

Growing-finishing pigs foraging on alfalfa or rye-grass in the range area

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WHY FORAGING IN THE RANGE AREA?

Overall objective:

‘Development of resource effective and trustworthy organic production systems based on outdoor free-range growing pigs’



WHY FORAGING IN THE RANGE AREA?

Current practice in organic pig production in DK



WHY FORAGING IN THE RANGE AREA?

‘Pigs have evolved as opportunistic omnivores with a unique capacity to forage above and below ground’

(Andresen 2000; Beattie & O’Connell 2002)



SPECIFIC OBJECTIVES

Investigate the effect of two cropping systems and two feeding strategies on:

- › Foraging activity
- › Energy and nutrient intake from foraging in the range area
- › Weight gain and "concentrate feed conversion ratio"



EXPERIMENTAL DESIGN

- › 36 pigs in 40 days trial
- › 12 paddocks with 3 pigs in each paddock
- › Area for foraging: 154 m² per pig ~ 4 m² per pig per day



CROPPING SYSTEMS

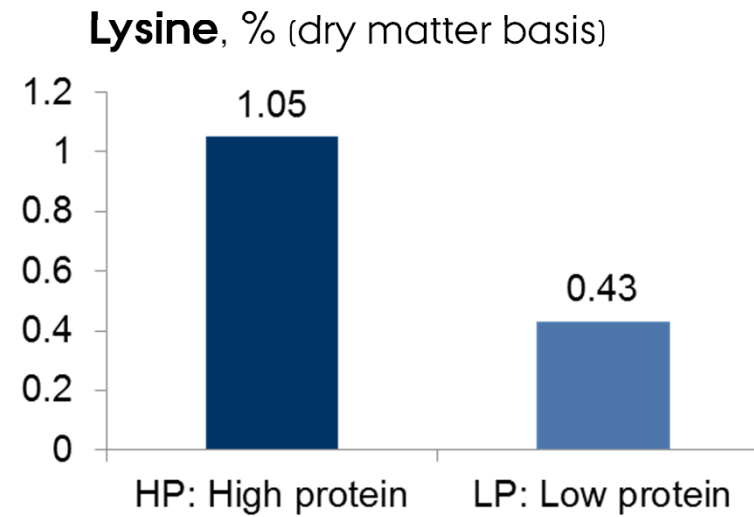
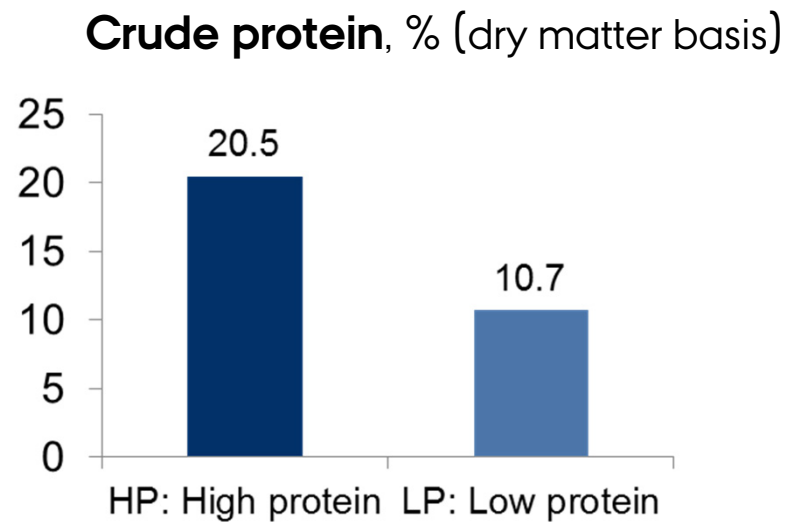
Alfalfa established 2010

Ryegrass established 2013



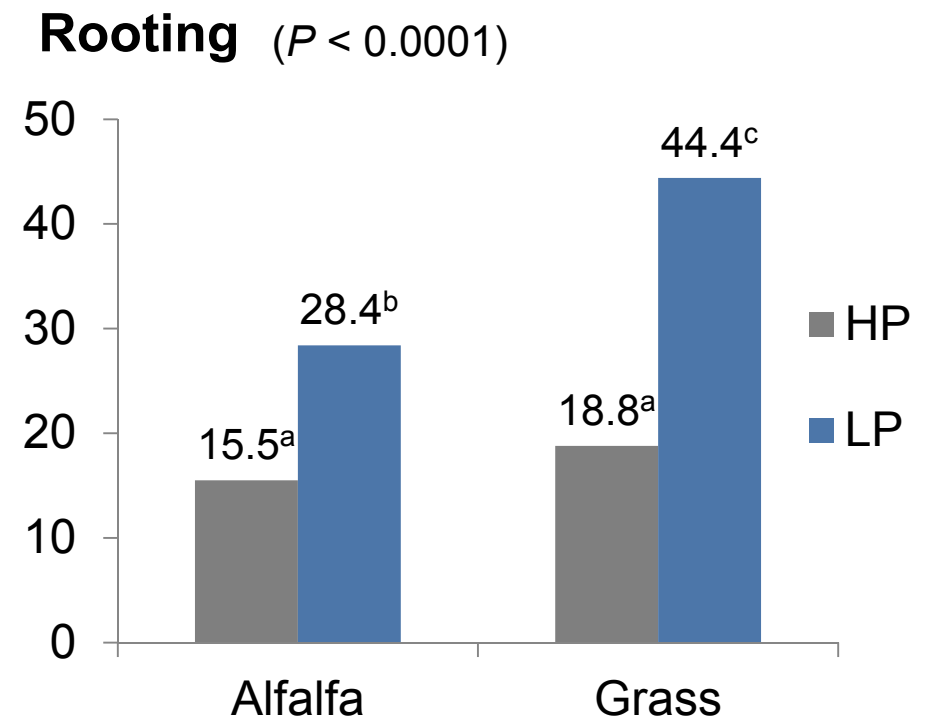
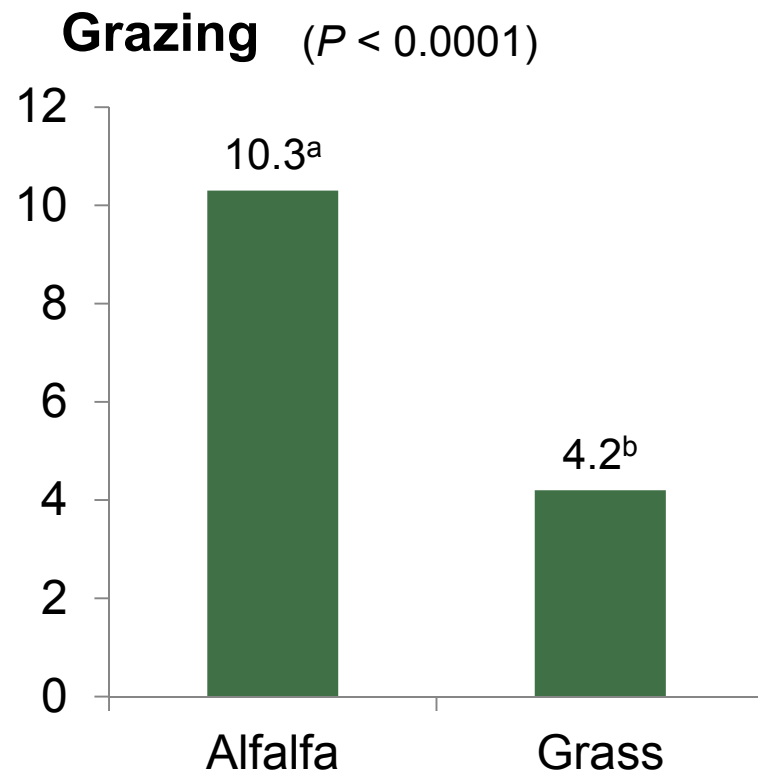
FEEDING STRATEGIES

2.2 kg concentrate feed/pig/day (80 % of energy recommendations)

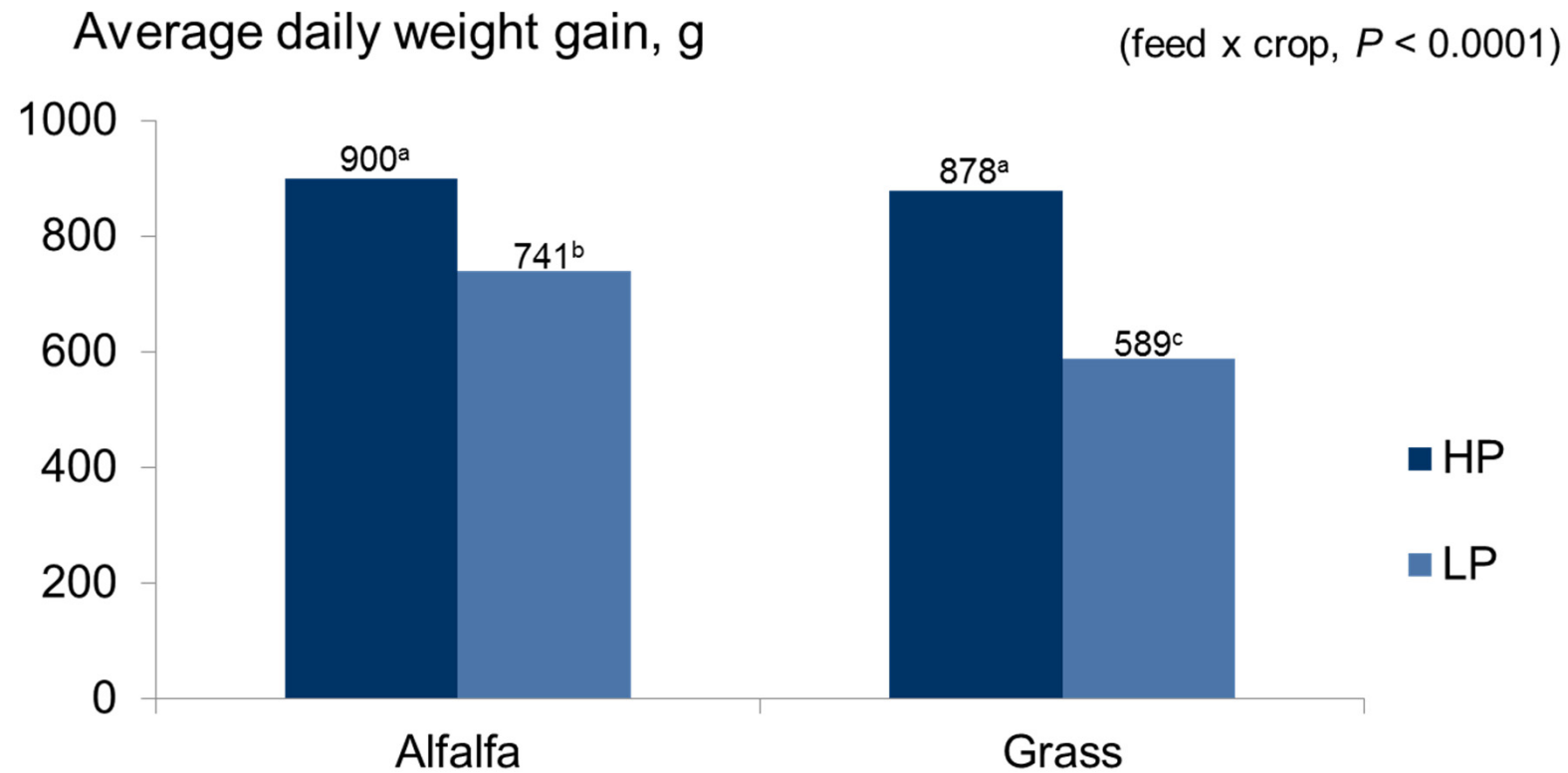


FORAGING BEHAVIOUR

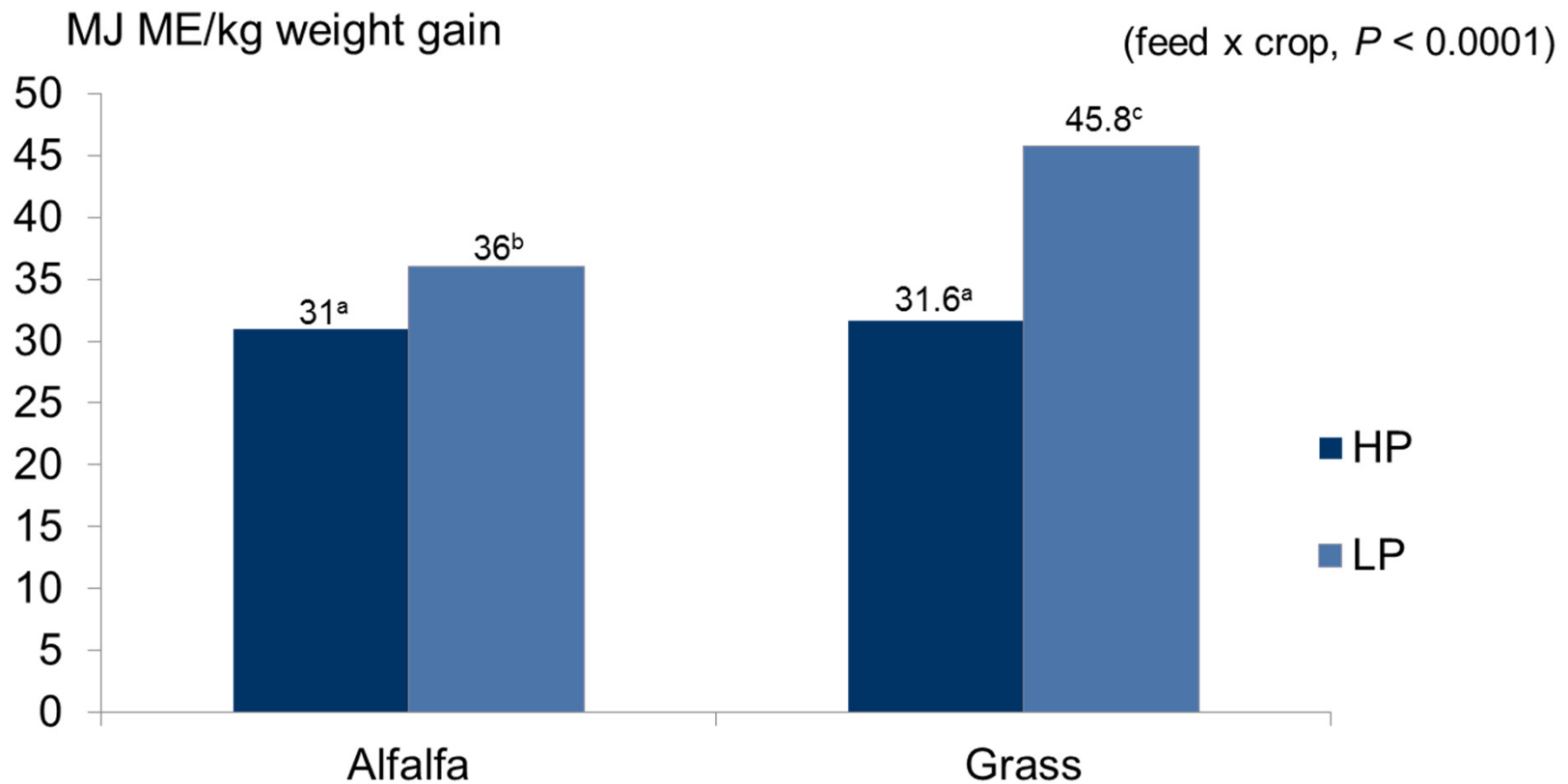
Percentage of total observation time



DAILY WEIGHT GAIN



'CONCENTRATE FEED CONVERSION RATIO'



ALFALFA INTAKE, LOW PROTEIN PIGS

Two methods:

- Forage crop sampling
 - 2.6 kg ~ 470 g DM
- Animal Performance, energy
 - 2.4 kg ~ 436 g DM

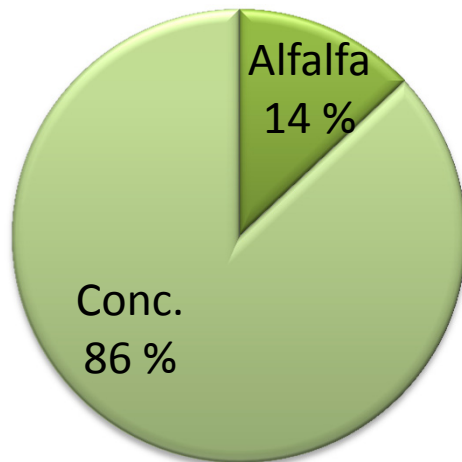


ALFALFA INTAKE, LOW PROTEIN PIGS

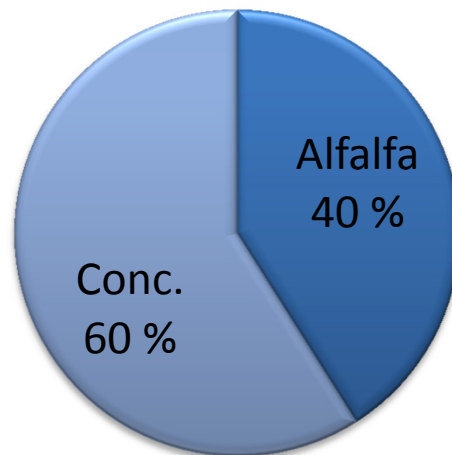
Forage crop sampling:

% of total daily energy and nutrient intake

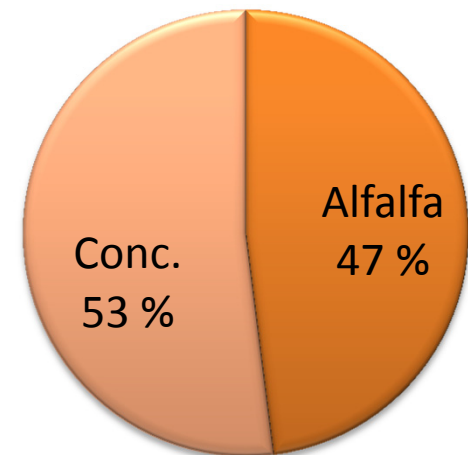
Energy



Crude protein



Lysine



ALFALFA INTAKE, LOW PROTEIN PIGS

- Forage crop sampling
- Animal performance, energy

Method for estimating alfalfa intake

| | Forage crop sampling | Animal performance |
|--|----------------------|--------------------|
| Energy, MJ ME pig ⁻¹ day ⁻¹ | 4.3 | 4.0 |
| Crude protein, g pig ⁻¹ day ⁻¹ | 133 | 125 |
| Lysine, g pig ⁻¹ day ⁻¹ | 7.3 | 6.9 |

CONCLUDING REMARKS.....

Foraging behaviour:

- Alfalfa pigs grazed more than grass pigs
- LP pigs rooted more than HP pigs

Performance:

- Alfalfa LP pigs: improved performance compared to grass LP pigs

Intake:

- Alfalfa intake LP pigs: ~ 14% of total daily energy intake

CONCLUDING REMARKS.....

- › Protein reduction in concentrate feed
- › ‘Strip grazing’
- › Readily applicable in practice



NEXT STEP.....

- › Develop reliable methods for intake
 - › Above soil surface
 - › Below soil surface
 - › Earthworms etc.



THANK YOU FOR YOUR ATTENTION

