



Milchprüfung Bayern e.V.



The way to reference systems and centralised calibration for milk recording testing – present status in Germany

**Joint Meeting of ICAR Reference
Laboratory Network and NALMA**

36th ICAR Session – 16 June 2006
Niagara Falls, New York, USA



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Agenda

- remarks on „reference systems“
- centralised calibration?
- present status in Germany
- outlook



remarks on reference systems

- global trade needs global validity of analytical results!
 - validity means equivalence
 - worldwide at any place
 - at any point in time
 - despite what method is used
- anywhere – anytime – anyhow

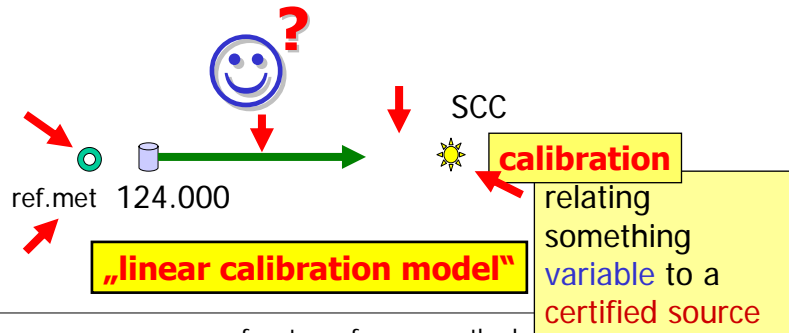


sources of „errors“ in equivalence

- reference method
- reference lab
- SRM or CRM
 - characterization
 - „quality“ (shelf life, shipment, ...)
- calibration procedure
- routine method
- information failures (missing, comparability)



calibration – the traditional way of life

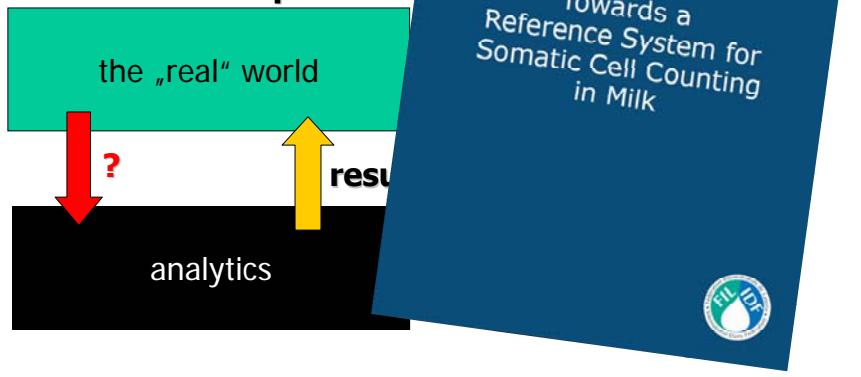


- reference lab
- routine analyzer
- secondary reference material
- ref.met = reference method
- source of „error“



the analytical problem

what about interpretation





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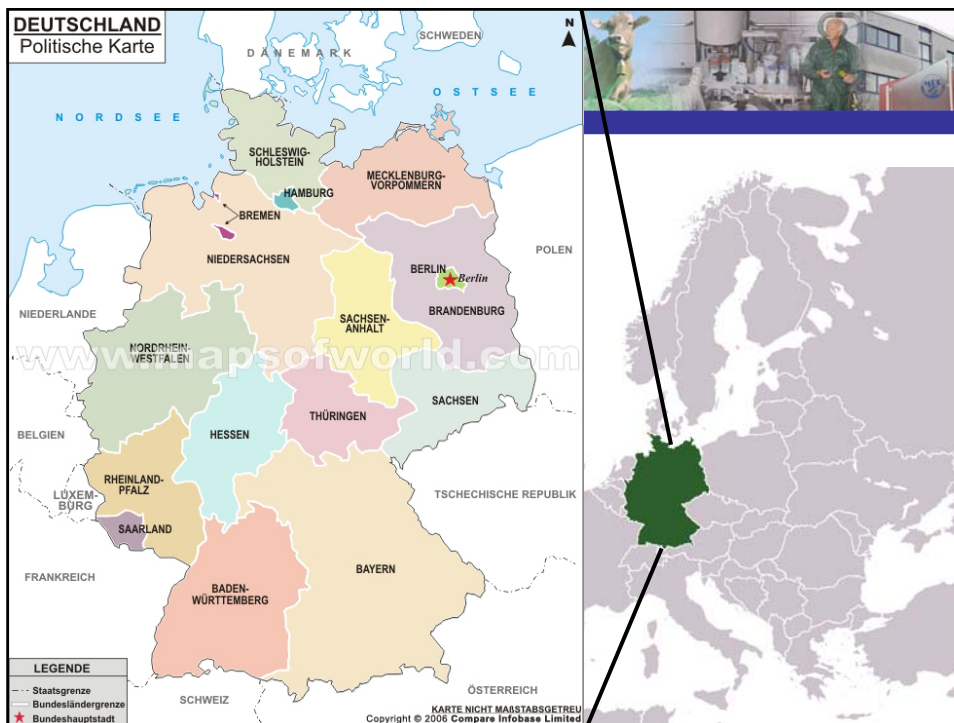


do we need

- we need routine
 - high
 - high
 - data
 - low
- traditional methods should be interlinked to reduce equivalence errors

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situation in Germany (12.2007)

- 65.850 farms under DHI (of 95.870)
- 3.514.000 cows under DHI (of 4.730.000)
- ~35 mio. DHI samples
- 19 labs, ~330 staff
- ~50 kombi-analyzers



sources of „error“

interlaboratory
reference system

- reference method
- reference lab
- SRM or CRM
 - characterization
 - „quality“ (shelf life)

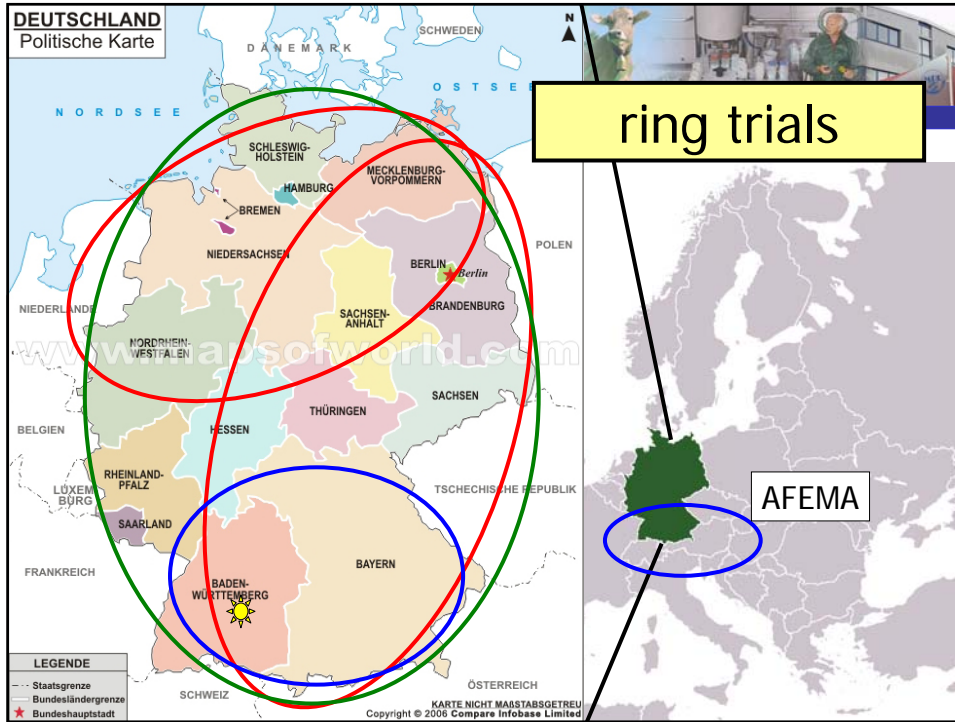
fat	protein	SCC	urea
✓	✓	✓	✓
~10	~10	?	✓
3-5	3-5	2	?

QSE – deep frozen RM
(8 ref.labs – very long shelf life)

lab QA

- calibration procedure
- routine method
- information failures (missing, comparability)





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Ringuntersuchung vom 13. Mrz 08

--- Fettgehalt % ---

Nr.	Labor	Gerät	S/N	Median aus 5 Ergebnissen			Abweichung zum IR-Mittelwert			Abweichung zum Ref. Mittelwert						
				Milch 4	Milch 5	Milch 6	Milch 4	Milch 5	Milch 6	Milch 4	Milch 5	Milch 6				
1	Kirchheim	MSC	1810-2000-02	4,32	3,99	4,60	0,00	0	-0,01	-1	0,01	1	0,00	0	0,00	0
2	Kirchheim	MSC	2810-2000-01	4,34	4,02	4,62	0,02	2	0,02	2	0,01	1	0,03	3	0,03	3
3	Kirchheim	MSC	0110-1999-02	4,32	4,00	4,61	0,00	0	0,00	0	0,00	0	0,01	1	0,01	1
4	Kirchheim	MSC	1904-2000-01	4,31	3,99	4,61	0,00	0	-0,01	-1	0,00	0	0,00	0	0,01	1
7	Ravensburg	MSC	1810-00-04	4,31	3,99	4,60	-0,01	-1	-0,01	-1	-0,01	-1	0,00	0	0,00	0
8	Ravensburg	MSC	0109-00-04	4,32	4,00	4,62	0,00	0	0,00	0	0,01	1	0,01	1	0,02	2
9	Ravensburg	MSC	1810-00-03	4,32	4,00	4,61	0,00	0	0,00	0	0,01	1	0,00	0	0,02	2
Standardabweichung				0,01	0,01	0,01	0,00	0	0,00	0	0,01	1	0,00	0	0,00	0
IR-Mittelwert				4,320	3,999	4,610										
Referenzwert RV				4,30	4,00	4,62										
Referenzwert WG				4,34	4,00	4,62										
Referenzwert K ^{1106/08}				4,33	3,99	4,57										
Referenzwert LUFA				4,27	3,95	4,57										
Referenzwert MVF				4,31	4,01	4,62										
Ref. Mittelwert ϕ				4,310	3,994	4,600										

zum Zeitpunkt des ICAR-Ring

*Grenzwert 0,04%
*Vergleichsuntersuchung_1106.viv
Fett-Tab. gedruckt am: 19.06.2008



outlook

- Analytical people are more and more aware that equivalency means cooperation on all levels – locally – nationally – internationally!
- International structures for implementation of reference systems are missing so far. What can ICAR do?
- Joint new work item with IDF on reference systems! Centralised calibration is one issue...