

# Predicting the *in vivo* standardized ileal digestibility of over-processed ingredients using two *in vitro* methods

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## WHY?

*In vitro* methods have been used to compare ingredients, but might not reliably reflect different processing conditions.

## AIM

To compare two *in vitro* methods (2-step enzymatic and pH-STAT) to SID of CP from thermally over-processed ingredients.

## CONCLUSION

Initial pH and degree of hydrolysis from pH-STAT method reflect better SID of over-processed ingredients than 2-step enzymatic method.

## Materials and methods

### Standardized ileal digestibility (SID of CP)

Soybean meal, rapeseed meal and both ingredients toasted (over-processed) with lignosulfonate in cannulated growing pigs.



SBM

pSBM

RSM

pRSM

### 2 *in vitro* methods



#### • 2-Step enzymatic method

Pepsin incubation at pH 2 for 2 hours, followed by pancreatin incubation at pH 6.8 for 4 hours (Boisen and Fernández 1995).

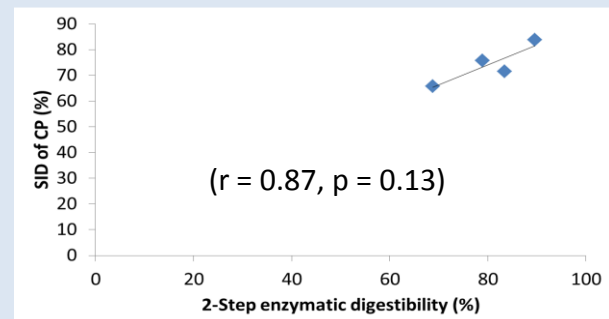
#### • pH-STAT method

Hydrolysis of 1 mg N/ml solution with trypsin, chymotrypsin and peptidase at pH 8 for 10 minutes (Pedersen and Eggum 1983).

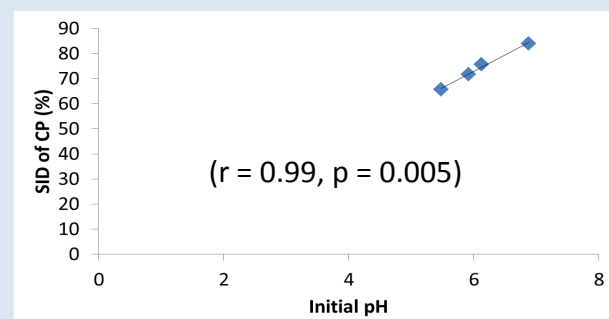
## Results

Pearson correlation coefficients between SID and *in vitro* methods

#### • 2-Step enzymatic method – SID



#### • Initial pH from pH-STAT method – SID



#### • Degree of hydrolysis – SID

