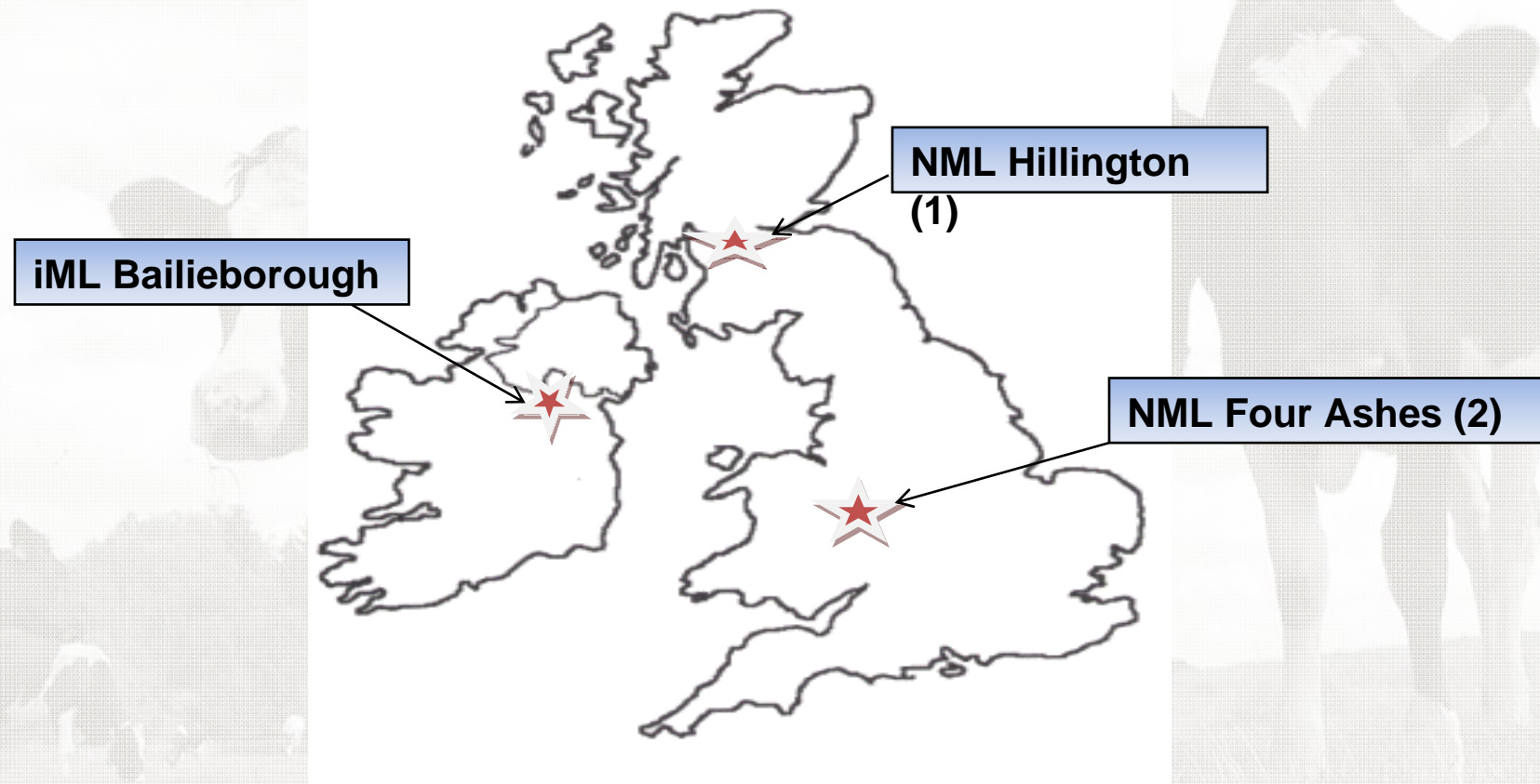


ICAR conference 2017 - Edinburgh

Paul O'Brien
Group Quality Manager

NMR Sites- QA Staffing



Quality Assurance – Where to start?

ISO 17025:2005

**General requirements for the competence of
testing and calibration laboratories**

25 clauses detailing Management Requirements

29 clauses detailing Technical Requirements

The United Kingdom Accreditation Service - UKAS



2051



2700

★ The ICAR Certificate of Quality ★

issued by
United Kingdom Accreditation Service
 2 Pine Trees, Chertsey Lane, Staines-Upon-Thames, TW18 3HR



Accredited to
 ISO/IEC 17025:2005

National Milk Laboratories Limited

Issue No: 020 Issue date: 05 April 2017

32 Kelvin Avenue
 Hillington Park
 Glasgow
 Scotland
 G52 4LT

Contact: Mr Paul O'Brien
 Tel: +44 (0)141 892 6280
 Fax: +44(0)141 891 8850
 E-Mail: paulob@nationalmilklabs.co.uk

Testing performed at the above address only

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used
LIQUID MILK	<u>Compositional Tests</u>	In-House Documented Methods Automated Infra-red analysis based on ISO 9622 / IDF 141C:2013 using the Combifoss 6000 Analyser
	Butterfat content Protein content Lactose content Urea content	
	Casein	SOP534 based on BS EN ISO 5764:2009
	Freezing Point Depression (FPD)	
	<u>Biological Tests</u>	
	Somatic cell count (SCC)	Automated fluorescent staining and electronic cell counting using the Fossomatic analyser based on BS EN ISO 13366-2:2008
Total bacterial count	Documented in-house procedures using Bactoscan FC based on manufacturers' recommended method	
Detection of Antibiotics and Inhibitory substances	SOP019 using Bacillus stearothermophilus by Delvo T test	



- **>90,000 Euros invested annually in reference materials and proficiency testing**
- **>80 Rounds of proficiency scheme testing**
- **42 Internal audits**
- **~400 controlled documents**
- **~500 registered items of equipment**

Internal QA/QC Measures

- **Daily checks using UHT and raw milk**
- **Daily comparison across Combifoss instruments**
- **Weekly reference checks for somatic cell count**
- **Scheduled monthly calibration**
- **Repeatability checks**
- **Daily Internal Quality Assessment (IQA) Samples**

Reference Materials and Standards

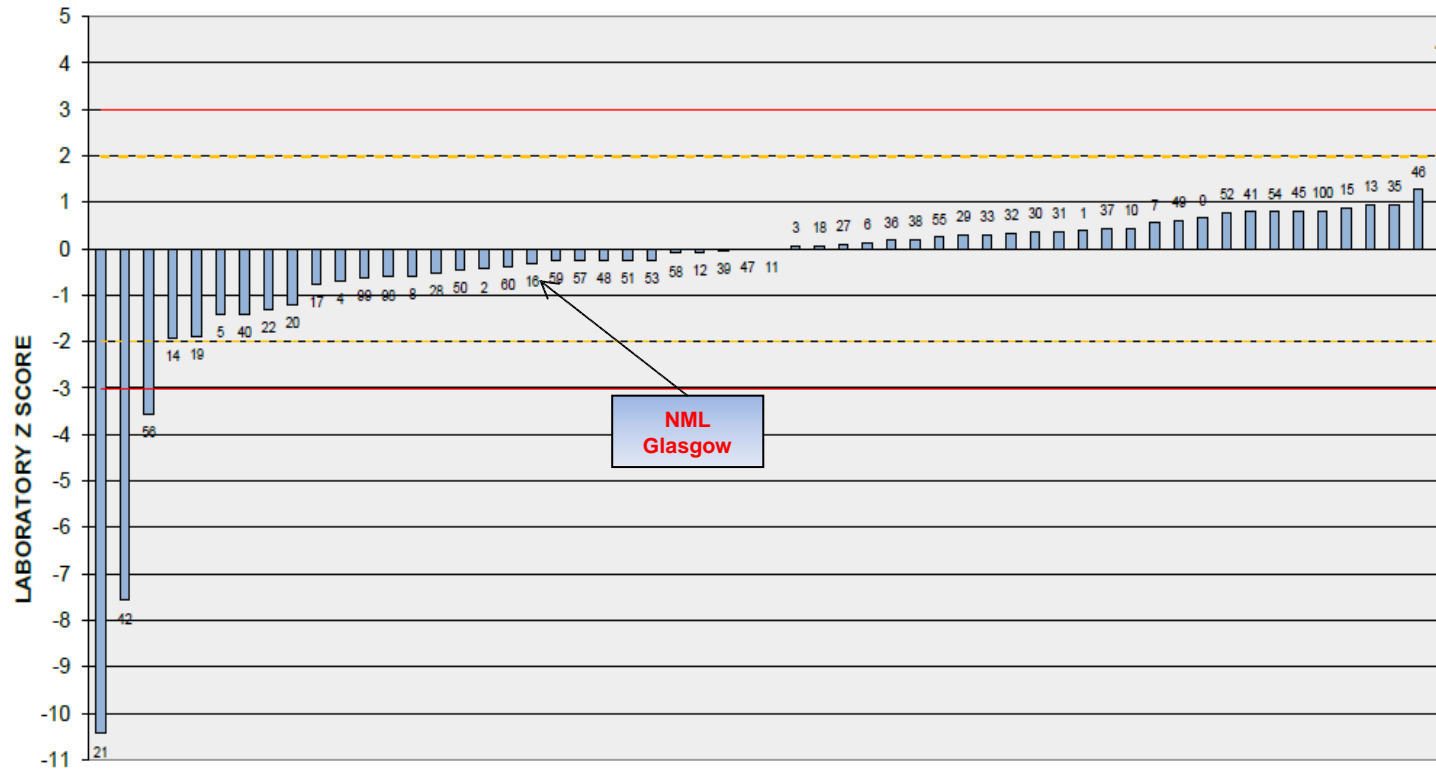
Component	Supplier	Country of Origin
Fat, Protein, Lactose	DRRR	Germany
Somatic Cell Count	MIH	Germany
Bactoscan	MIH	Germany
FPD	QCL and DRRR	UK and Germany
Urea	QSE	Germany
Antibiotics	DSM	Netherlands

External Quality Assessment



Scheme	Test Parameter
Qlip	Butterfat, Protein, Lactose, Freezing Point, Antibiotics
DRRR	Butterfat, Protein, Lactose, Freezing Point, Urea, Casein, pH
DairyQC	Somatic cell count, Urea, Bactoscan
Hüfner	Somatic cell count, Bactoscan
CRA-W	Fat, Protein
ILVO	Fat, Protein
Thermofisher	Mastitis Pathogens by PCR
QSE	Pregnancy Associated Glycoprotein
Cecalait	Antibiotics
LGC	Coliforms, TVC
GD Deventer	MAP Ab, BVD Ag, BVD RNA
APHA	BVD Ab, BVD Ag, BVD RNA, IBR Ab, Leptospira hardjo Ab, Fasciola hepatica Ab
Campden BRI	TVC, Coliforms, Thermoduric bacteria
NML IQA	Butterfat, Protein, Lactose, Freezing Point, Urea, Casein, SFA, UFA, MUFA, PUFA, C18:1, C16:0, C18:0, Antibiotics

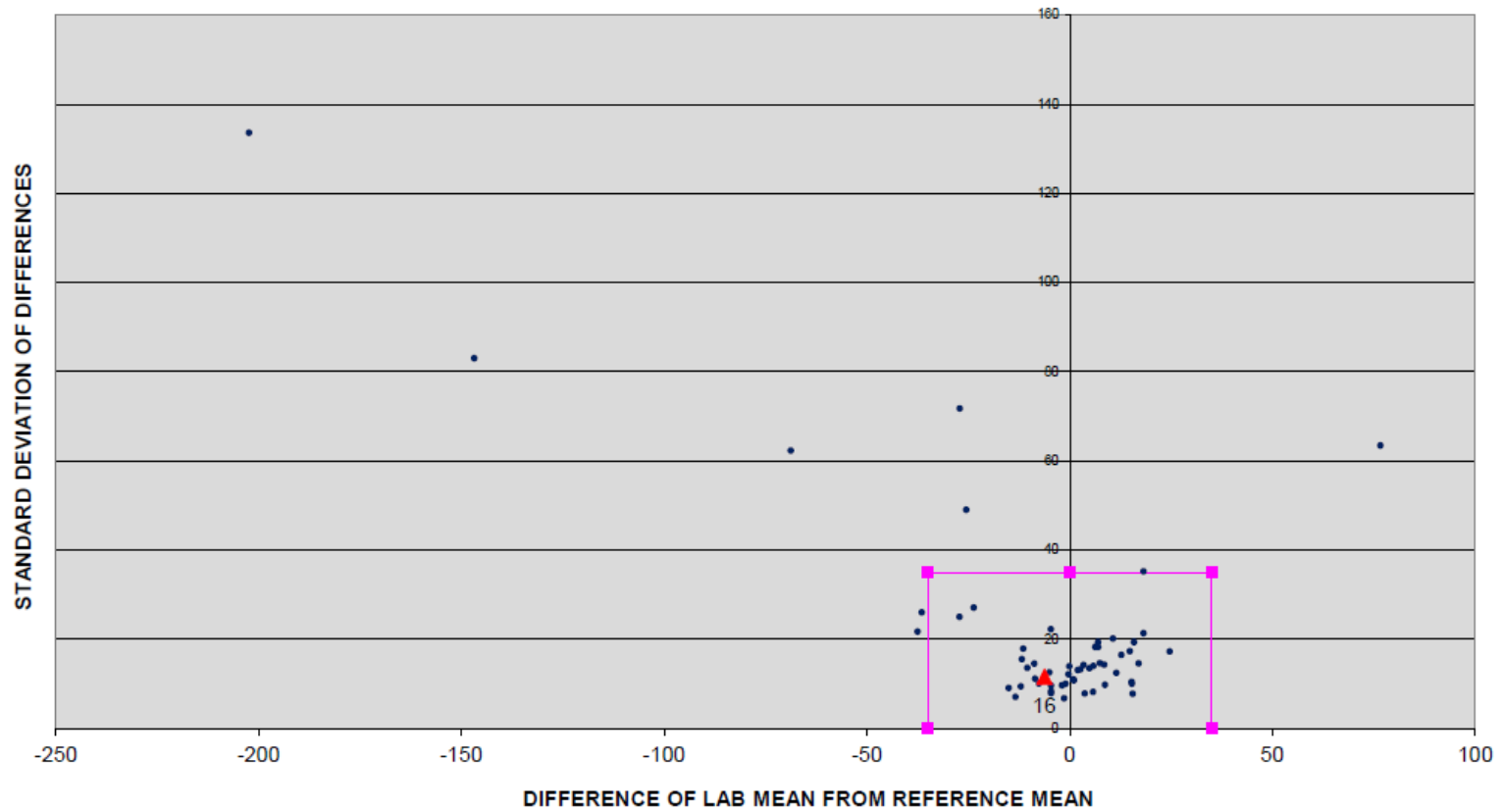
**PROFICIENCY TEST SOMATIC CELL COUNT - APRIL 2017
Z SCORE CHART**

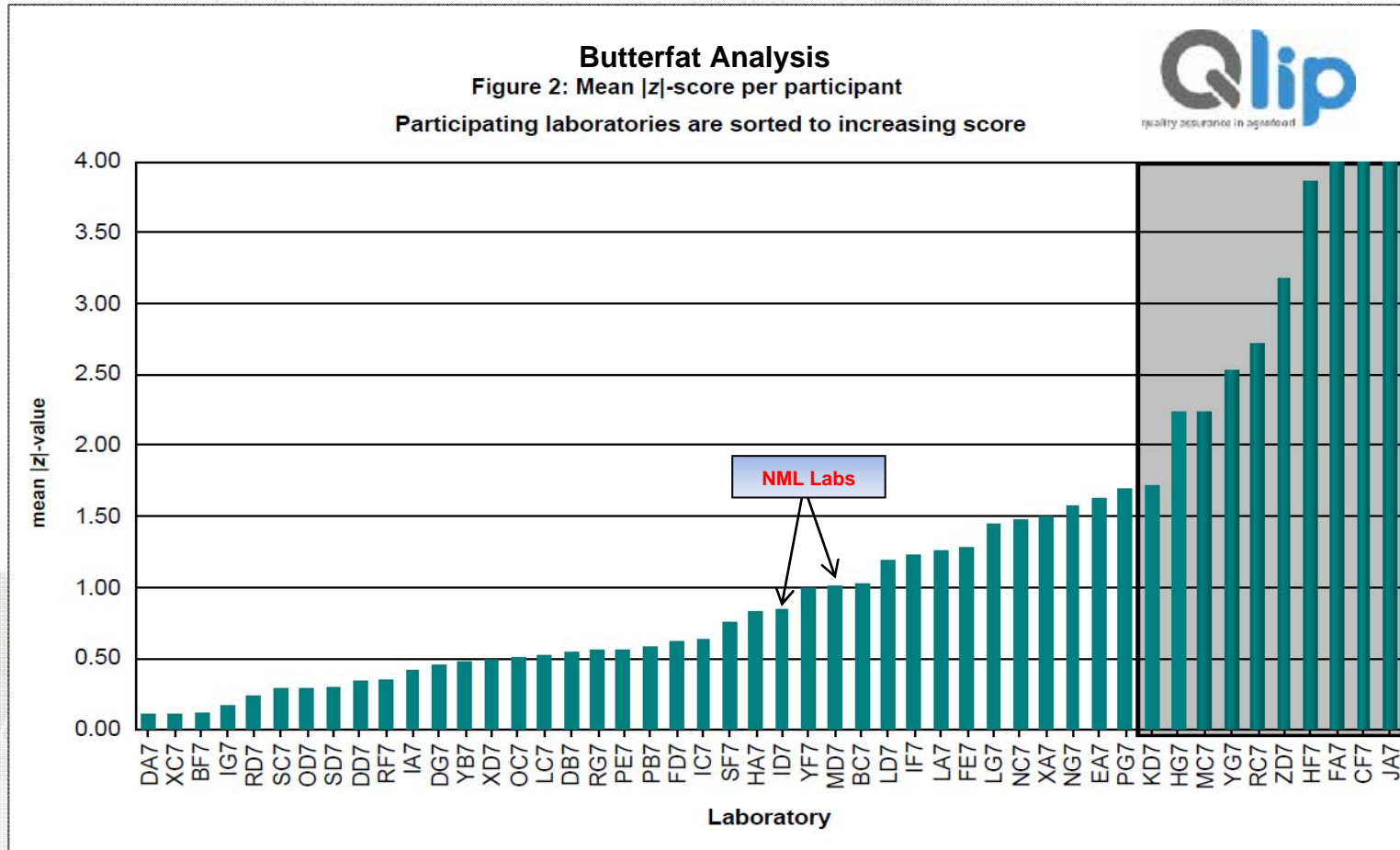


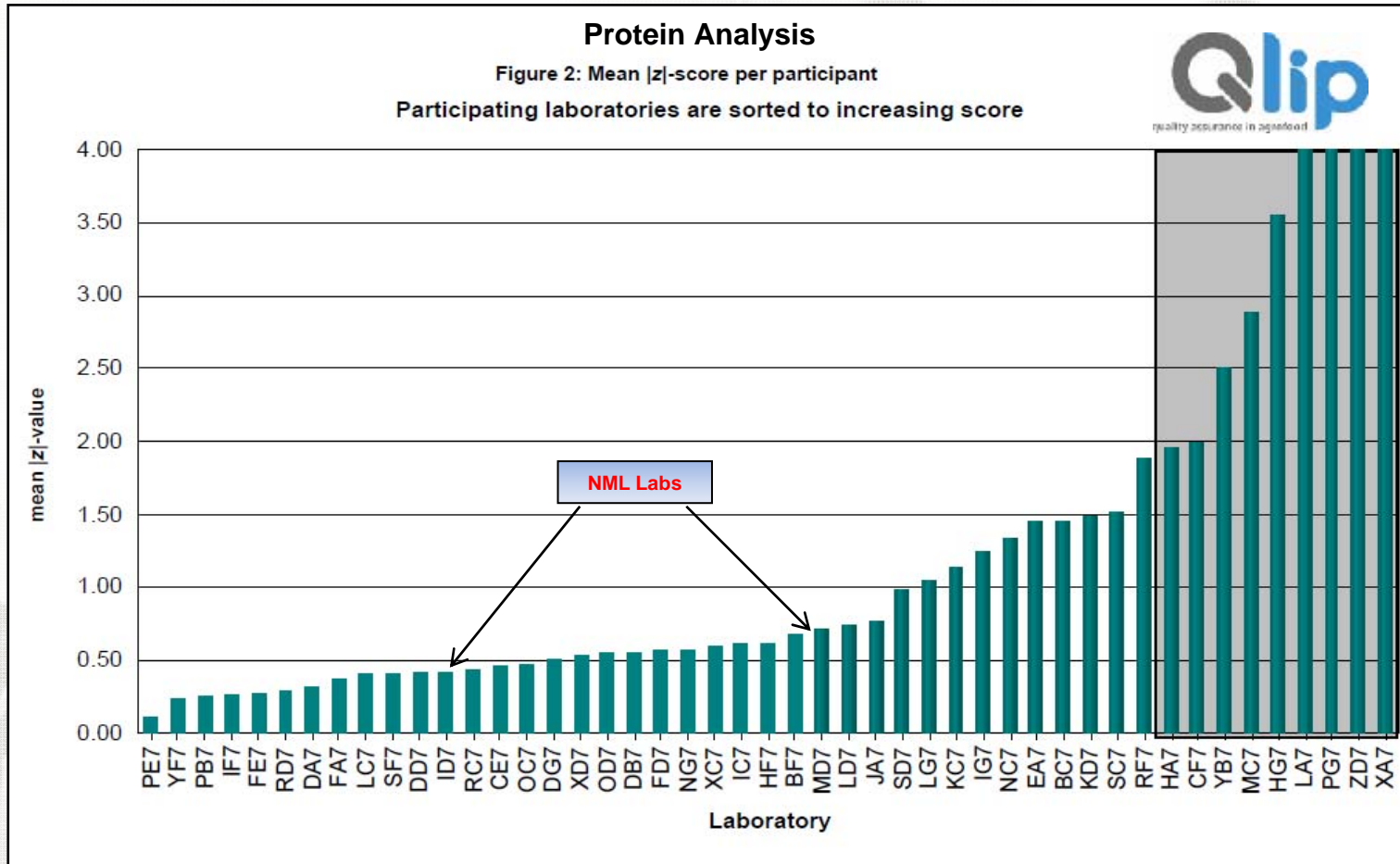
**NML
Glasgow**

<<<< RANKING BY INCREASING NEGATIVE Z SCORE RANKING BY INCREASING POSITIVE Z SCORE >>>>

PROFICIENCY TEST SOMATIC CELL COUNT (*1000/ml) - APRIL 2017
DISPERSION CHART









ICAR conference 2017 - Edinburgh

Know your cows, know your business