Delta Instrument localizzata…..

Distributore Italiano

Astori Technica

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Prodotti DELTA

DeltaInstruments
An Advanced Instruments Company

Combi Scope FTIR 600

600 Campioni/h
Automatico
Led Flow Cytometer

Lactoscope Ftir advanced

100 campioni/h
Manuale,
Analizzatore
multicomponente

Lactoscope C4+

100 campioni/h
Manuale
4 compoment analyzer

Soma*Scope* Smart

100 campioni/h
Manuale
Led Flow Cytometer

Analytical Science in Dairy

Mercato Combiscope
Central Milk testing (CMT)
Laboratori centalizzati del settore lattiero caseario

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- Laboratori che eseguono i controlli funzionali
- Dairy Herd Improvements(DHI)

- Laboratori per il pagamento Latte Qualità
- Impianti di trasformazione lattiero caseario

Validazione FT IR

Ripetibilità

Accuratezza e trasferimento dei modelli di calibrazione

Combi 600

600 Campioni/h
Automatico
Led Flow Cytometer

FTA

100 campioni/h
Manuale

- **Eccellente ripetibilità a breve e lungo termine r e r intralaboratorio**
- **Accurata determinazione dell'urea e delle proteine**
- **Possibilità di trasferimento del modello di calibrazione**

Patrick Cree
Hendrik de Vries

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Specification Combiscope FTIR 600/300 HP/CP

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Additional test results full spectrum calibration models

Fatty acids in milk	Range	SD(y)	SECV	RPD
Saturated %mm	0.13 - 4.09%	0.65	0.031	20.9
Unsaturated %mm	0.06 - 1.98%	0.29	0.035	8.5
PolySaturated%mm	0.05 - 1.76%	0.25	0.034	7.6
MonoSaturated%mm	0.01 - 0.24%	0.04	0.017	2.5
C16:0 %mm	0.06 - 1.88%	0.28	0.042	6.6
C18:0 %mm	0.02 - 0.83%	0.14	0.043	3.3
C18:1 trans %mm	0.04 - 1.53%	0.21	0.035	6.0

SECV = standard error of cross validation, cyclic and leaving out #1 sample at the time. RPD = SD(y)/SECV

IDF and AOAC approved methods

Component	Range	Performance range	Repeatability	Accuracy bulk	Accuracy single Cow
Fat (A)	0-15%	2-15%	Cv<0.5%	Cv<1%	Cv<2.0%
Fat (B)	0.15%	2-15%	Cv<0.5%	Cv<1%	Cv<1.5%
Protein	0-10%	2-15%	Cv<0.5%	Cv<1%	Cv<1.5%
Lactose	0-10%	2-15%	Cv<0.5%	Cv<1%	Cv<1.5%
Solids	0-20%	2-20%	Cv<0.5%	Cv<1%	Cv<1.5%

Somatic Cell counting

Range 0-10000K cells/ml, performance range 0-2000K cells

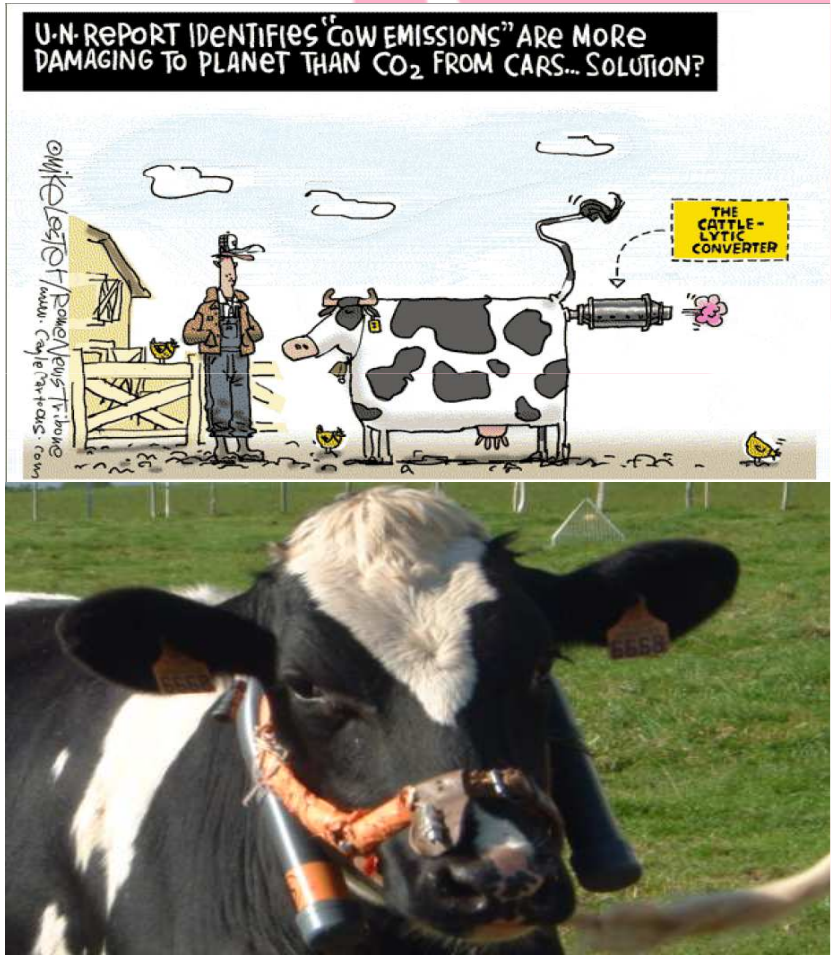
Level	Repeatability	Accuracy
100K cells/ml	Cv<6%	<10%
100K-500K cells/ml	Cv<4%	<10%
500K-2000K cells/ml	Cv<3%	<10%

2nd App: Metano e acidi grassi del latte

Methane (CH_4) – greenhouse gas emissions

CH_4 by ruminating cows

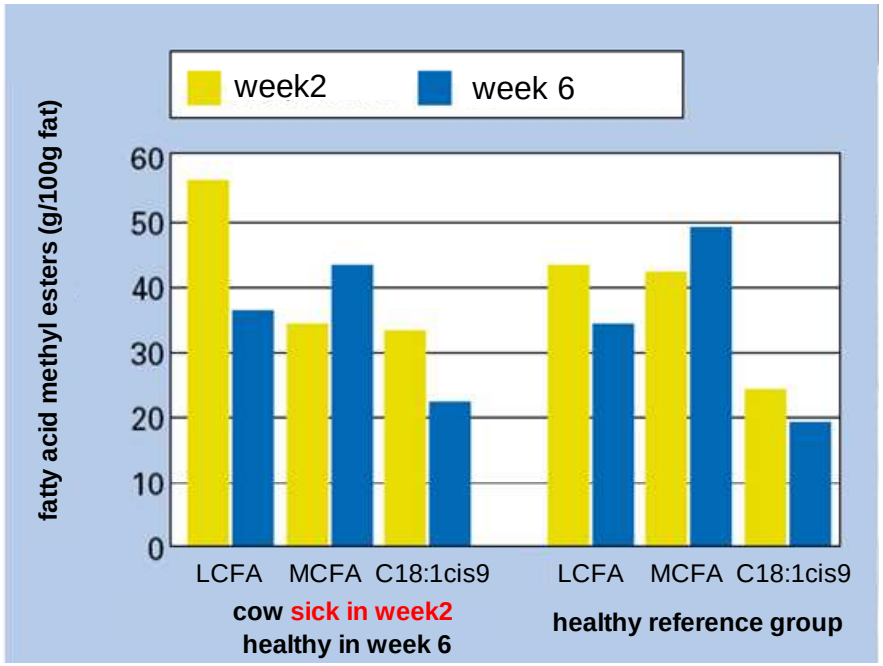
Chilliard et al. (2009) JDS, *92*: 5199-5211

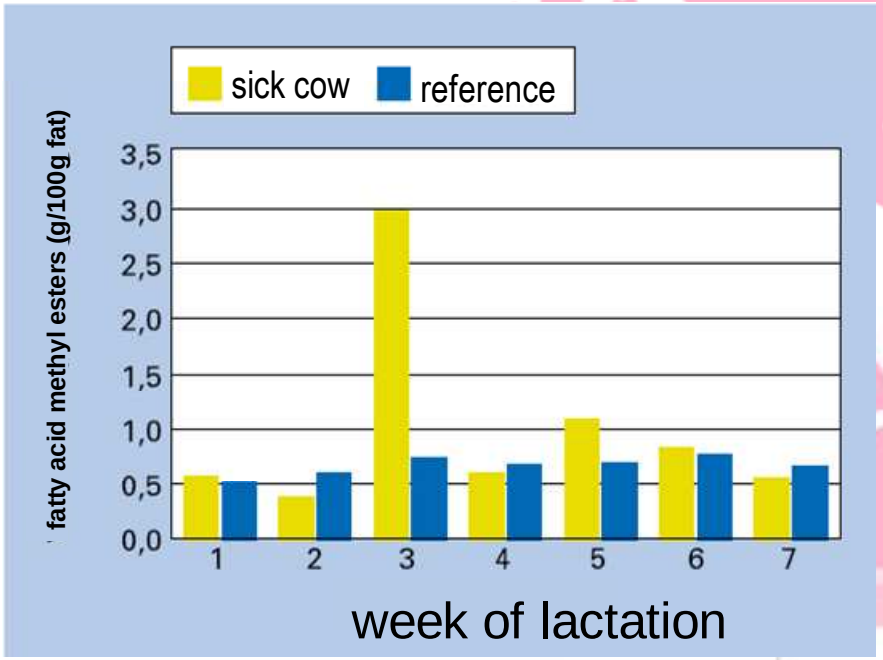


3rd App: Salute animale& alimentazione Acetone?

Salute dell'animale- predizione ac.grassi– University Gent B.

Chetosi dall'incremento C18:1cis9 & LCFA Acidosi da C18:1 trans9&10





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Chetosi & Alimentazione: studi in corso presso Gembloux & Cornell

Pacchetto Adulteranti (incluso)

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- Un set di calibrazioni dedicate nello spettro dell’ IR che posso individuare gli adulteranti.

  Semplicemente applicato ai livelli minimi e massimi

Pacchetto Adulteranti

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Protein (02 01)	parm021=	Protein standard milk model
NPN/CU (05 01)	parm051=	NPN/CU in mg urea/100g,
NPN/CU (05 02)	parm052=	NPN/CU as M.U.N./100g = in mgN/100g,
NPN/CM (05 60)	parm056=	NPN/CM in mg melamine/kg,
NPN/CA(05 70)	parm057=	NPN/CA in mg Amonium NH3/kg,
Conductivity (08 02)	parm082=	C*, sample conductivity in mS, *: C = max 20mS
Citrate (11 01)	parm111=	Citric acid/Citrate in milk PLS model
FFA (12 02)	parm122=	Free Fatty Acids
pH (14 01)	parm141=	pH of raw milk valid in the pH-range: 5.4-6.6
Sucrose (61 03)	parm613=	Sucrose %m/m milk added sugar
Melamine (73 00)	parm730=	Melamine in mg/kg
Melamine pH (73 01)	parm731=	Melamine pH corrected in mg/kg
	derived parameter	
	parm957=	Fat (Comprehensive Global Fat
Fat (95 07)	model)	
Sat Fat (96 01)	parm961=	Saturated Fat %m/m
Unsat Fat (96 02)	parm962=	Unsaturated Fat %m/m
Cis Fatty Acids (97 09)	parm979=	Cis Fat %m/m
Trans Fatty Acids (98 00)	parm980=	Trans Fat %m/m

Livello di rilevazione adulteranti

FTIR

Limite di rilevazione non inferiore a 300ppm (PCA-Principal Component Analyses)

Con modelli di calibrazione specifici è possibile ottenere limiti di rilevazione 100 ppm (es.melamina)

Validazione Cellule Somatiche

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Ripetibilità
Accuratezza e trasferimento dei modelli di calibrazione

Combi 600

600 campioni/h
Automatico
Led Flow Cytometer

Soma*Scope* Smart

100 campioni/h
Manuale
Led Flow Cytometer

Campioni Usati

- Latte crudo
- Materiali di riferiemnto Qlip

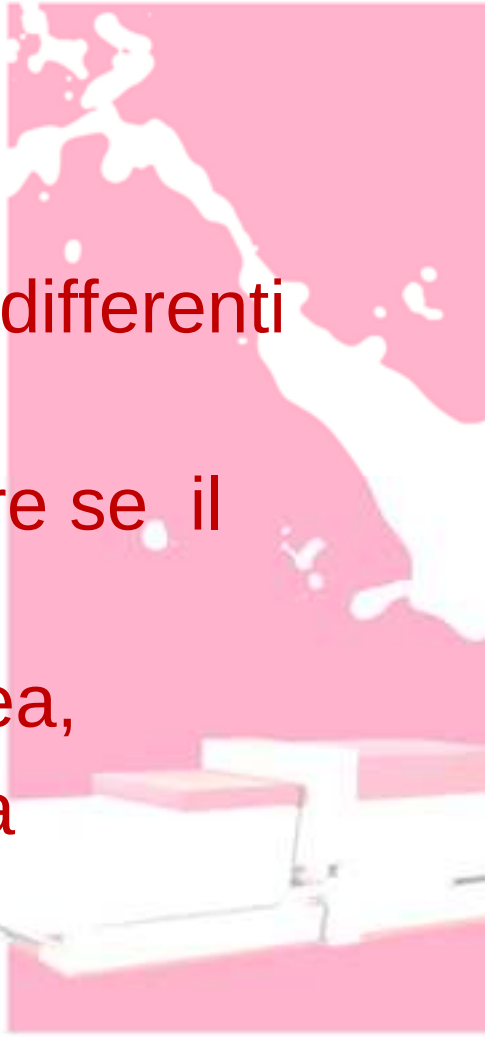
Analytical Science in Dairy

Patrick Cree
Hendrik de Vries

LED-Flow Cytometer (LFC)

doppio sistema di rilevazione

- Rilevazione delle cellule somatiche a 2 differenti lunghezze d'onda
- Questo sistema è in grado di evidenziare se il dato prodotto è accurato oppure se:
- La qualità del campione non è idonea,
  La soluzione colorante non è idonea
  Ci sono problemi strumentali



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Software

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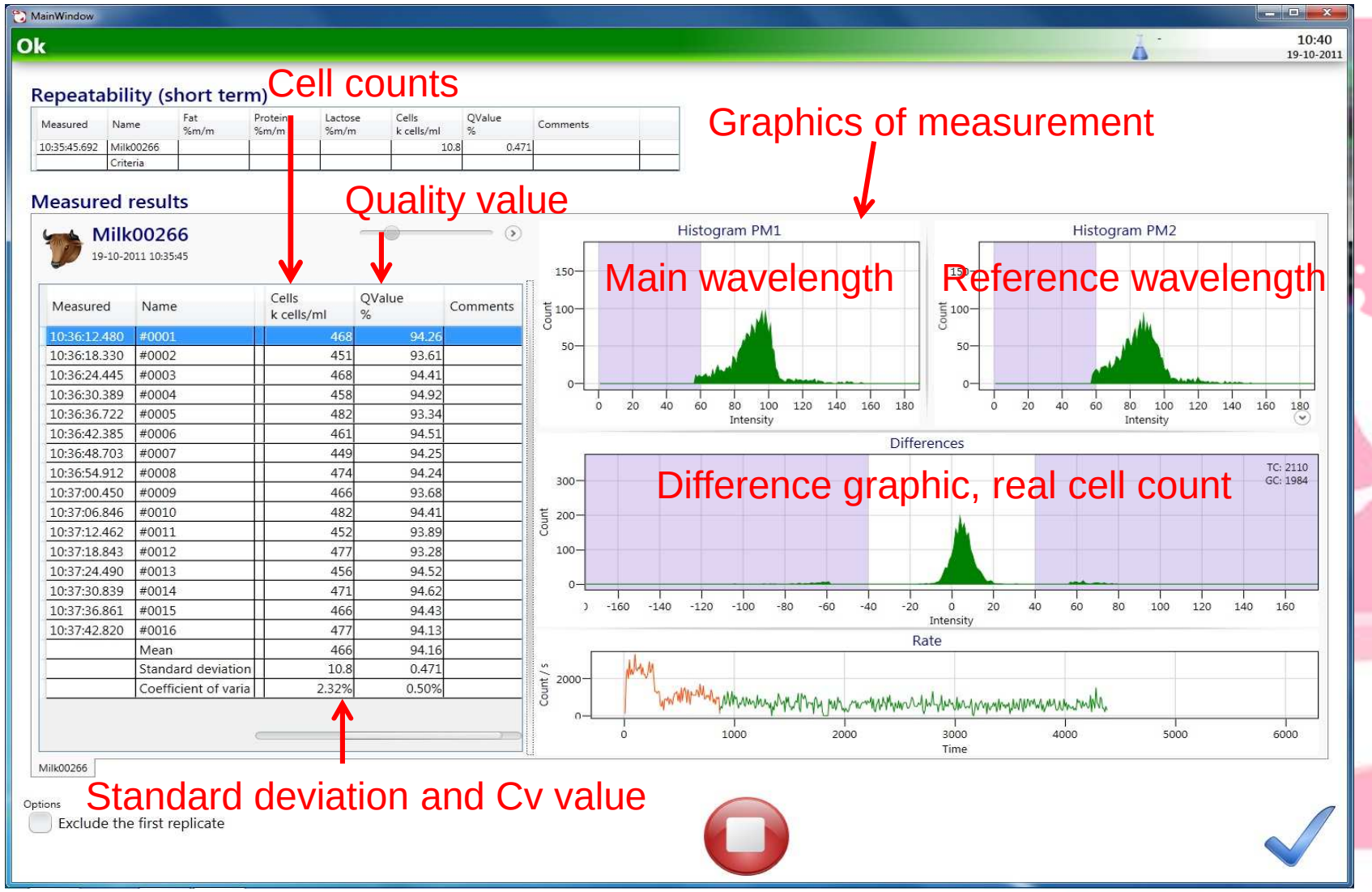

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CombiScope software

- L’utilizzo semplice del software e lo schermo touch screen farà si che lavorare con :

CombiScope 600/300 HP/CP

SARA’ UN PIACERE

Network scientifico

- **Belgium, Gembloux**

CombiScope FTIR 400

- **USA Cornell University**, Dave Barbano

CombiScope FTIR 400

- **Brazil University Federal Minas Gerais**,

Leorges Moraes da Fonseca

Network of 9 CombiScope FTIR 400

- **Germany, LUFA**

Frau Fehrmann-Reese

LactoScope FTIR Advanced

- **Italy, Associazione Italiana Allevatori**

Silvia Orlandini

Somascope Smart

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Progetto IDF/ICAR Reference System on Somatic Cell

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IDF/ICAR Project on Reference System for Somatic Cell Counting in Milk

NEWSLETTER 3 - July, 2011

Routine somatic cell counting in milk is largely performed with automated instruments. The accuracy of the counting level of these worldwide spread instruments is checked with various available reference materials. It is noted that most reference material providers are involved in intercomparisons with other reference material providers. These intercomparisons are very valuable as a beginning of a globally interlinked networked reference system. The implementation of such a global system for somatic cell counting in milk is the challenging target of the joint IDF/ICAR project group.*

** ICAR = International Committee for Animal Recording*

Outcome of questionnaire for routine laboratories

By Silvia Orlandini*, Véronique Ninane** and Ute Braun***

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Achieving better equivalence in somatic cell counting requires a thorough understanding of the current status with applied systems for ensuring the accuracy of the analyses performed worldwide. The questionnaire dispatched to reference material providers in early 2010 brought a good overview of the available reference materials. A second questionnaire on the use of these reference materials and the calibration of routine instruments was dispatched to routine laboratories in November 2010. The main outcome of the 205 (!) received replies is summarized below.

Analytical context

As a first part, a brief inventory was made on the type of instruments and technologies, the tools for control and the calibration procedures. From the answers received it appeared that there is confusion between the terms calibration and calibration adjustment. Adjustment does not seem to be practiced extensively, only 30 % of the laboratories reported a limit of tolerance for slope and bias deviations. Many laboratories seem simply to recalibrate, even if the deviations are within tolerances.

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