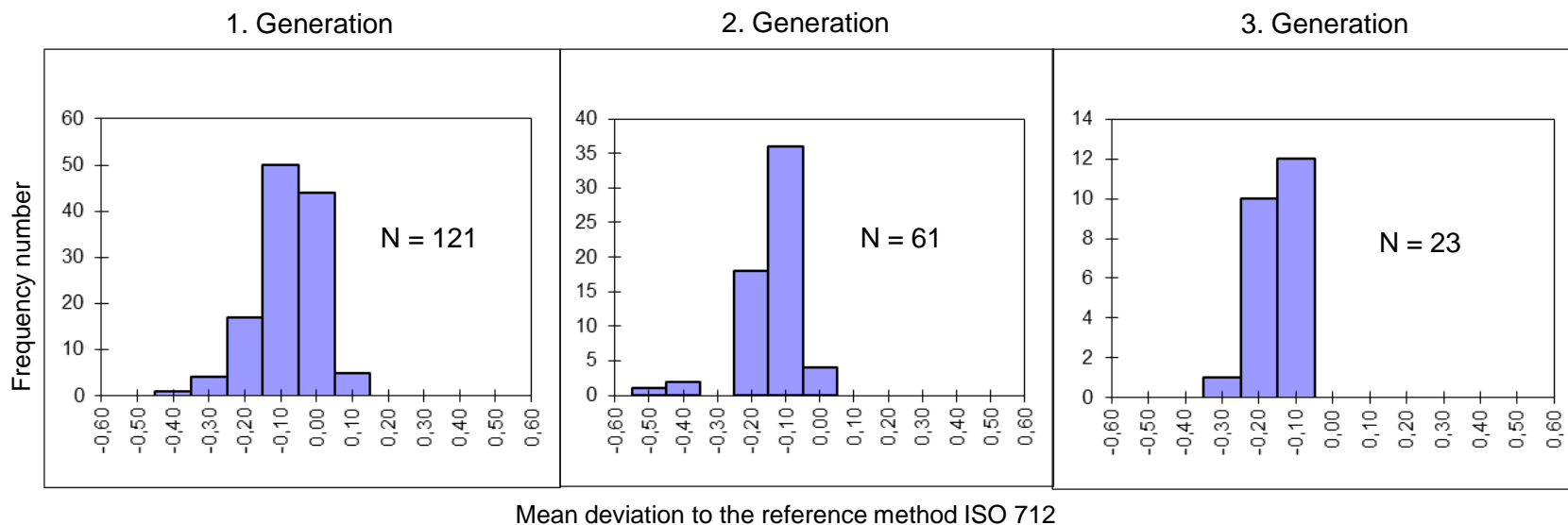
- If the calibration of the master instrument and the examinees are the same → only one sample (16%) from every specie need to be checked during certification.



- Sum of the average divergence from examinee to master + from master to the reference method \leq *legal limits*

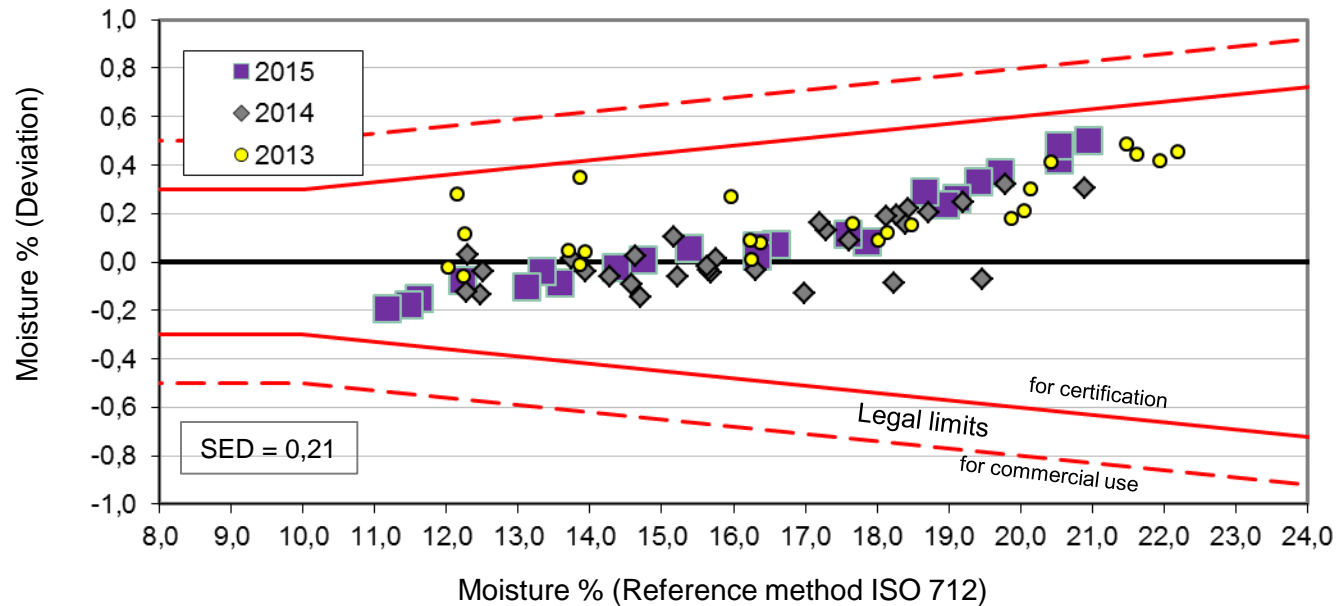
Results of the certified instruments 2015

➤ Infratec 1241, Wheat, Model: WBMO0027, Intercept moisture: +0,2



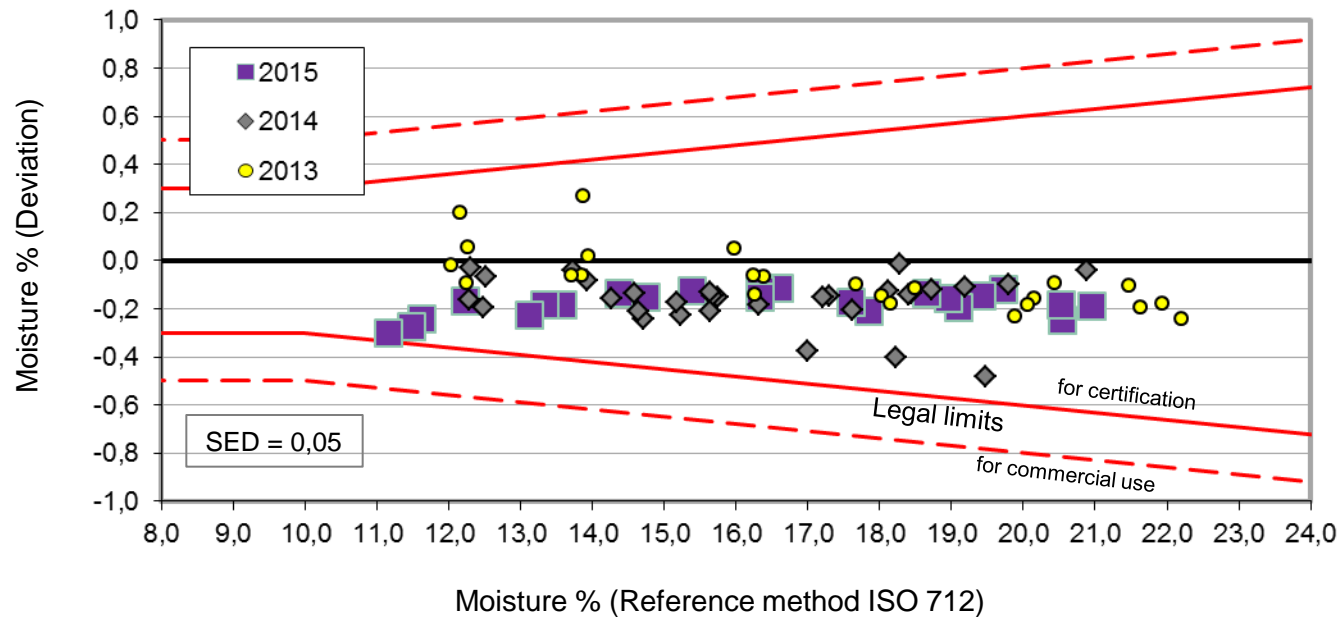
Evaluation procedure 2015

- Instrument: Infratec 1241, (1.Gen.) Model: WBMO0027, Intercept moisture: +0,2
- Sample material: WHEAT, 5 varieties, natural humid



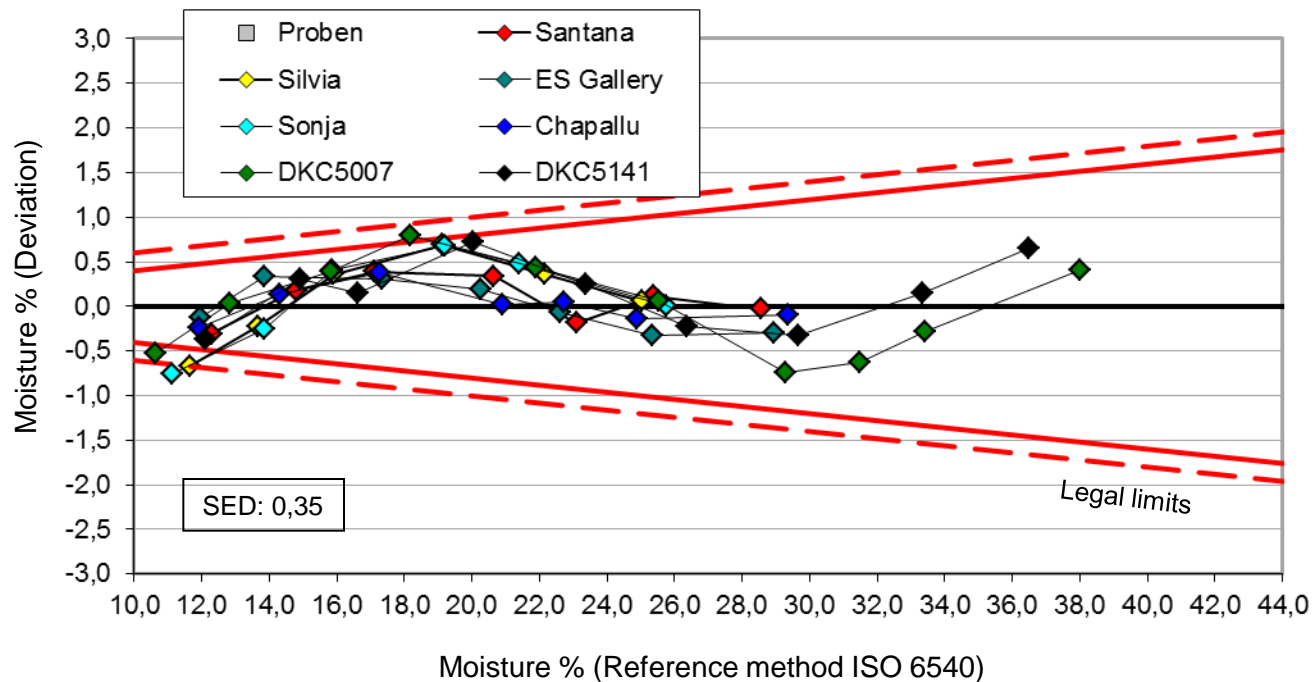
Evaluation procedure 2015

- Instrument: Infratec 1241, (3.Gen.) Model: WBMO0027, Intercept moisture: +0,2
- Sample material: WHEAT, 5 varieties, natural humid



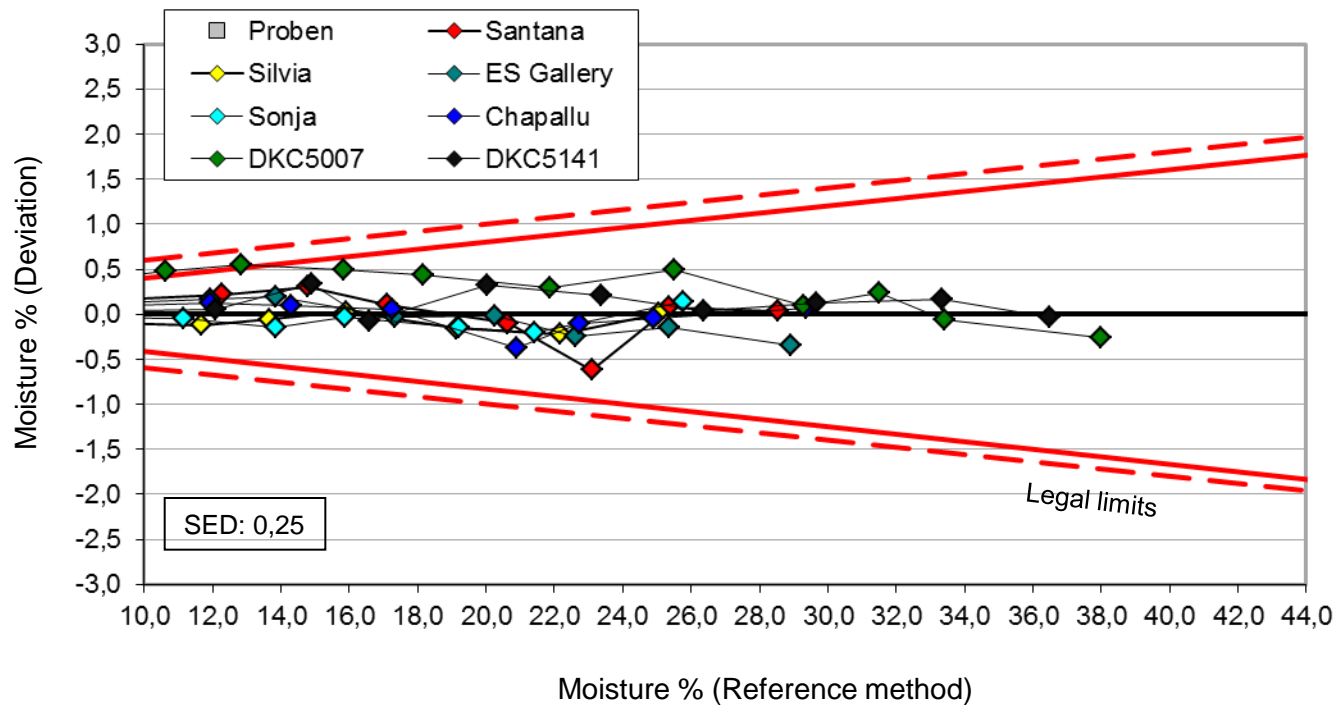
Evaluation procedure 2015

- Instrument: Infratec 1241, 3.Gen. Model: COMO0007, Intercept moisture: 1,0
- Sample material: MAIZE, 7 varieties, natural humid



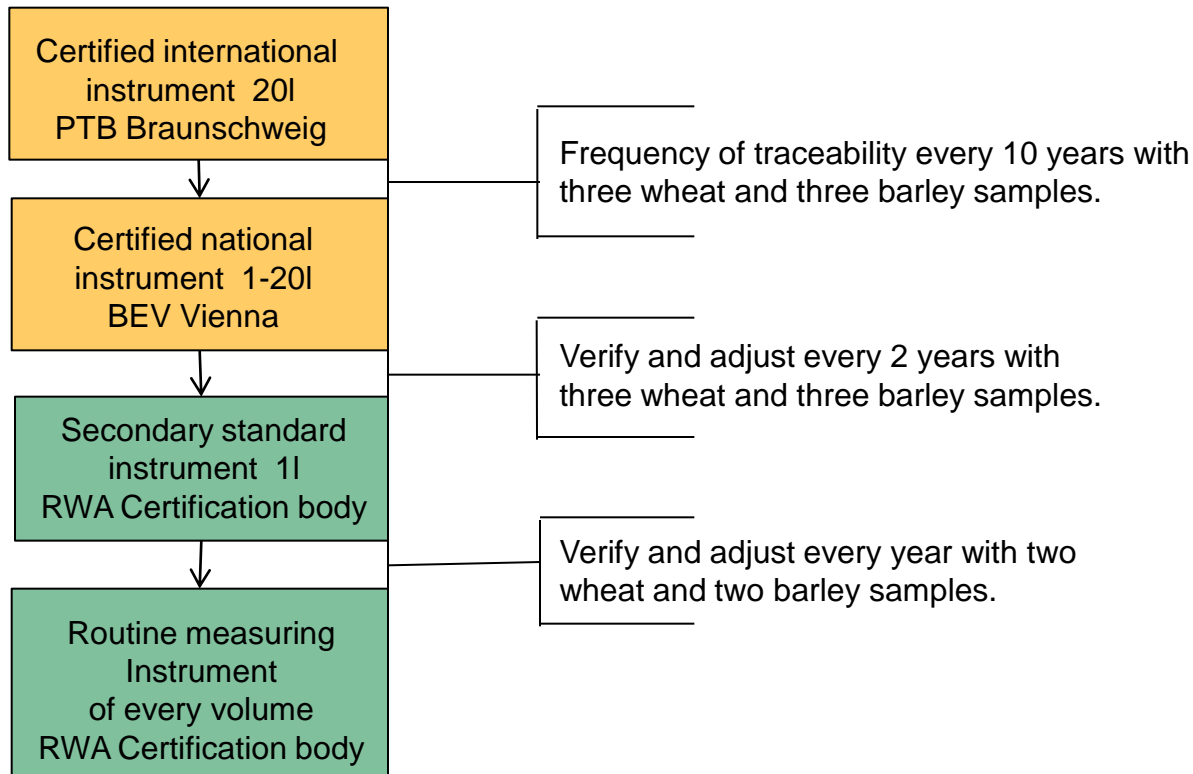
Evaluation procedure 2015

- Instrument: Infratec 1241, 3.Gen. Model: COMO0021, Intercept moisture: 1,0
- Sample material: MAIZE, 7 varieties, natural humid



Certification procedure of mass per hectolitre

- ISO 7971-2: traceability for measuring instruments through reference to the international standard instrument



Certification procedure for mass per hectolitre measuring instruments (Infratec, AgriCheck)

- Material: quality usually be harvested in Austria, clean, 9-14% of moisture
 - Wheat ... 83 kg/hl
 - Rye 75 kg/hl
 - Barley ... 67 kg/hl

- Mean of 10 measurements performed with our Secondary standard instrument (1l hopper)

- Check of the balance in the mass per hectolitre measuring instruments
 - 5 weights (200g, 300g, 400g, 500g, 600g) ... each of them 3 times
 - 150g ... one time
 - Accuracy $\leq 0,1\%$

- Mean of 5 measurements performed with the Instrument
 - Limit of the mean deviation to the mean result of the hopper: 0,5%
 - Maximum deviation of the single measurement to the mean: 0,3%

Evaluation of Infratec Test Weight Modul 2015

