



# Feeding experiments for dairy cows

## Aim

- Effect of:
  - roughage quality
  - concentrate composition and allowance
  - additives
- On:
  - feed intake and
  - milk production and composition
  - utilisation of nutrients

## Execution

- Animals in free stall
- Individual feeding of basal diet and concentrate:
  - Calan gate system
- Basal diet:
  - ad libitum
  - grass silage, corn silage and supplements
- Concentrate separate according to scheme
- 2 times daily milking

## Lay out

- 2 to 8 treatments
  - 12 to 16 animals per treatment
- 24 to 120 dairy cows
  - heifers and older animals
- Complete randomised block design
  - with or without pre-period
  - 6 to 24 weeks



## Results

	Lactation stage			
	Begin		Mid	
	Mean	Isd <sup>1</sup>	Mean	Isd <sup>1</sup>
<b>Intake (kg DM/d)</b>				
Roughage	14.0	1.00	15.0	0.75
Concentrate	10.0	0.25	8.0	0.50
<b>Total</b>	<b>24.0</b>	<b>1.00</b>	<b>23.0</b>	<b>1.00</b>
<b>Production</b>				
Milk (kg/d)	42.0	1.5	33.0	1.0
Protein (g/d)	1350	50	1150	40
Fat (g/d)	1700	75	1450	60
Protein (%)	3.20	0.10	3.45	0.05
Fat (%)	4.10	0.20	4.50	0.15
Urea (mg/dl)	20	2.0	20	1,8

<sup>1</sup> Isd = least significant difference

## Observations

- DM intake basal feed and concentrates
- Milk production and weight
- Milk composition
  - fat, protein, lactose, urea, SCC
  - fatty acids, acidity of milk fat, hormones
- Activity and rumination
- Body condition score
- Blood parameters
  - NEFA,  $\beta$ HBA, glucose, hormones
- Health and fertility data

