

Seasonal organic pig production with a local breed

EAAP, Barcelona 2009 - Session S09

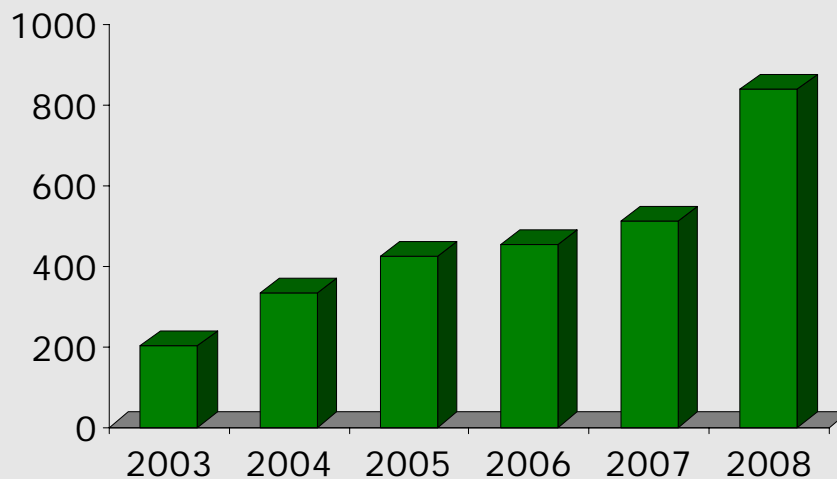
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Increase in the consumption of organic pork

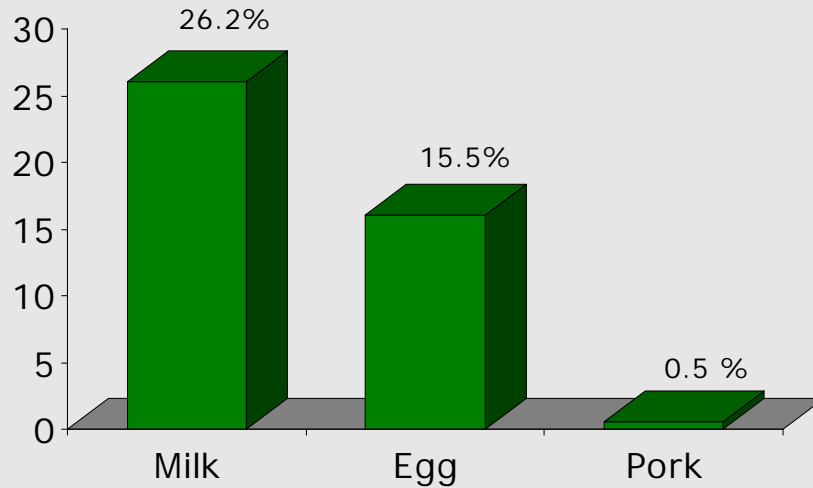
Consumption of organic pork in DK,
tonnes



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Low market share in Denmark

Relative consumption of organic products



Possible reasons for low market share

- Heavy price competition with conventionally produced pork
- Small differences in the objective quality between organic and conventional pork products
- Small differences in the ethical quality
- Consumers who value organic products do not value pork (considered as low quality)



Overall objective

- Contribute to the development of a diversified organic pork production with high standards for eating quality and ethical quality based on
 - Use of a traditional breed
 - No castration/ringing
 - Seasonal production



Specific objective

- How does breed affect the **performance** and **pork quality** of different 'types' of slaughter pigs



Types of slaughter pigs

- Entire male pigs slaughtered before sexual maturity (40 kg)
- Female pigs slaughtered at 130 kg
- Sows slaughtered after weaning of the first litter



Breed combinations – sows

- Landrace x Yorkshire (LY)
- Danish Black-Spotted (BS)



Breed combinations - offspring



[LandracexYorkshire] x Duroc
LYxDD (2007+2008)



Black Spotted x Duroc
BSxDD (2007)



Black-Spotted x Black-Spotted
BSxBS (2007+2008)



Why the Danish Black-Spotted?

- Signals 'naturalness' and 'otherness'
- The meat is described as tastier compared to the high-producing genotypes
- Better suited to an 'organic life'?
- Superior mother abilities?



Experimental set-up

April/May

Farrowing outdoors

2007: 6 BSxBS, 5 BSxDD, 6 LYxDD

2008: 5 BSxBS, 5 LYxDD

July/august

Pigs weaned (age 10-11 weeks)

First parity sows slaughtered

Entire male pigs slaughtered (40 kg)

Female pigs stayed litterwise outdoors

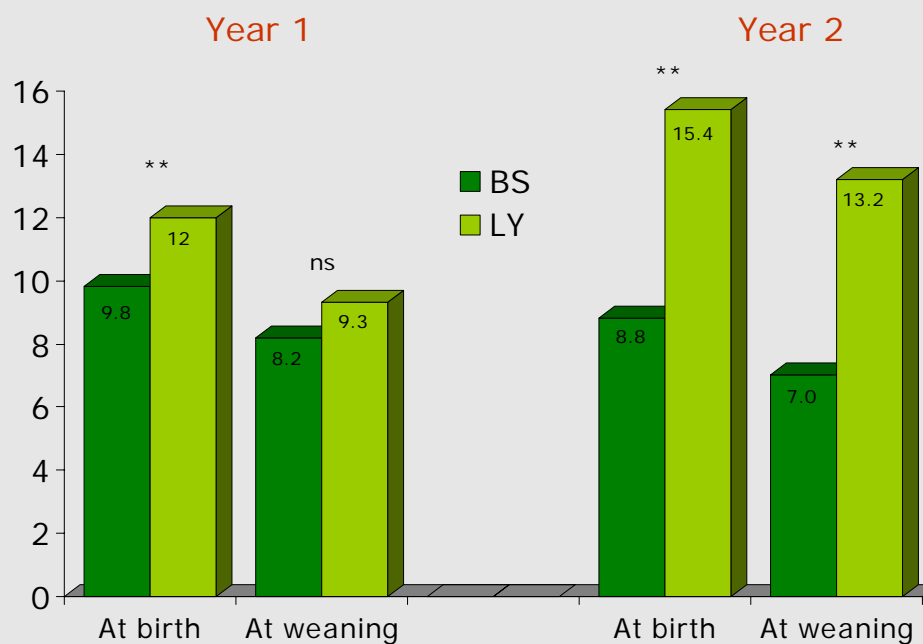
November/December

Female pigs slaughtered,

90-100 kg (BSxBS), 110 kg (BSxDD) and 130 kg (LYxDD)



Results - Litter size



Feed intake during lactation (year 2)

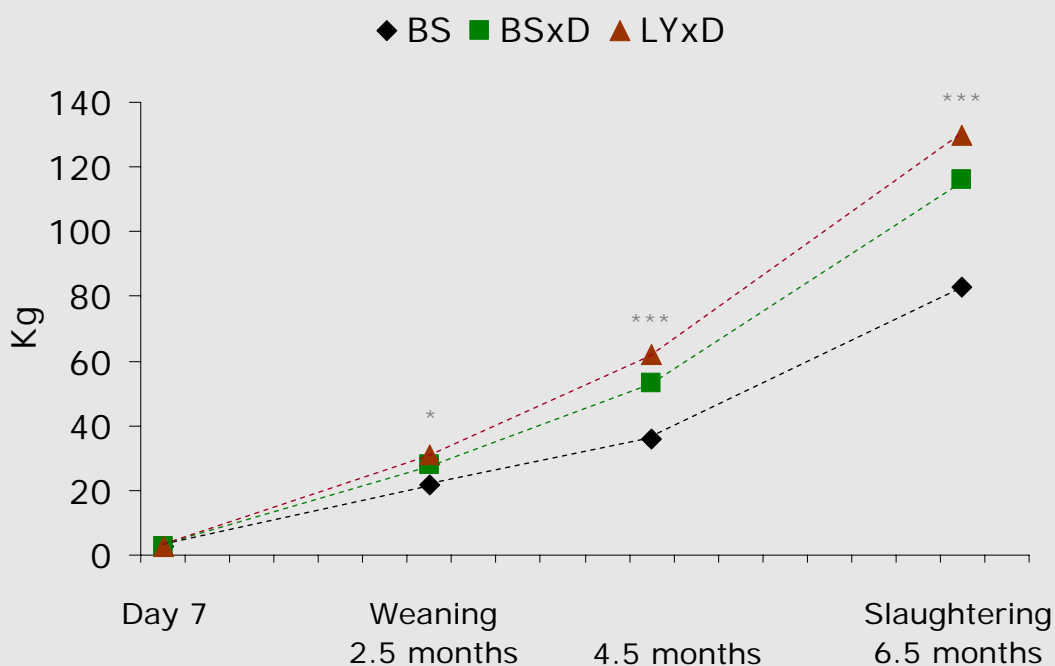
	BS	LY	P-value
Weight at farrowing, kg	178	200	ns
Feed intake, kg/day	5.1	7.4	<0.001
Kg feed per kg weaned	2.8	2.2	ns
Sow gain, kg*	-22	-42	ns

*Corrected for litter size at birth



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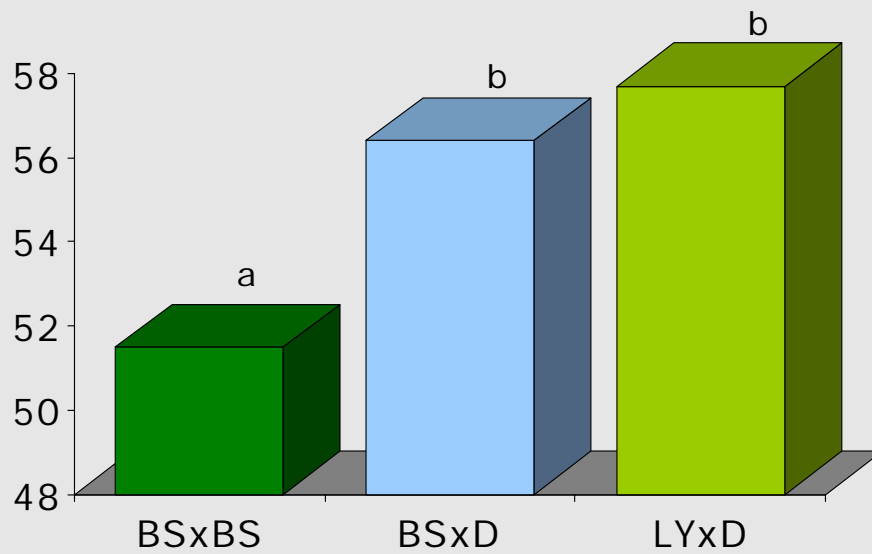
Daily gain, female pigs (2007)



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Carcass quality – female pigs (2007)

Lean meat percentage



Meat colour – female pigs (2007)

	BSxBS		BSxDD		LYxDD	
	Mean	Std err	Mean	Std err	Mean	Std err
L* (lightness)	49.8 ^a	0.5	51.6 ^b	0.6	53.4 ^c	0.5
a* (redness)	9.3 ^b	0.3	7.2 ^a	0.3	7.2 ^a	0.3
b* (yellowness)	4.0	0.2	3.3	0.2	4.0	0.2



Sensory profile – female pigs, cutlet

	BSxBS		BSxDD		LYxDD	
	Mean	Std err	Mean	Std err	Mean	Std err
Sour taste	6.6 ^{ab}	0.2	6.3 ^a	0.2	7.1 ^b	0.2
Tenderness	6.6 ^a	0.4	7.9 ^b	0.4	6.1 ^a	0.4



Conclusions

- Confident/calm animals (easy to handle)
- Significant lower litter sizes
- 23-32 % lower daily gain from birth to slaughter
- 11 % lower lean meat percentage (not if crossed with Duroc)
- Produce significantly darker and redder meat
- Produce significantly more tender meat (if crossed with Duroc)

Use of the black-spotted pig might be a way to produce organic pork which differ in appearance and eating quality

