Lab and In-line NIR Analysis in the Feed and Food Industries

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Perten Instruments

Perten Instruments

- Specialists in analytical instruments for food and feed
- HQ in Sweden, with local sales and support in most markets
- 50th anniversary last year
- NIR supplier since 30 years

Perten
INSTRUMENTS

NIR technologies

- Filter in reflectance for basic powder applications

- Scanning Grating transmittance for grain analysis

- Diode Array for advanced and on-line applications

Advanced NIR product range

- Same platform from lab to process
- Calibrations transfer between models

DA 7250 At-line/Lab　　　　　DA 7300 In-line　　　　　DA 7400 On-line

Perten
INSTRUMENTS

DA 7250 At-line NIR

Anything

Anywhere

Anytime

Anyone

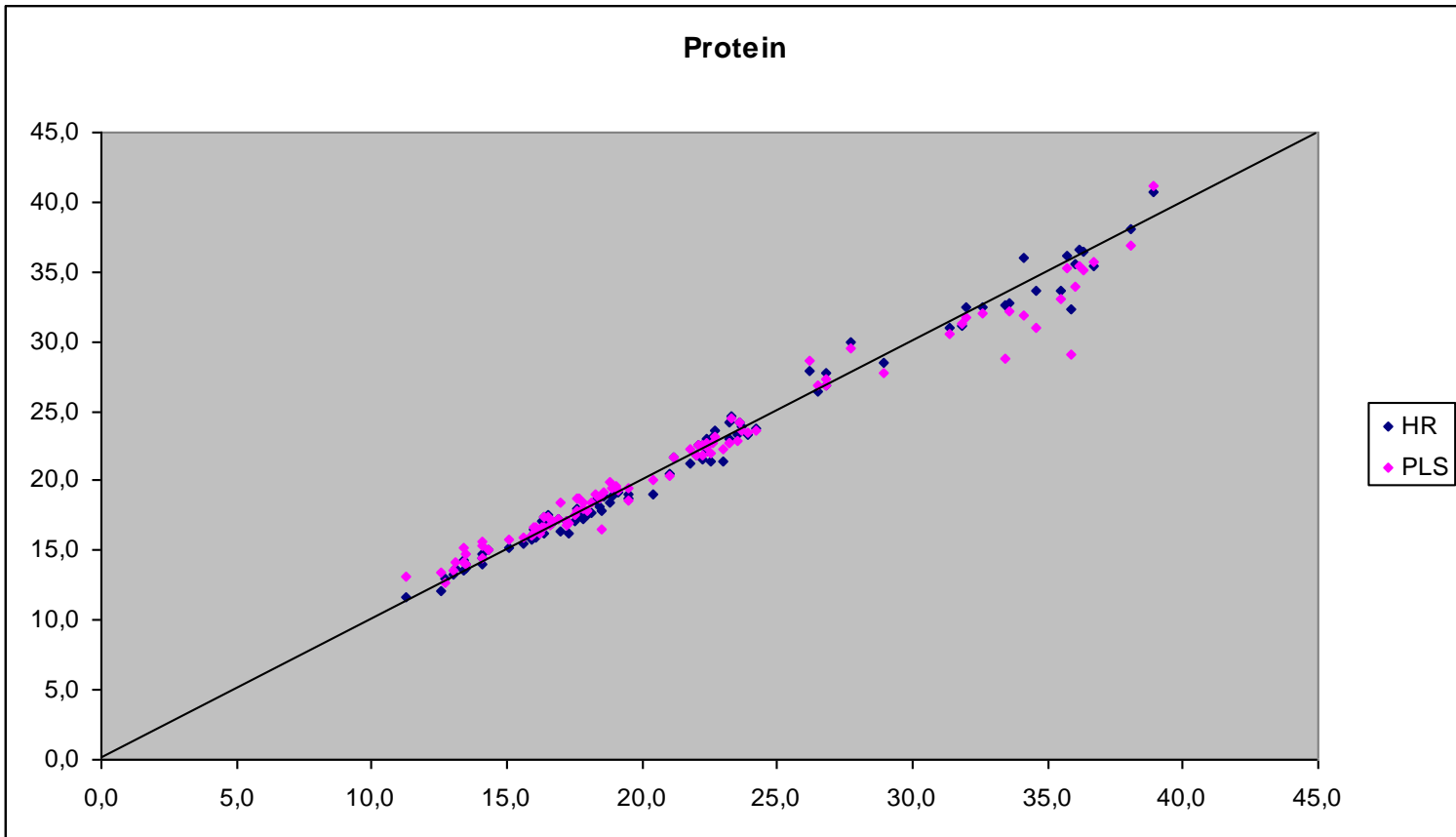Grains, powders, pellets, pastes, slurries and liquids

Honigs Regression

- New chemometric method developed by a Perten team led by Dr. David Honigs

- Combination of PLS model + library of samples

- Improves accuracy over PLS, especially for products with great variability
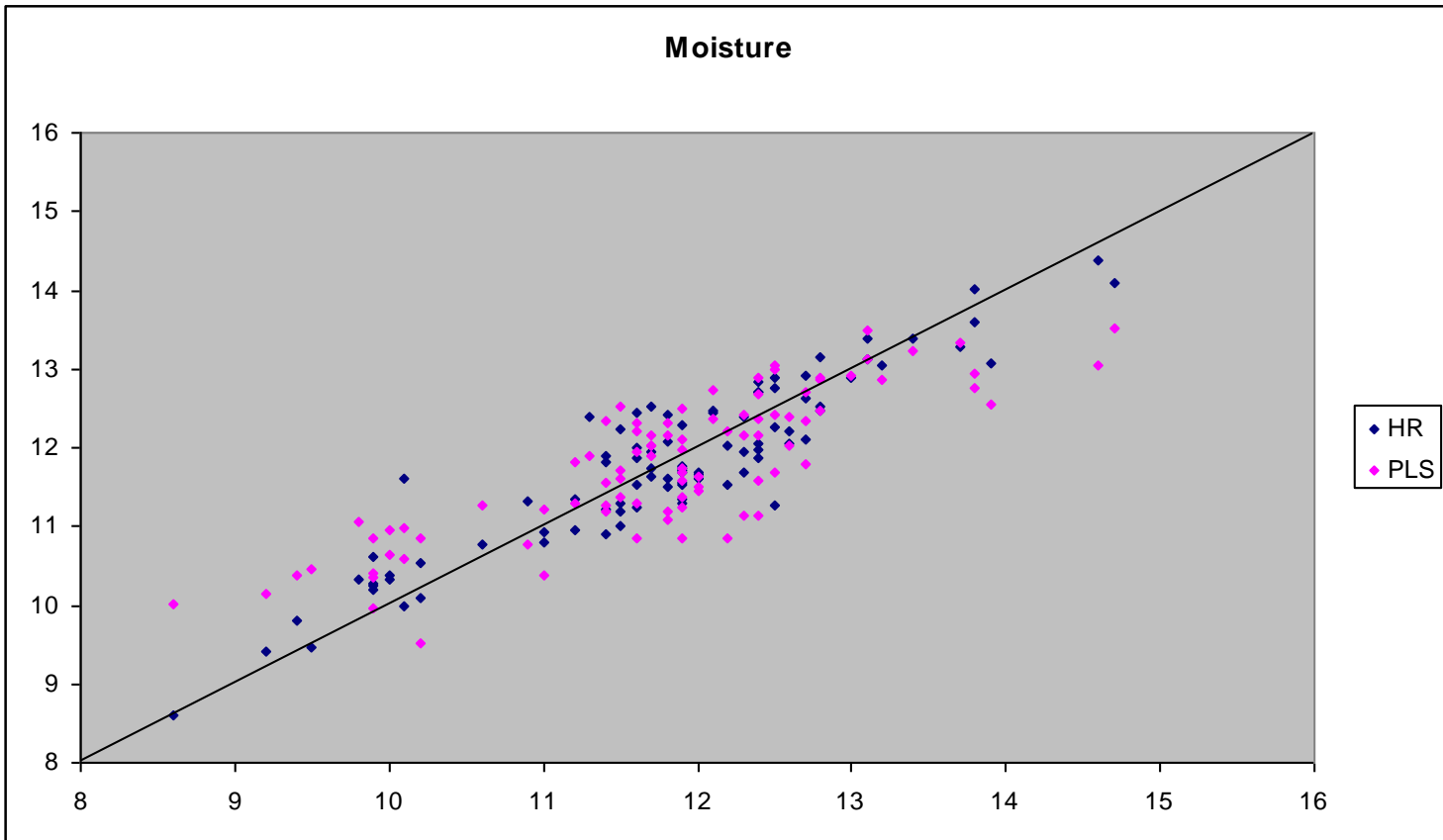
Comparison HR vs PLS

- 90 samples of pig and poultry feed

- Samples from two factories at a Nordic feed producer

- Two DA 7200 units used in data collection

- Predicted with PLS and HR

  – Perten's global PLS models for Monogastric feed (5000+ samples)

  – HR model with samples from the customer included in library

  – General bias adjustment applied, but no individual bias or groups or NIR instrument
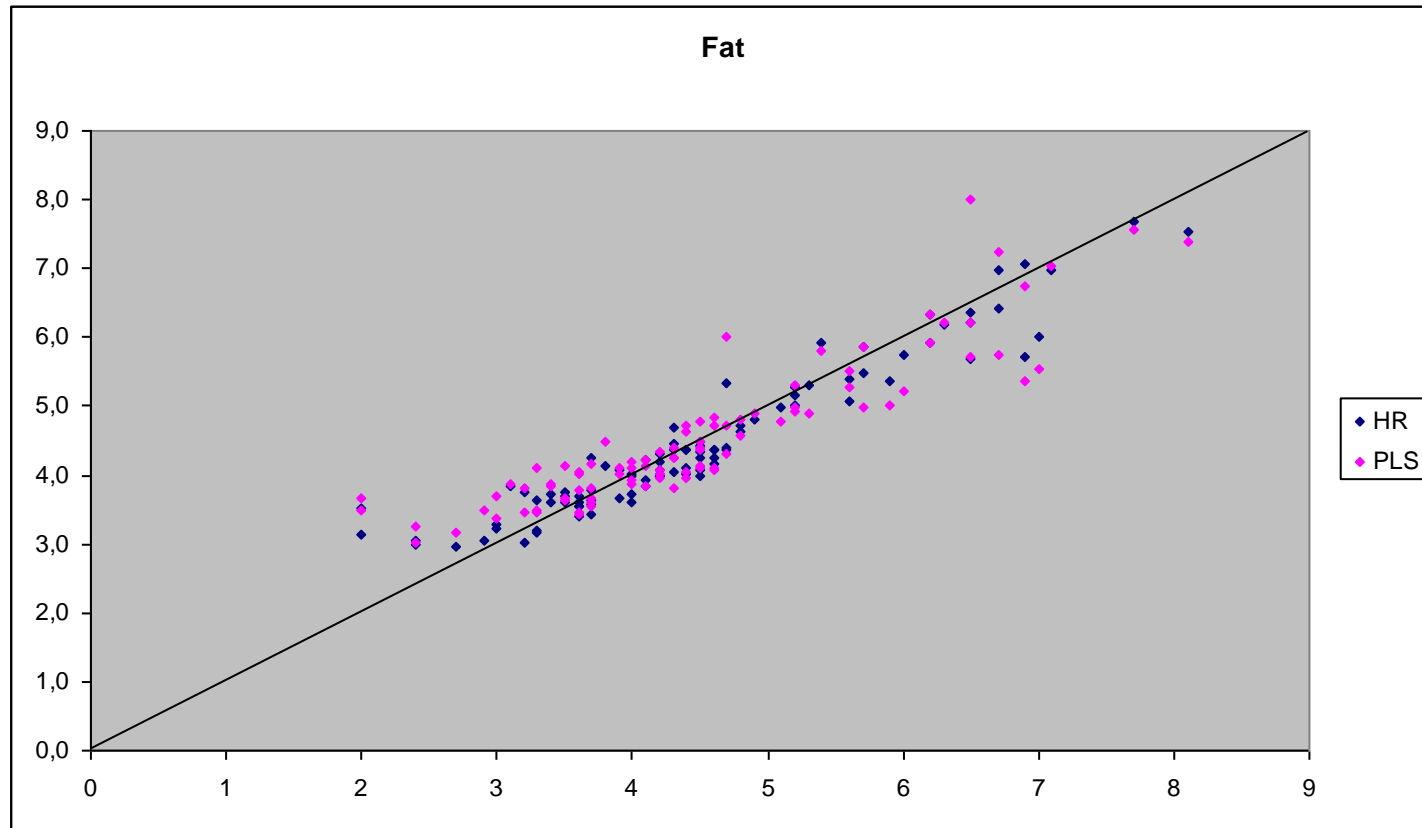
HR on monogastric feed

Protein

HR SEP	0.81
PLS SEP	1.30

HR on monogastric feed

Moisture

HR SEP   0.44
PLS SEP   0.65

HR on monogastric feed

| HR SEP | 0.39 |
| PLS SEP | 0.54 |

Summary Perten Instruments

- 30 years as NIR supplier

- Wide product portfolio

- Lab / At-line / On-line on same platform

- Honigs Regression improves feed analysis accuracy