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# ***2001 ICAR Questionnaire on interlaboratory quality control in DHI laboratories***

## ***Summary of replies***

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# Replies (1)

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	<i>cow</i>	<i>goat</i>	<i>sheep</i>	<i>buffalo</i>
<i>Austria</i>	X			
<i>Belgium</i>	X	X	X	
<i>Cyprus</i>	X	X	X	
<i>Czech Republic</i>	X			
<i>Denmark</i>	X			
<i>Germany</i>	X	X	X	
<i>Estonia</i>	X			
<i>Finland</i>	X			
<i>France</i>	X	X	X	
<i>Hungary</i>	X			
<i>Ireland</i>	X			
<i>Israel</i>	X			
<i>Italy</i>	X	X	X	X
<i>Korea</i>	X			



# Replies (2)

	<i>cow</i>	<i>goat</i>	<i>sheep</i>	<i>buffalo</i>
<i>Lebanon</i>	X			
<i>Luxembourg</i>	X			
<i>Netherlands</i>	X	X	X	
<i>New Zealand</i>	X			
<i>Norway</i>	X	X		
<i>Slovenia</i>	X	X	X	
<i>Spain</i>	X	X	X	
<i>South Africa</i>	X			
<i>Switzerland</i>	X			
<i>Tunisia</i>	X			
<i>United Kingdom</i>	X			
<i>United Kingdom - Jersey</i>	X			

**Total** 26 9 8 1

**Non-responding: 22**



# Approvals, certification, accreditation

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- Laboratory approvals:  
in 19 countries
- ISO 9000 certification:  
20+ % of labs in 9 countries
- ISO 45001/17025 accreditation:  
20+ % of labs in 5 countries



# Evaluation of new methods

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- Evaluation of new methods:
  - procedure for approval: 14 countries
  - body for approval: 16 countries



# Interlaboratory QA activities

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- National guidelines on QA:  
(all parameters or partly) 15 countries
- Regional/national program with IL comparisons:  
(frequencies: weekly - half-yearly)  
17 countries
- Participation in international comparisons:  
20 countries



• Specific QA activities reported

for goat and sheep milk are limited

# Milk recording samples

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- Milk sample volume

< 15 ml	1
18 - 30 ml	13
31 - 50 ml	11
> 50 ml	1

- Sample preservation

bronopol

potassium dichromate

sodium azide

broad spectrum microtabs



# Reference methods (1)

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## *fat*

Röse-Gottlieb

Gerber

IR?

## *protein*

Kjeldahl (6.38)

amido black

IR?

## *lactose*

enzymatic

HPLC

gravimetric

polarimetric

pH-difference

chloramine-T

## *urea*

pH-difference

colorimetric

## **SCC**

DMSCC

Fossomatic





# Calibration samples

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	<i>F</i>	<i>P</i>	<i>L</i>	<i>U</i>	<i>SCC</i>
bulk milk	14	12	10	6	10
ind. cows milk	7	6	7	9	8
modified milk samples (IDF 141 for F,P,L)	10	10	7	2	6
other	4	3	3	2	3
no calibration samples	1	1			7

majority calibrates at least monthly

and after repairs/maintenance



# Control samples

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	<i>F</i>	<i>P</i>	<i>L</i>	<i>U</i>	<i>SCC</i>
bulk milk	18	17	14	11	19
ind. cows milk	3	4	4	8	4
modified milk samples (IDF 141 for F,P,L)	4	4	4	2	6
other	8	8	7	3	2

percentage of control samples: 0.2 - 10 %



specific goat and sheep milk control samples

# Resumé

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- Many labs approved
- Certification and accreditation gradually underway
- Networks with (I)IL comparisons are operational
- Reference for fat and protein beyond debate,  
attention required for lactose, (urea,) SCC
- Different sources for calibration and pilot milks
- Specific QA activities for

non-cow species are limited

