

# AusScan NIR calibration availability and use

**John Spragg – AusScan**



Provider of NIR Calibrations for Feed Grain Analysis

# Calibration Commercialization

- Getting the technology in use
- Realising PGLP research value
- Capacity to improve calibrations
- Benefits through the supply chain
- Valuing feed grains on nutritional content

Requires a significant shift in existing practices to derive technology benefits

**Technology innovators**



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# NIR Calibration use

- Licence to access technology
  - Research (breeders) licence
  - OR
  - Commercial licence
- Fees payable to utilise technology
- Pork CRC commercializing for wider industry benefit



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# AusScan NIR Calibrations

Ruminant Calibration	Grain
ME Cattle (MJ/kg)	Wheat, Barley, Triticale, Oats, Maize, Pulses, Rice
Acidosis Index	Wheat, Barley, Triticale, Oats, Sorghum, Maize, Pulses, Rice
Oat Digestibility, hull lignin, hull	Whole Oats
Faecal Starch	Manure samples



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# AusScan NIR Calibrations

Calibration	Grain
DE Pig (MJ/kg)	Wheat, Barley, Triticale, Oats, Sorghum, Maize, Pulses, Rice
DE Intake Pig Index	Wheat, Barley, Triticale, Oats, Sorghum, Maize, Pulses, Rice
ME Broiler (MJ/kg)	Wheat, Barley, Triticale, Oats, Sorghum, Maize, Pulses, Rice
ME Intake Broiler Index	Wheat, Barley, Triticale, Oats, Sorghum, Maize, Pulses, Rice



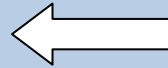
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# AusScan Calibration Installation Work Sequence

AusScan Licence signed and returned to Pork CRC



Pork CRC supplies Tax Invoice for Licence



Standardisation of NIR (process may differ for some NIR's)

- Grain standards supplied to licensee
- Scan spectra provided

Development of calibration equations

NIR calibration equations supplied to licensee



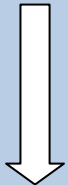
Equations placed on NIR by licensee



Minimum 20 grain samples analysed to generate AusScan results and spectra



Results and spectra are used to confirm calibrations are working correctly



Pork CRC supplies Tax Invoice for calibration installation costs



Participation in NIR Ring Tests – on going activity

Confidence the numbers are right?!



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# AusScan Ring Tests

- Minimum 3X/year
- Compulsory
- Results statistically analysed
- Individual results provided to licensees
- Support to users with more variable results



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# Handling Outliers

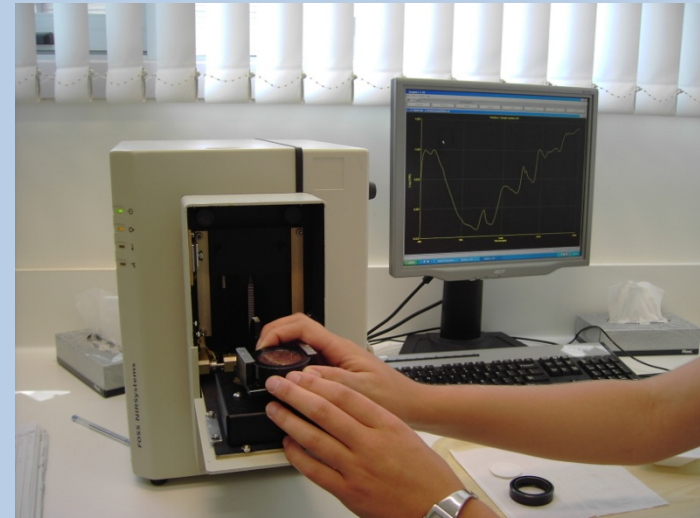
- Very wide set of samples included in calibrations
- Outliers 'different' from the PGLP population dataset
- Need to annotate as “beware predicted results need to be treated with caution as sample is identified as an outlier”
- Provision of sample to run on another NIR – verify it is an outlier
- Wet chemistry looking for major differences in grain composition
- Need to report to assess frequency of occurrence
- Capacity to access large volumes for further testing – pigs and poultry



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# AusScan Customer Targets

- Grain breeding companies
- Grain accumulators
- Grain marketers/traders/farmers
- Feed mills
- Livestock feed grain end users
- Commercial laboratories



**Anyone in the feed grain supply chain with NIR capability**



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# Commercial Laboratories

Milne, Feedtest, Symbio, Weston

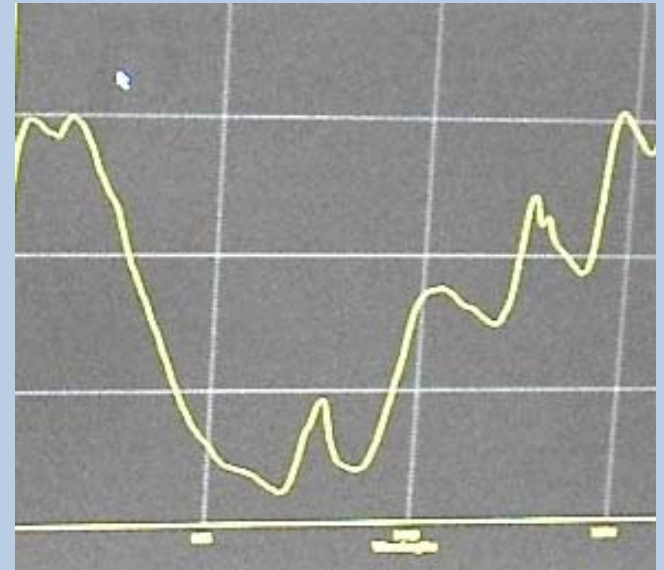
SGS?

AWTA?

Feed Quality Services (NSW DPI)?

- Need for service provision
- Need for sample submission

AusScan technology promotion



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