

Strategies for a diversified organic pork production

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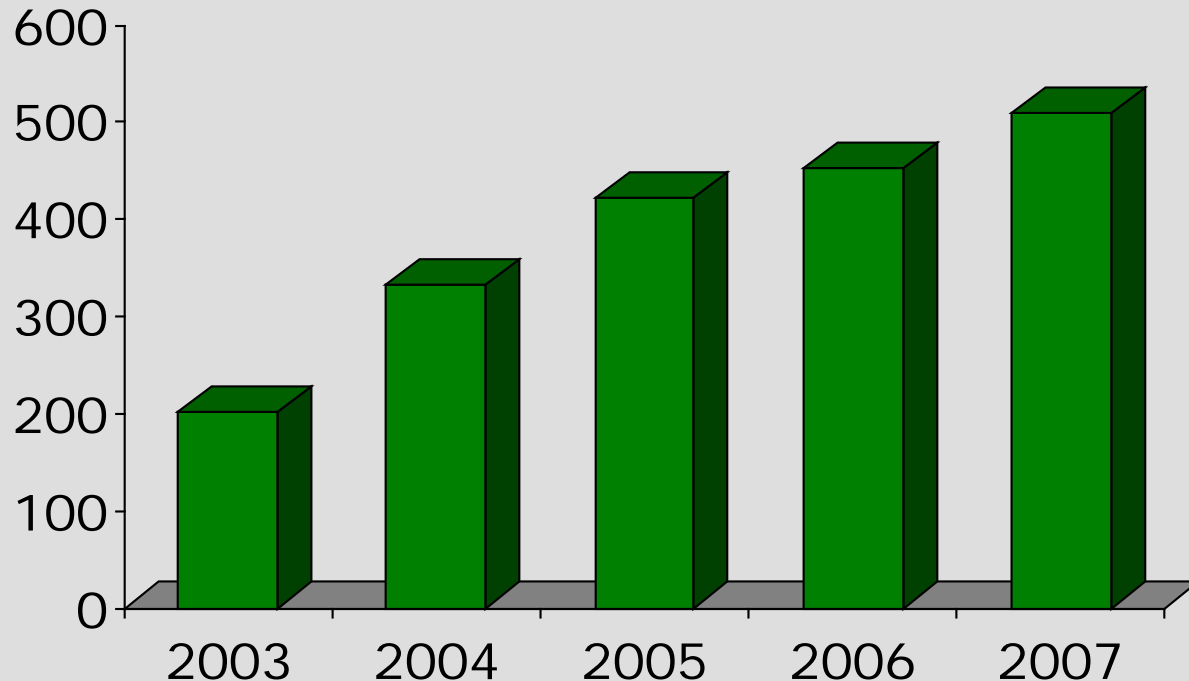
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Increase in the consumption of organic pork

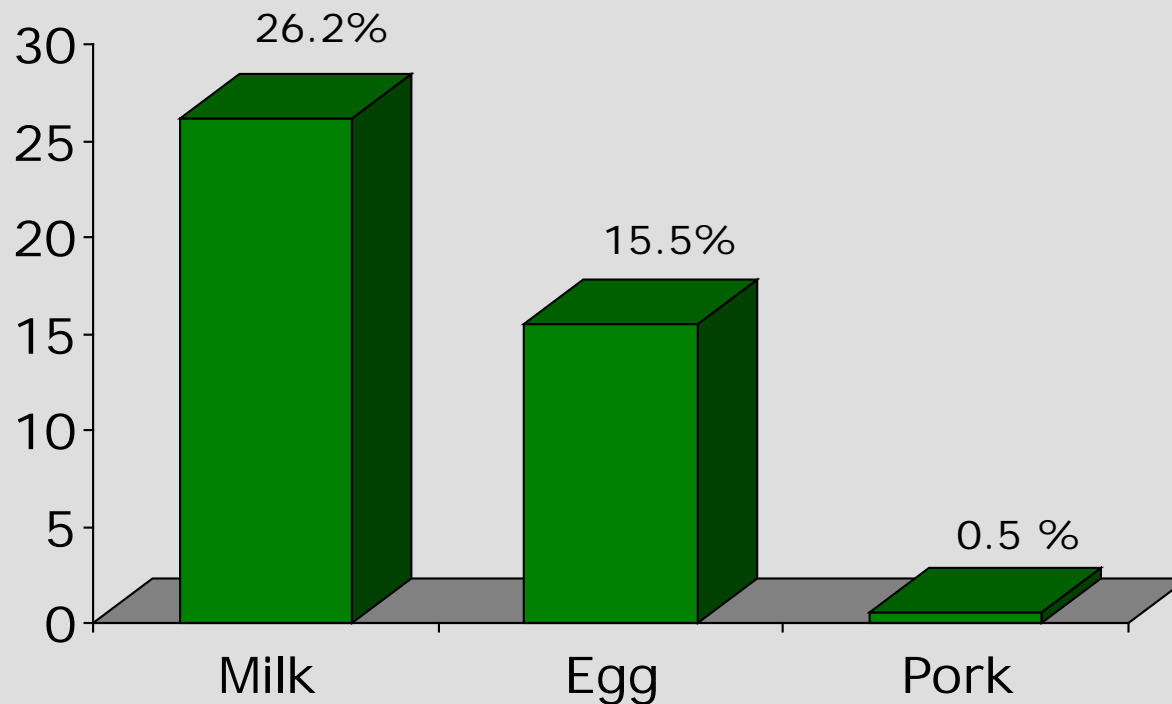


Consumption of organic pork in DK,
tonnes



Low market share in Denmark

Relative consumption of organic products



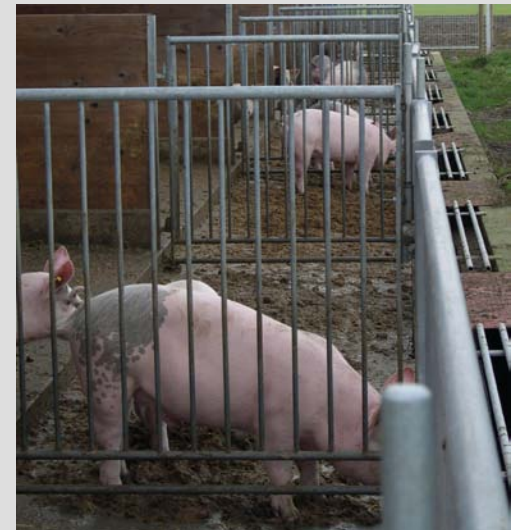
Possible reasons for low market share



- 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)

Compromises in present production

- Castration of male pigs
- Ringing of sows
- Housing of growing pigs in stables with no access to pasture
- Use of specialised high-producing crossbreeds



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
 - Pigs foraging in the cropping system
 - 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



(Landrace x Yorkshire) x Duroc

LYxD



Black Spotted x Duroc

BSxD



Black-Spotted x Black-Spotted

BSxBS

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'?



Experimental set-up (2007)

April

17 sows farrowed outdoors

6 BSxBS, 5 BSxD, 6 LYxD

Meat quality: 12 sows (6 BS, 6 LY)

July

Pigs weaned (age 10-11 weeks)

First parity sows slaughtered

Entire male pigs slaughtered (40 kg)

Female pigs stayed litterwise outdoors

Meat quality: 17 entire male pigs

November

Female pigs were slaughtered,

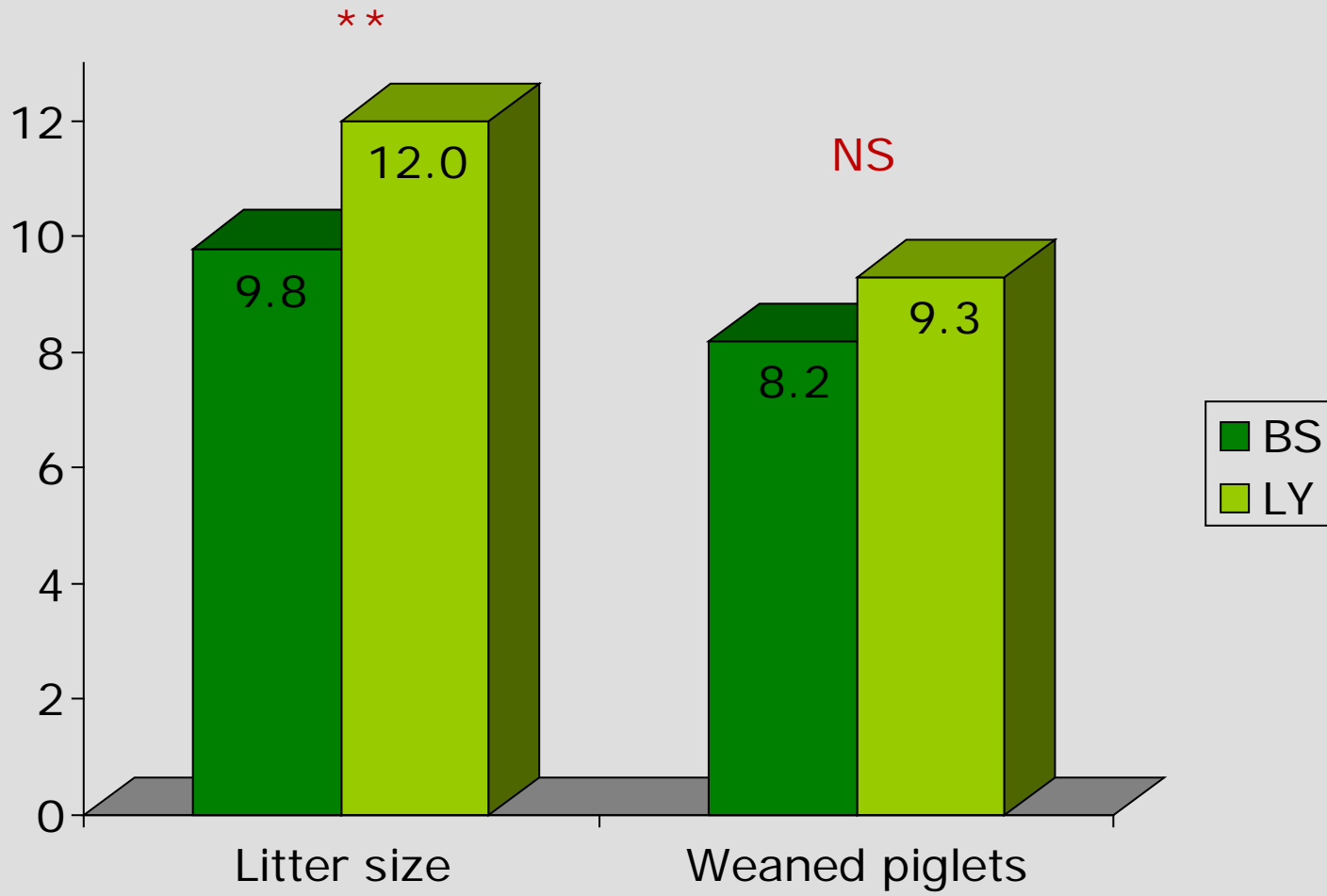
90 kg (BSxBS), 110 kg (BSxD) and 130 kg (LYxD)

Meat quality: 33 female pigs

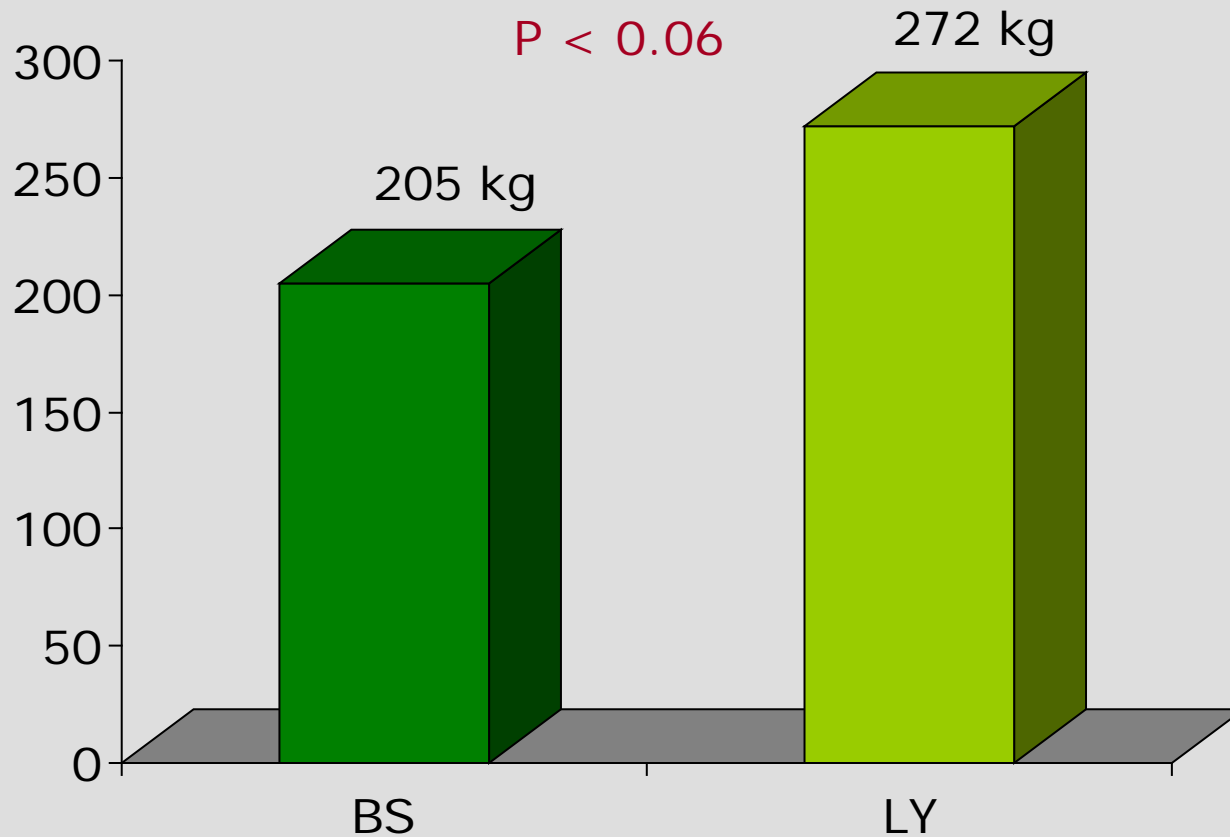
Results from the first year – performance of the sows and female pigs



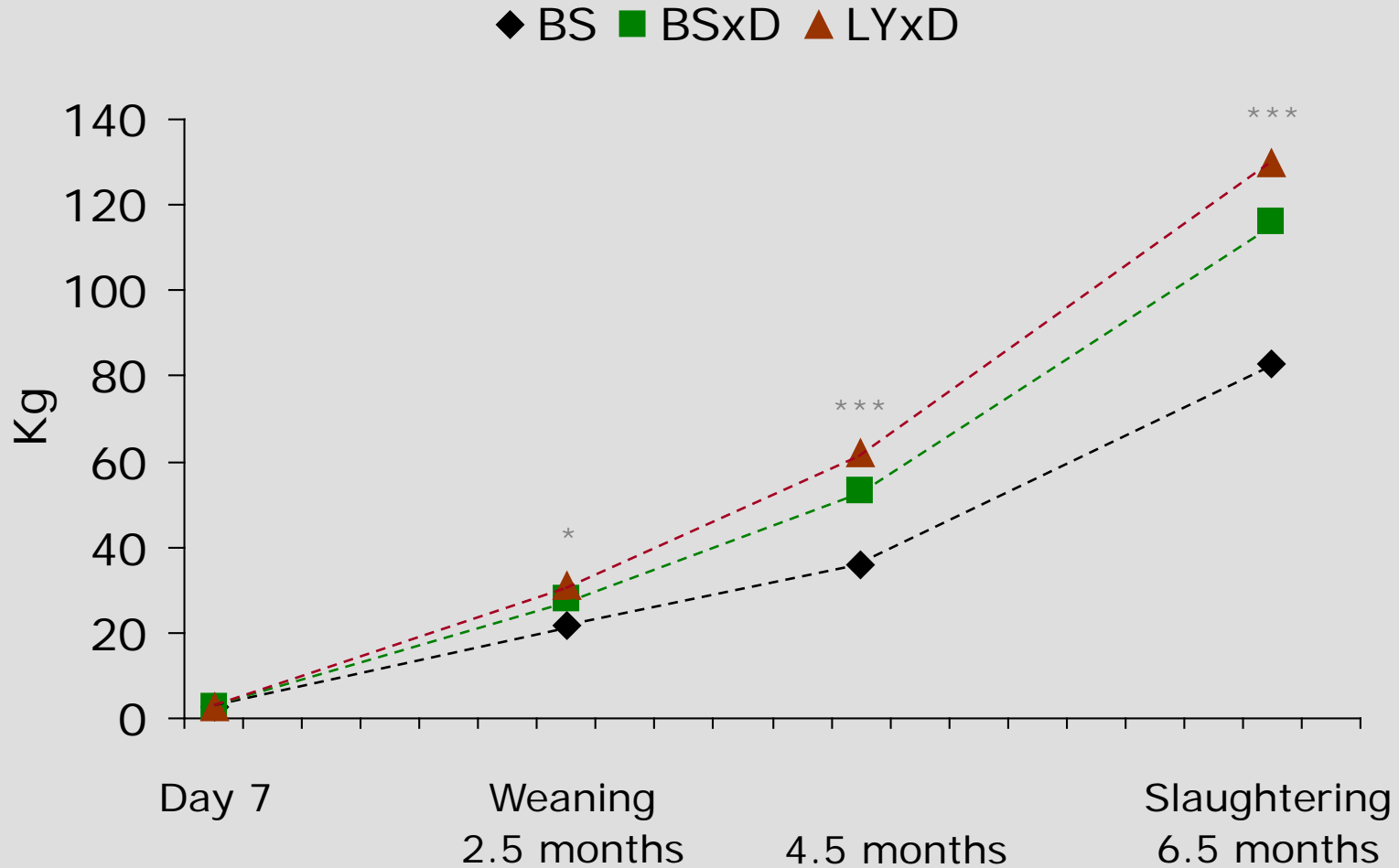
Sow performance



Kg weaned per sow



Growth rate – female pigs

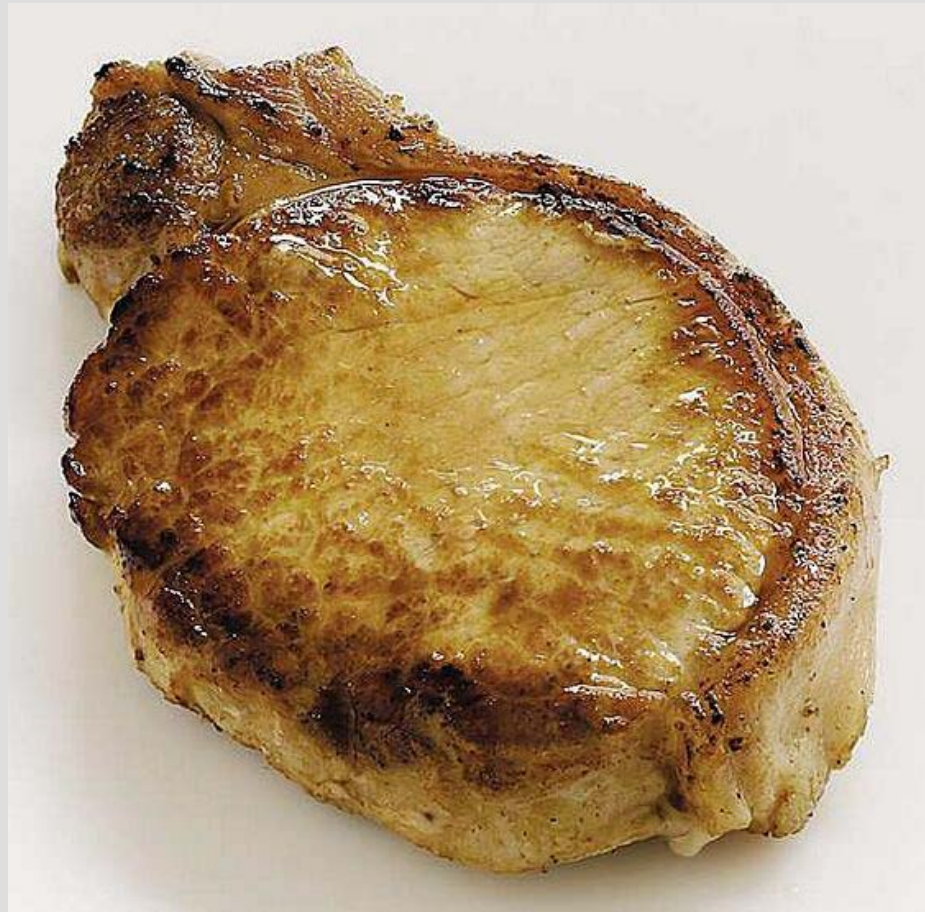


Daily gain from day 7 to day 200, female pigs

g/day	BS	BSxD	LYxD
Mean	421 ^a	591 ^b	667 ^b
Std err	28	29	25

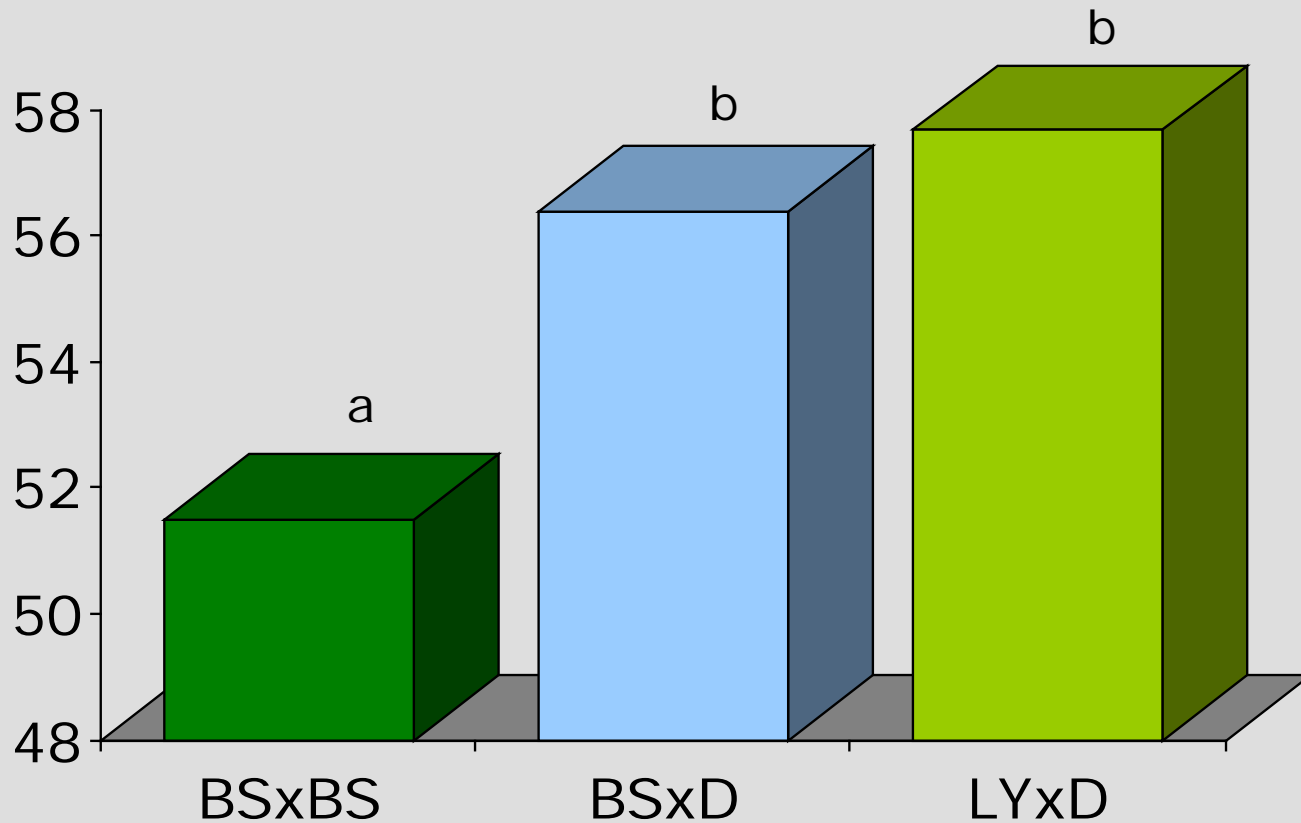
- 246 g = - 37%

Results from the first year – meat quality of female pigs



Carcass quality – female pigs

Lean meat percentage



Meat colour – female pigs

	BSxBS		BSxD		LYxD	
	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		BSxD		LYxD	
	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

Preliminary conclusions

- The traditional breed

- Weaned 25 % less kg per litter
 - Eat considerably less feed per litter produced
 - 37 % 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

This year we further focus on

- Feed conversion
- Grass intake and utilisation
- Foraging behaviour
- Overall evaluation of the concept



Part of a multidisciplinary project

"Quality and Integrity of Organic Eggs, Chicken Meat and Pork"



Homepage

<http://www.qemp.elr.dk/uk/>