Grass/clover silage to growing/finishing pigs

- influence on performance and carcass quality

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SLU

Sustainable pig production

- Request from the public and politicians for pig production systems considering welfare of animals and environmental impact
- Pig producers struggle with low profitability

⇒Pig production systems need to be economically, environmental and ethically sustainable

⇒Pig producers request feed stuff and enrichment that is viable, low cost and locally produced

Ley crops including legumes – for sustainable management of:

- Arable land
  - Fixation of nitrogen from the atmosphere
  - Weed, pest and disease control
- Pigs
  - Increased possibilities for foraging and exploration behaviour

    (Roberts et al., 1993; Vestergaard, 1996; Olsen, 2001)
  - Locally produced protein and energy resource

Ley crop silage to growing/finishing pigs

- Low inclusion and consumption levels

  (Heyer et al., 2004; Kelly et al., 2006; Høøk Presto et al., 2009)

- Variation in nutrient and energy utilisation depending on inclusion level and feeding strategy

  (Andersson and Lindberg, 1997, a and b)

⇒Need for knowledge about practical feeding strategies and effective use of ley crop in commercial pig production

What did we want to know?

How does grass/clover silage, fed separately, as a complete feed or in pelleted form affect performance and behaviour of growing/finishing pigs?

What did we do?

Performed an experiment including recording of production results and behavioural observations at SLUs' pig research herd

What did we do?

- Grass/clover silage from one cut from one field
  - 15.5 % CP per kg DM
  - 9.04 MJ ME for pigs (estimated content)
  - Restricted feed allowance from 60 kg
  - 20 % inclusion on energy basis

- 2 pens per treatment, 8 pigs per pen
- 30 kg to slaughter (110 kg)
- Balanced with regard to sex and birth litter

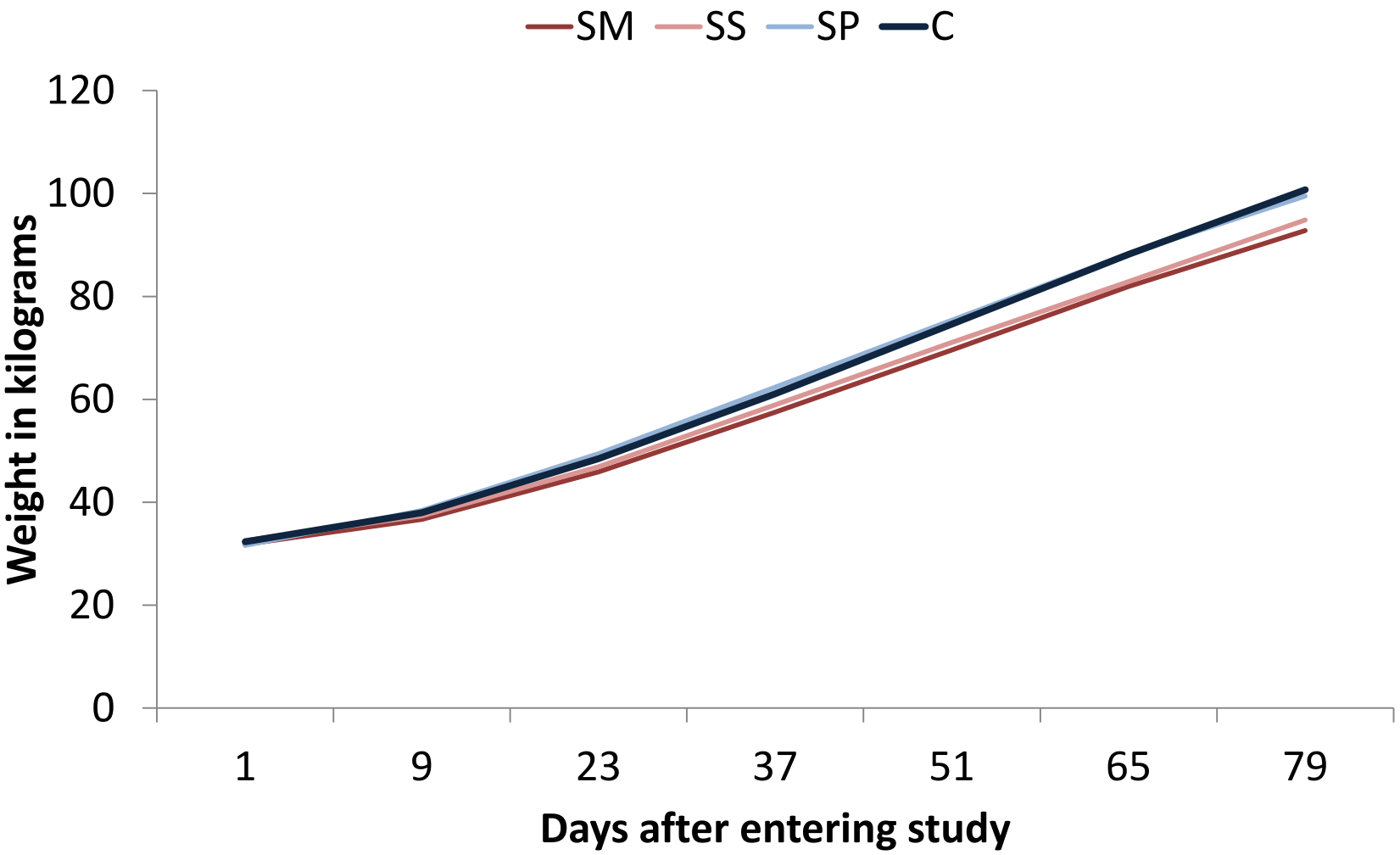
What did we do?

- Pigs were fed twice daily (Sw. energy recommendations)
- Silage inclusion = 20% on energy-basis
- Silage refusals were collected
- Pigs were weighed every second week from 30 kg to slaughter

GLM: Y = Treatment + pen(treatment) + gender + birth litter^{random}

  - Pigs were monitored for behaviour observations

What did we find?



What did we find?

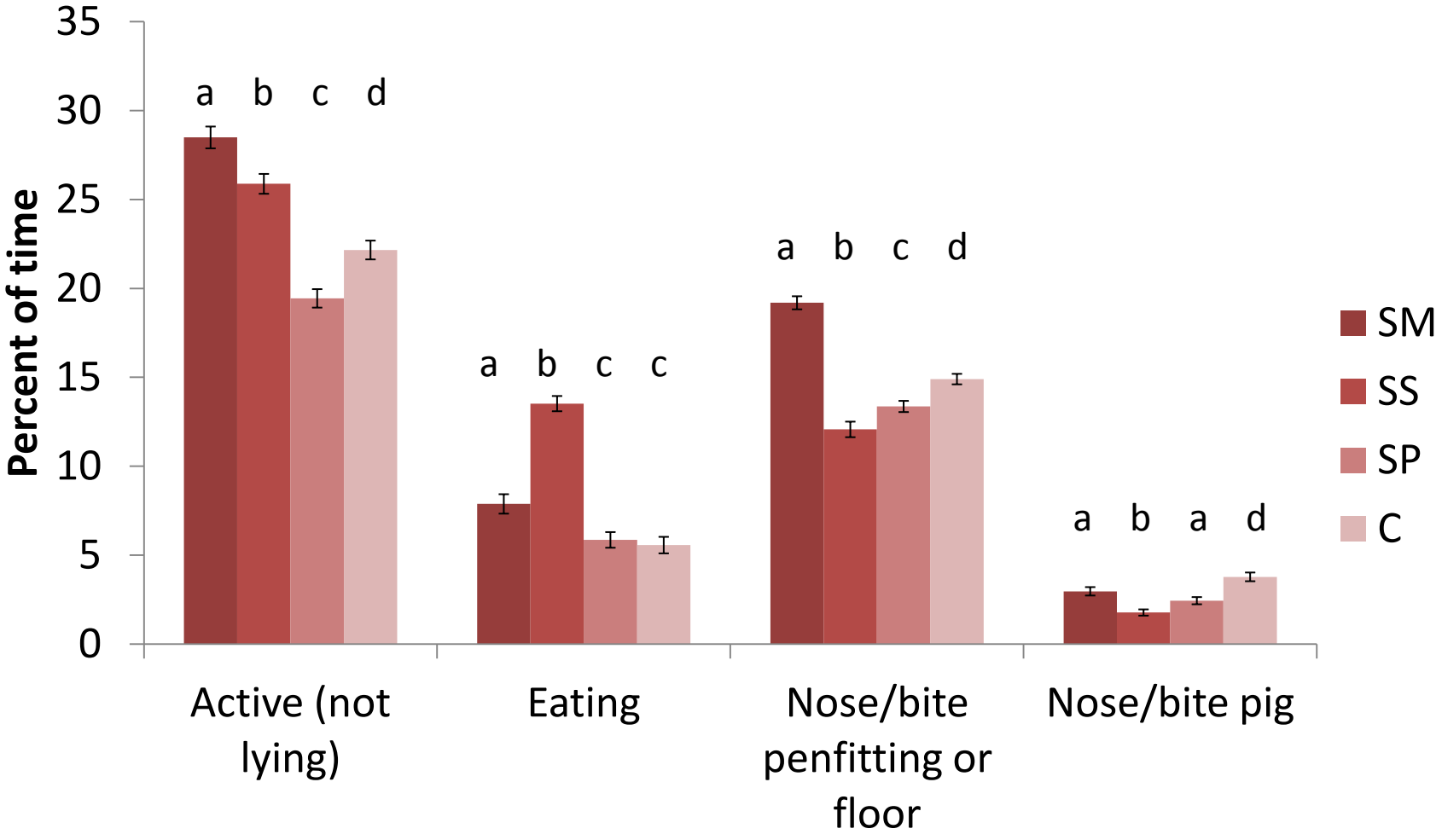
	Treatment				
	SM	SS	SP	C	p-value
Final weight, kg	102.5[a]	105.5[a]	110.7[b]	116.4[c]	0.001
Carcass weight, kg	75.2[a]	77.3[a]	81.1[b]	85.3[c]	0.001
Daily weight gain, g	742[a]	780[a]	842[b]	892[c]	0.001

- Dressing percentage affected by silage inclusion?

- Average daily energy intake (MJ ME) was lower for SM and SS pigs (27.0 and 26.8 vs. 28.6 and 29.0)

	Treatment				
	SM	SS	SP	C	p-value
FCR,MJ ME/kg weight gain	36.9[a]	34.6[b]	34.2[b]	32.9[b]	0.001
Lean meat content, %	58.0[ac]	58.9[a]	56.6[b]	57.5[bc]	0.005

What did we find?



Conclusion

Grass/red clover silage to growing/finishing pigs:

→ possible to reach average daily gains corresponding to conventional feeding strategies, if fed in pelleted form

↓ time manipulating pen fittings

↓ time interacting with other pigs

Thank you for listening!

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