



Nutritive value of feedstuffs

Aim

- Determination of nutritive value:
 - concentrate feedstuffs and roughages
 - optimisation of concentrates and diets
- Nutritive value depending on:
 - chemical composition
 - rumen fermentation
 - intestinal digestion
- Schothorst feed evaluation: E-dairy®
 - optimal nutrition for dairy cows



Rumen fermentation

Nylon bag incubations

- Animals: 3 to 6 dairy cows with rumen fistula
- Rumen incubation with nylon bags
 - time points: 0, 3, 6, 24, 48, 72, 366 h
- Analysis for: crude protein, starch, NDF, ...

In vitro

- Incubation in rumen fluid / enzymes and buffer
 - several time points
- Analysis for: crude protein, starch, ...

Intestinal digestion

Mobile nylon bag incubation

- Animals: 3 to 6 dairy cows with intestinal fistula
- Rumen incubation in nylon bags
- Intestinal incubation in nylon bags:
 - pepsin-HCl
 - bags retrieved in small intestine or faeces
- Analysis for: crude protein, starch, ...

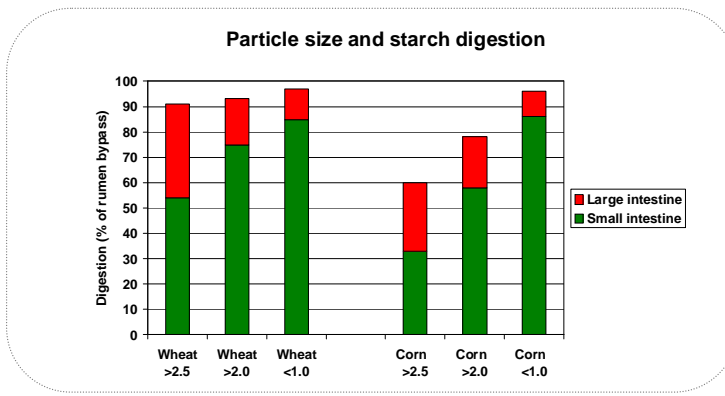
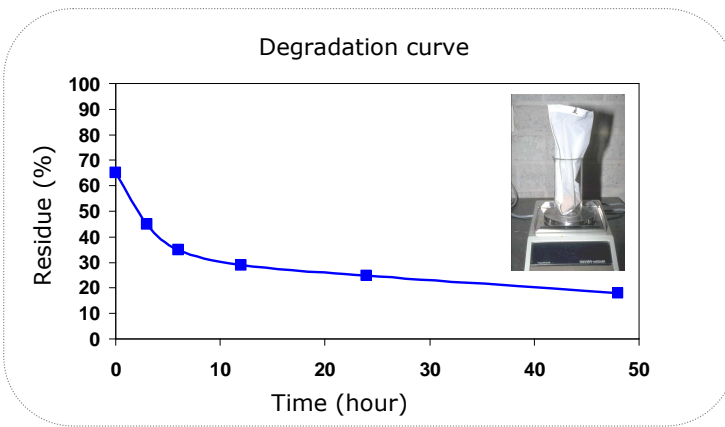
In vitro

- Incubation in rumen fluid, pepsin-HCl, enzymes
- Analysis for: crude protein, starch, ...

Total tract digestion

- Set up:
 - 24 to 48 dairy cows
 - 4 to 8 feedstuffs
- Apparent digestibility:
 - feedstuffs in pelleted concentrate feed
 - sampling of faeces
 - marker
- Analysis for: crude protein, starch, NDF, ...

Results



Digestibility diet

Component	Control	Soya	Corn
Organic matter	70.5	74.6	72.0
Crude protein	58.3	74.5	56.6
Crude fat	67.8	62.8	64.0
Starch	93.9	95.0	94.0
Cell walls	57.4	61.8	58.2