

Standardising the predictive equations to determine energy density in pet food - EN 16967: 2017 -

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FEDIAF

FEDIAF – Facts & Figures



- **Established in 1970**
- **Representing the pet food industry in 21 European countries via 16 national or regional pet food industry associations with round 650 member companies**
- **Being the competent partner for the EU institutions in all legislative, political and technical aspects concerning the pet food industry**
- **Aiming at a legislative framework for the production of safe, nutritious and palatable pet food**



FEDIAF – Codes of good practices



The European Pet Food Industry



*“The European
Pet Food Industry
Federation serving
pets and their owners.”*

www.fediaf.org



What has happened?



Mandate:
2013

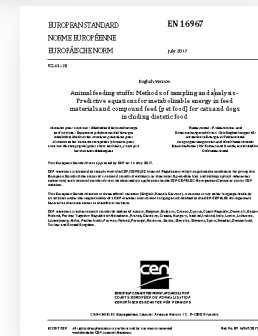


European Committee for Standardization

2014



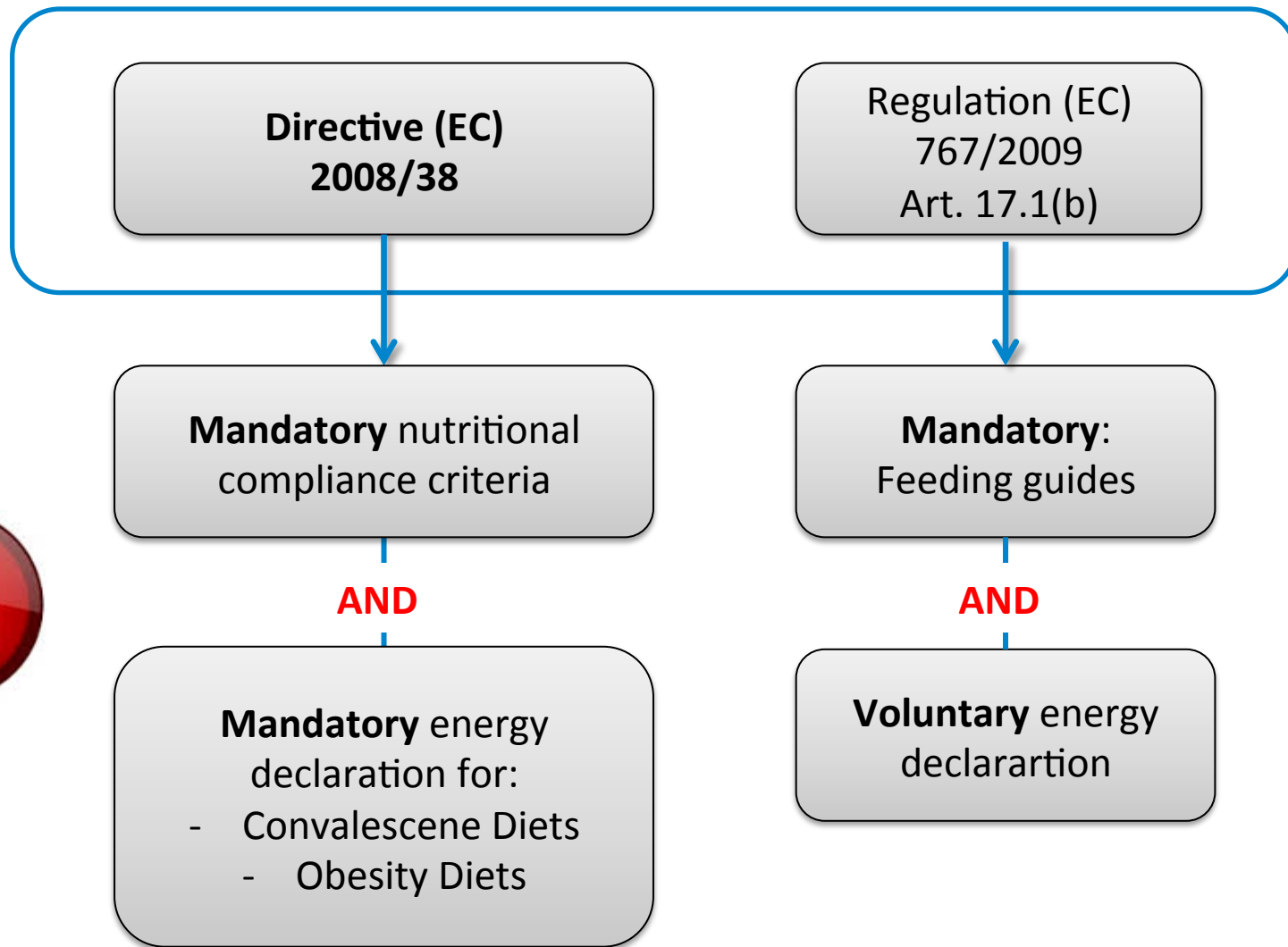
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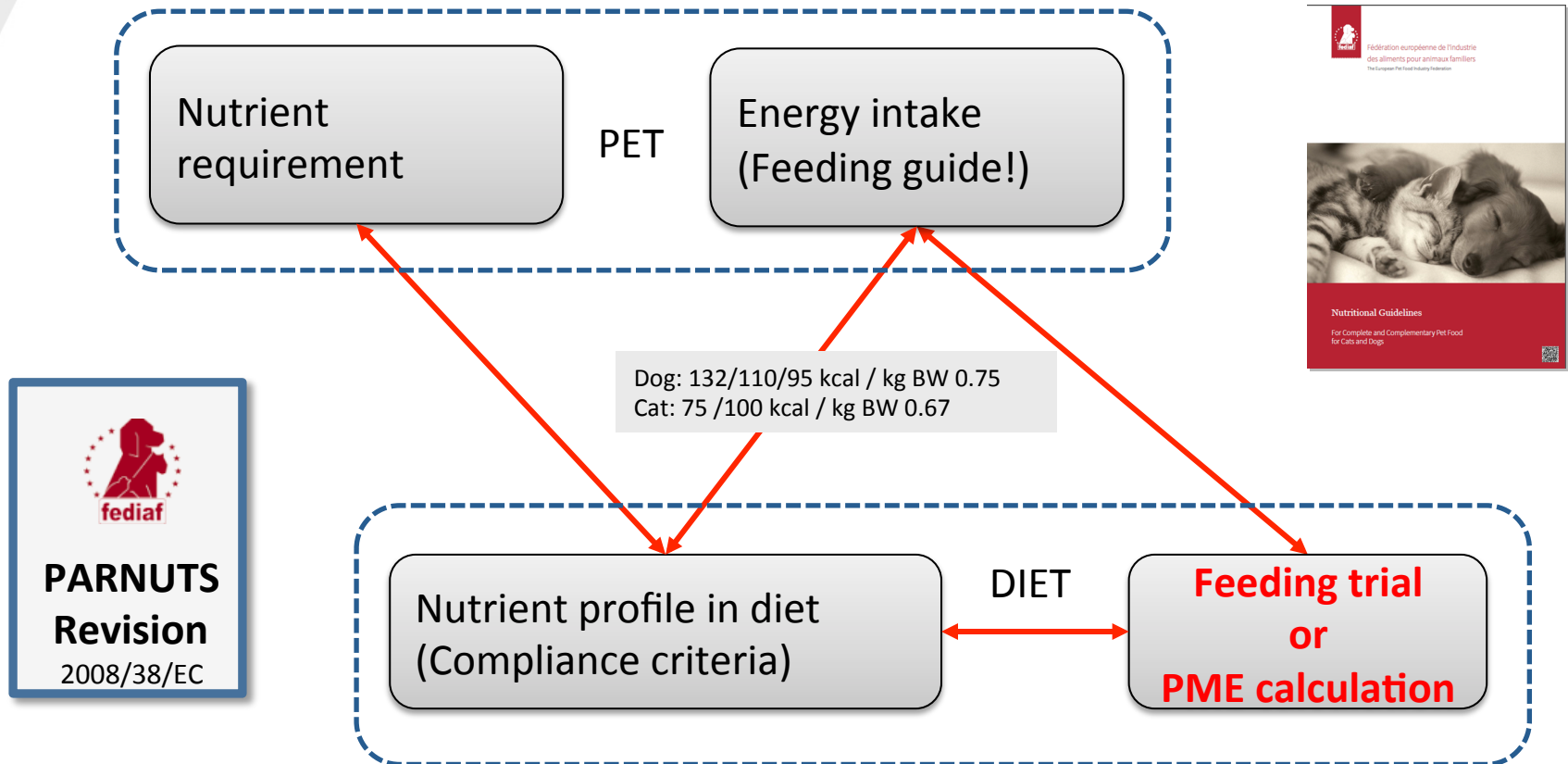


07/2017

Why do we need such an EU standard?

The regulatory framework.





Why do we need such an EU standard?

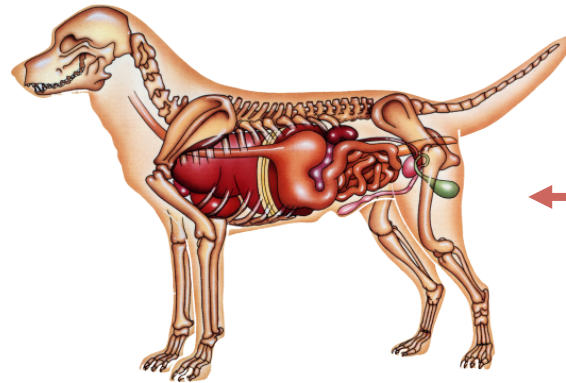
The principles.



Gold Standard: Feeding trials
BUT: labour and cost intensive!

Quantity of food
ingested x GE food

Ge_{ingested} (kcal/kg)



Quantity of feces
excreted x GE feces

Ge_{excreted} (kcal/kg)



Calorimeter bomb

$$DE \text{ (kcal/kg)} = GE_{\text{ingested}} - GE_{\text{excreted}}$$

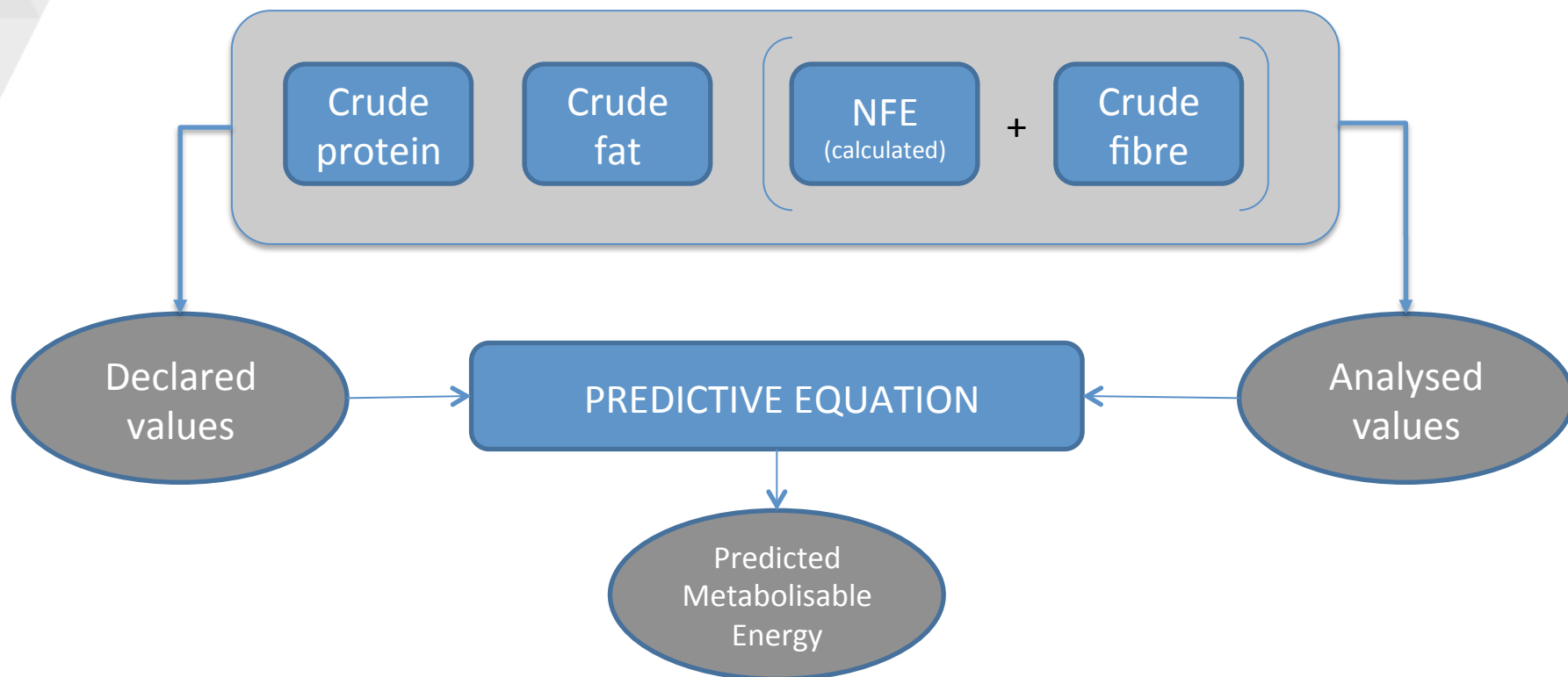
$$ME \text{ (kcal/kg)} = DE - \text{urine loss}$$

Why do we need such an EU standard?

The principles.

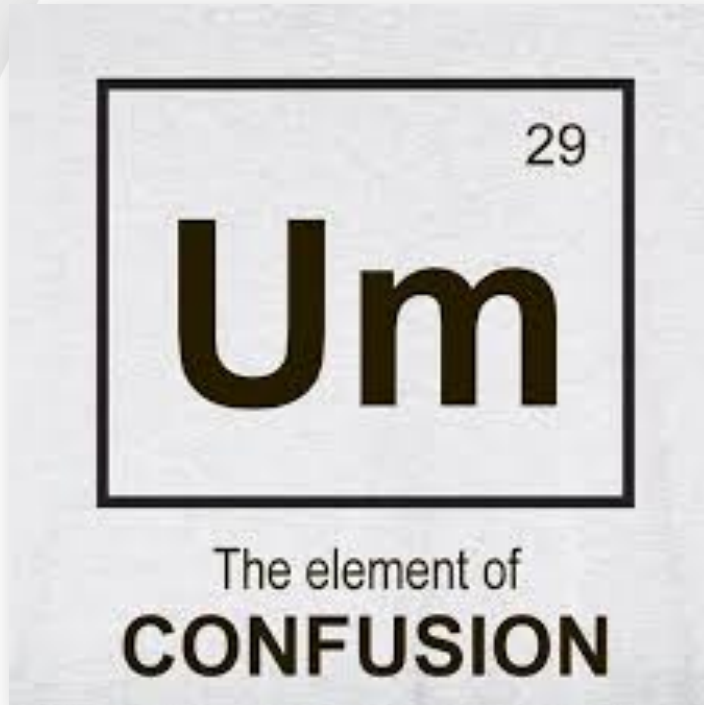


Well established & widely used: calculation method



Why do we need such an EU standard?

The regulatory reality.

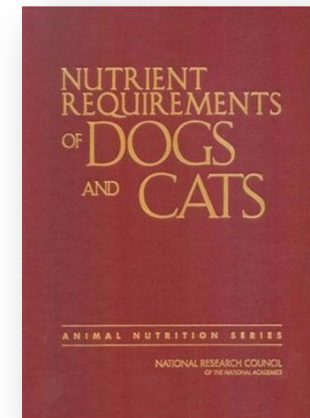


Teil 2: Schätzgleichungen nach § 13 Absatz 2				
Hunde, Katzen	Futtermittel für besondere Ernährungszwecke, ausgenommen Futtermittel für besondere Ernährungszwecke für Katzen mit einem Feuchtigkeitsgehalt von mehr als 14 v. H.	ME in MJ/kg =		
		g Rohprotein	x	0,01464
		+ g Rohfett ¹⁾	x	0,03556
		+ g N-freie Extraktstoffe	x	0,01464
Katzen	Futtermittel für besondere Ernährungszwecke mit einem Feuchtigkeitsgehalt von mehr als 14 v. H.	ME in MJ/kg =		
		g Rohprotein	x	0,01632
		+ g Rohfett ¹⁾	x	0,03222
		+ g N-freie Extraktstoffe	x	0,01255
		- 0,2092		

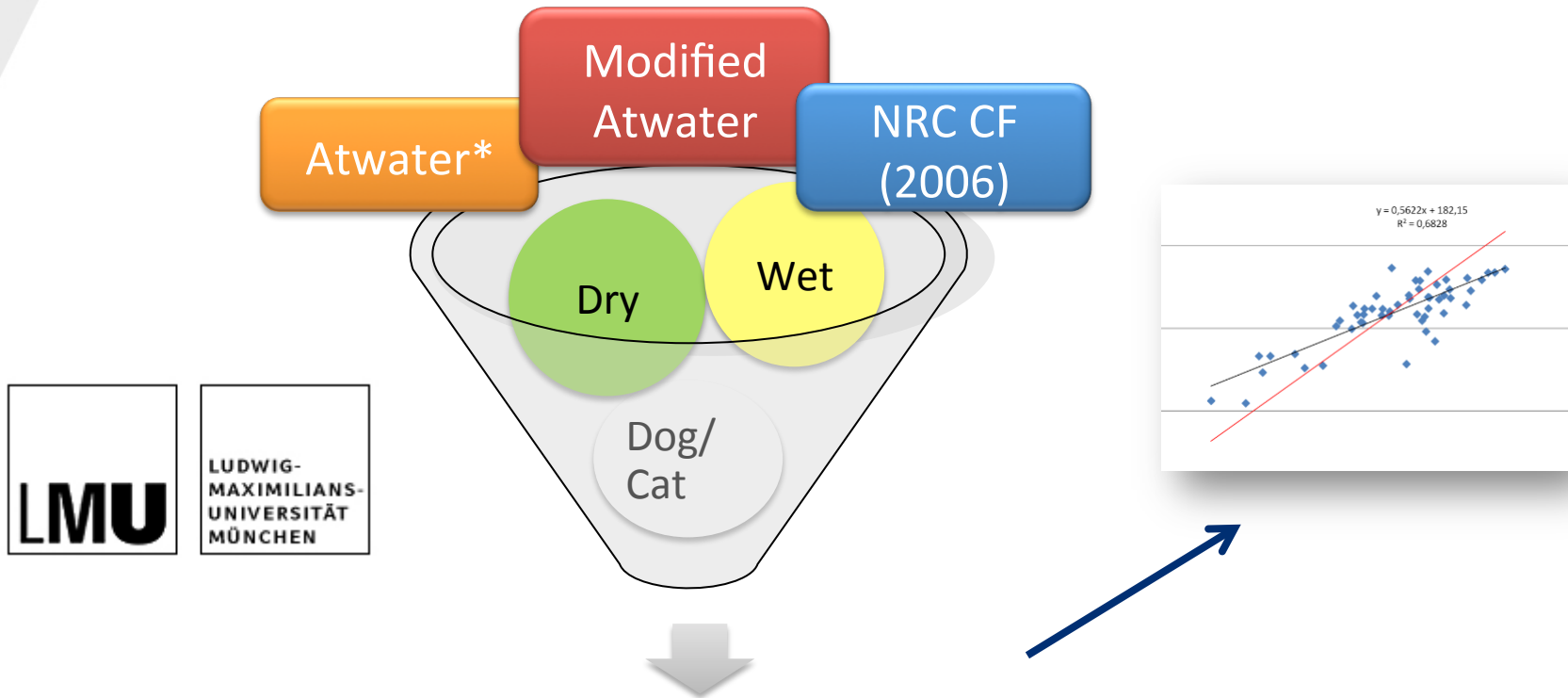
Atwater

Modified Atwater

Modifications of the modified Atwater



How was the EU standard established? The data perspective.



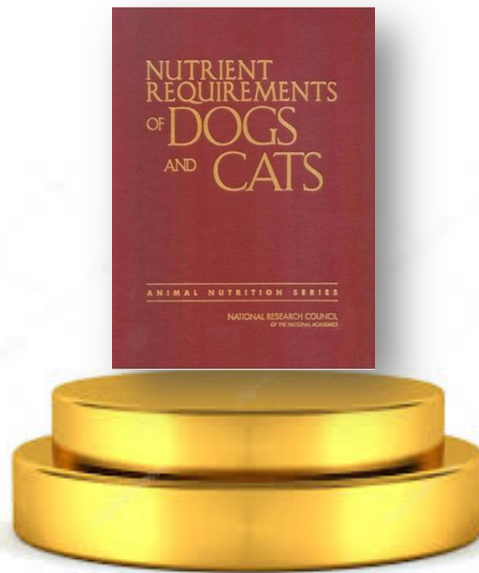
Deviation from experimental determination
Data (547) submitted by FEDIAF member companies)

* Recommended for highly digestible special products such as milk substitutes or diets for enteral nutrition

How was the EU standard established? Results.



Prepared Pet Food



NRC CF (2006)



What does that mean for the industry?

Common questions.



- Do we have to declare energy density now on all products?
- Is it mandatory to use this equation?
- Can we still do feeding trials?
- Do we have to mention the method on pack, i.e. in-vivo or CEN?
- What to do with products with $> 8\%$ crude fiber?
- Will there be changes in tolerances?



Conclusion



- The accurate determination of energy content in pet food is crucial for formulating appropriate diets for cats and dogs as well as the corresponding instructions for proper use.
- The equations in the CEN standard constitute simple tools to be used by manufacturers and control authorities to calculate ME.
- This represents a good and robust compromise between accuracy and practicability to overcome the difficulties of feeding trials





The European Pet Food Industry

THANK YOU!