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.

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### 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.

**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**
  
(r = 0.87, p = 0.13)

- **Initial pH from pH-STAT method – SID**
  
(r = 0.99, p = 0.005)

- **Degree of hydrolysis – SID**
  
(r = 0.96, p = 0.04)