Novel NIR Predictions of the Nutritive Value of Cereal and Protein Meals Across Animal Species

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ONLINE NIR CALIBRATIONS

NIR Machine

Results displayed immediately on your computer

FEEDING VALUE

CENTRALISED CALIBRATION DATABASE
Phytic P (% as is)

- Piglet Nursery
- Piglet Starter
- Pig Grower
- Pig Finisher
- Sow Gestation
- Sow Lactation
MAIZE POULTRY AME (KCAL/KG, 88% DM)
INFLUENCE OF PROTEIN SOLUBILITY INDEX ON MAIZE AME

\[ Y = 3107 + 3.911 \times X \]
\[ R^2: 0.338 \]
WHEAT POULTRY AME (KCAL/KG AS IS)
INFLUENCE OF STARCH ON WHEAT AME

Thailand

Brazil, Argentina, Mexico, US

Hungary
BARLEY SWINE ILEAL DE (KCAL/KG AS IS)
SBM REACTIVE LYSINE (% TOTAL)

![Box plot showing reactive lysine levels in Brazil, United Kingdom, and United States.](image-url)
SBM SID REACTIVE VS TOTAL LYSINE (G/KG)

$Y = -12.53 + 1.391 \times X$

$R^2: 0.709$
CANOLA MEAL REACTIVE LYSINE (% TOTAL)
CONCLUSIONS

• On-line NIR allows:
  - access to a wide range of updated calibrations
  - rapid building of global results databases.

• Feedstuffs vary considerably in nutritive value, depending on source and season.

• An understanding of feedstuff and feed composition is key to an economically sustainable animal production.

• Industry challenges include infrastructure, expertise and ability to handle large datasets. Opportunities include better informed business decisions and discovery insights.