

2010



Danish Pig Production

By

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Agenda



- Danish Pig Production
- Danish Pig Breeding scheme – DanBred
- DanBred International (export) *Since 1972*

Danish Pigmeat Industry



2010 (2009)

5,514, farms with pigs
27.7 mio. pigs produced
1.9 mio. tonnes of pigmeat

Live export:
8 mio. pigs

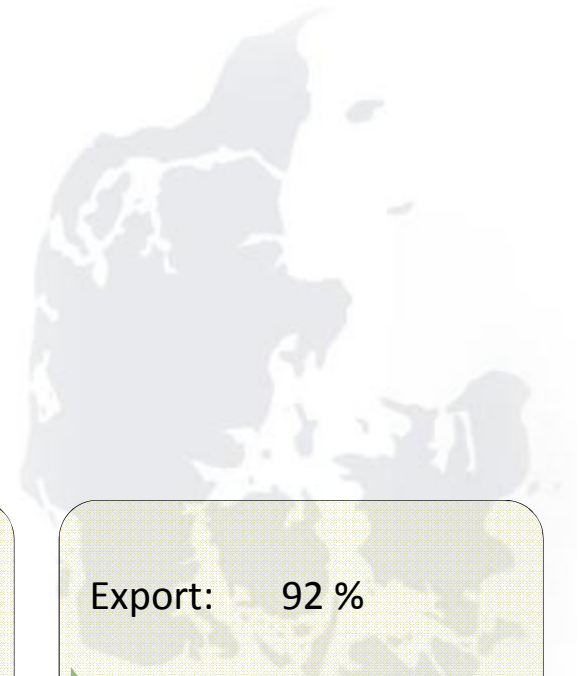
Slaughtering:
Private slaughterhouses:
2 mio.

Cooperative
slaughterhouses:
17,7 mio

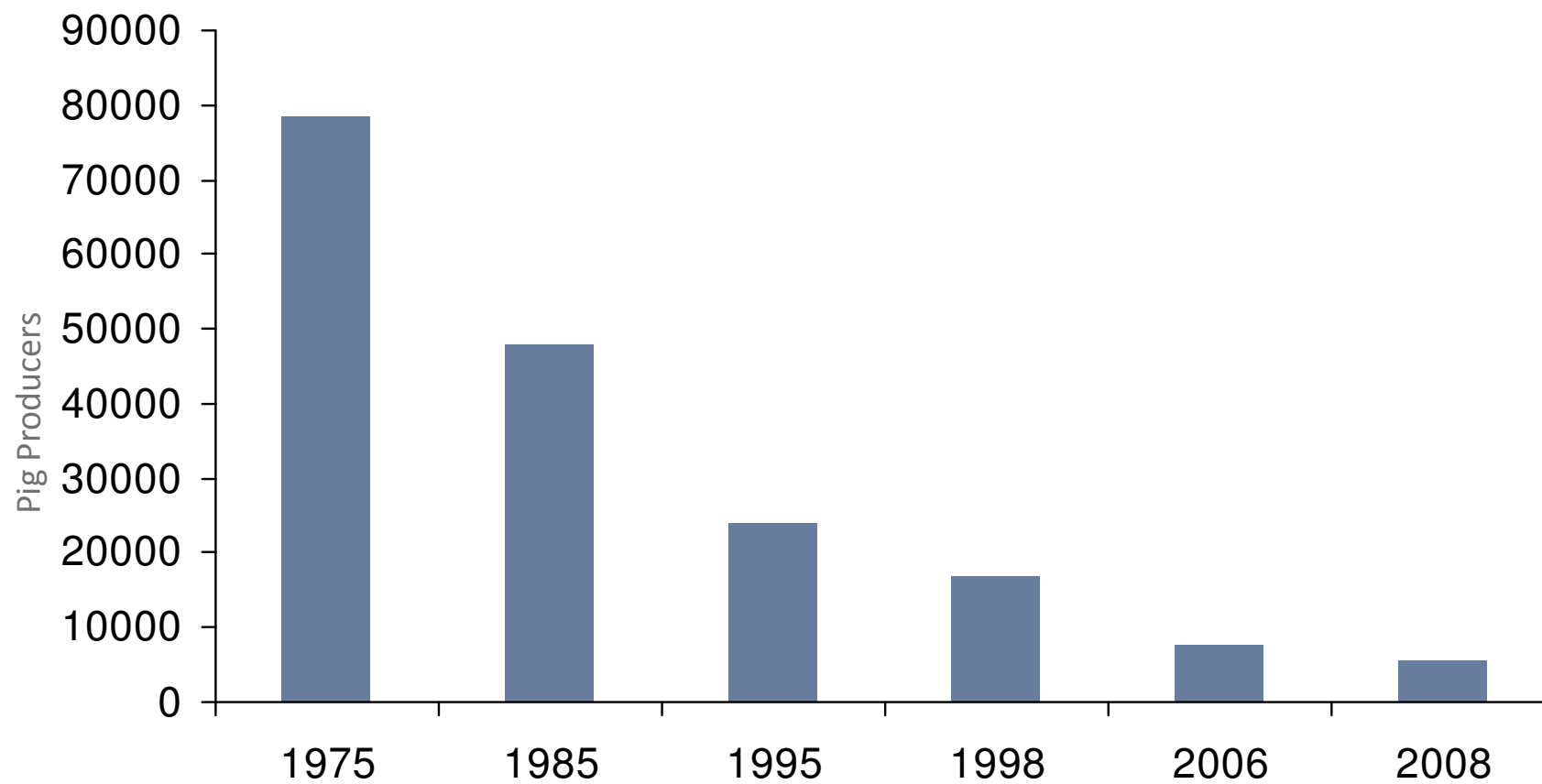


Export: 92 %

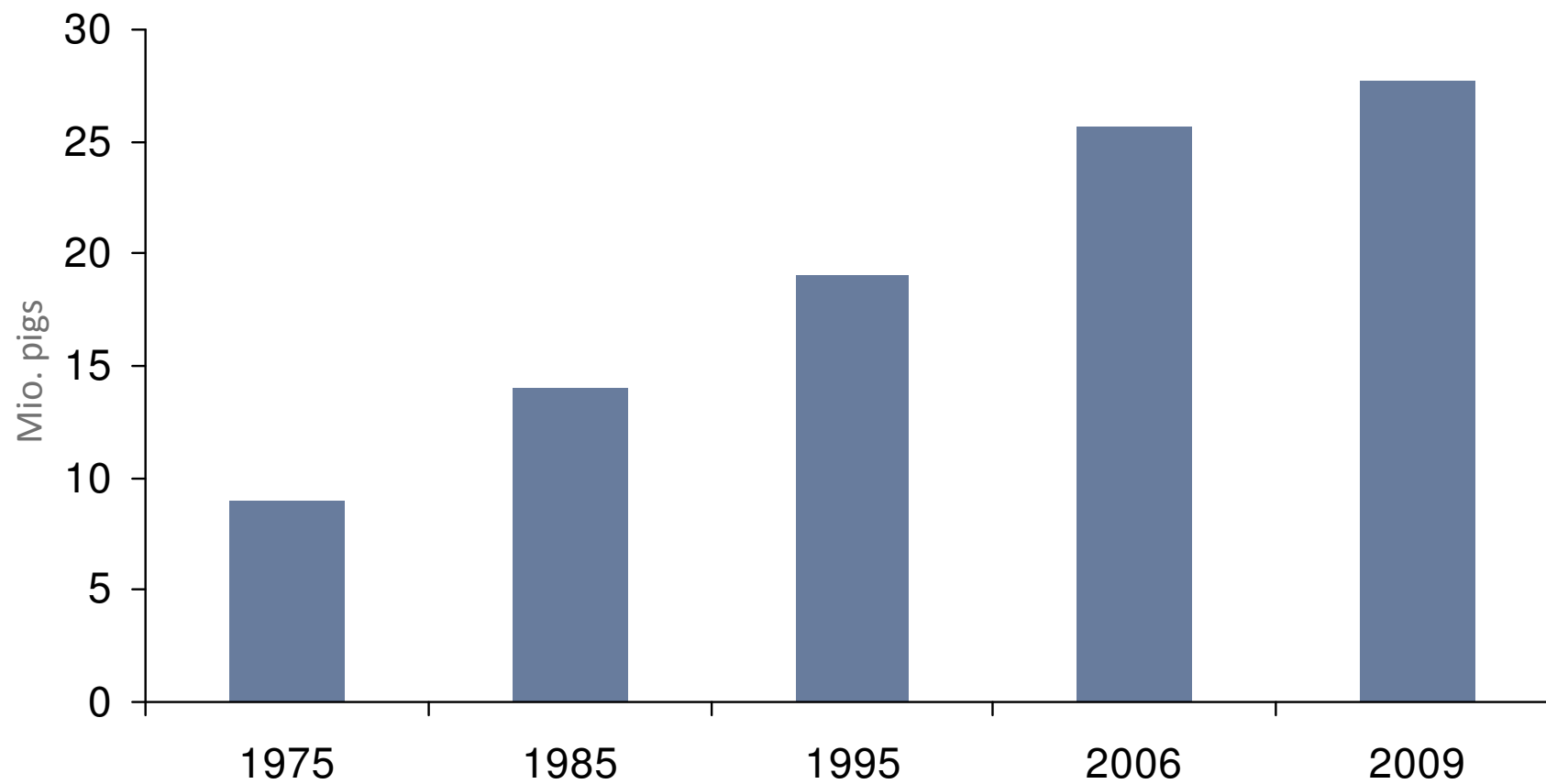
Domestic: 8 %



Pig Producers in Denmark



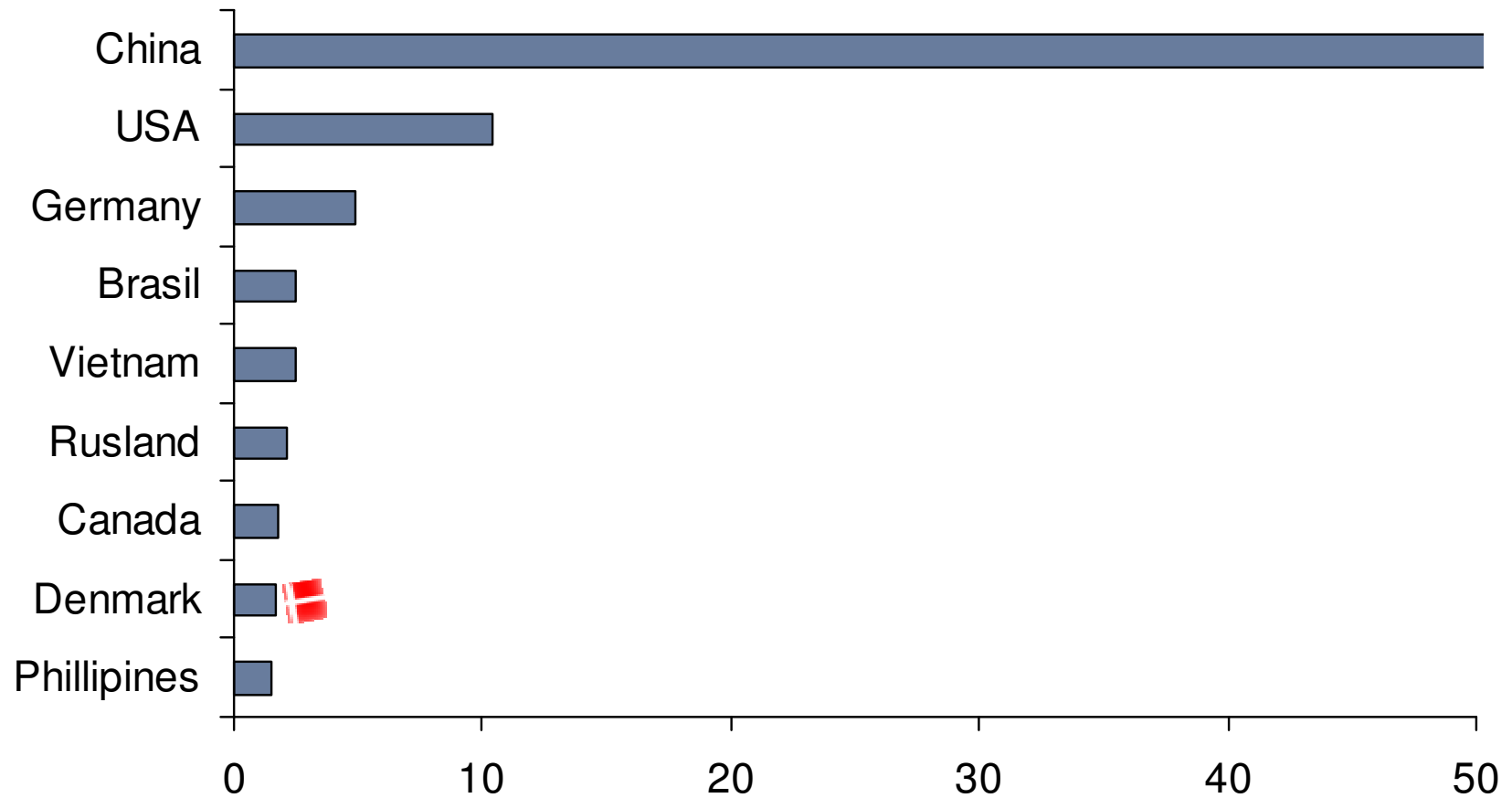
Pig Production in Denmark



World Pigmeat Production 2010



(m tonnes)

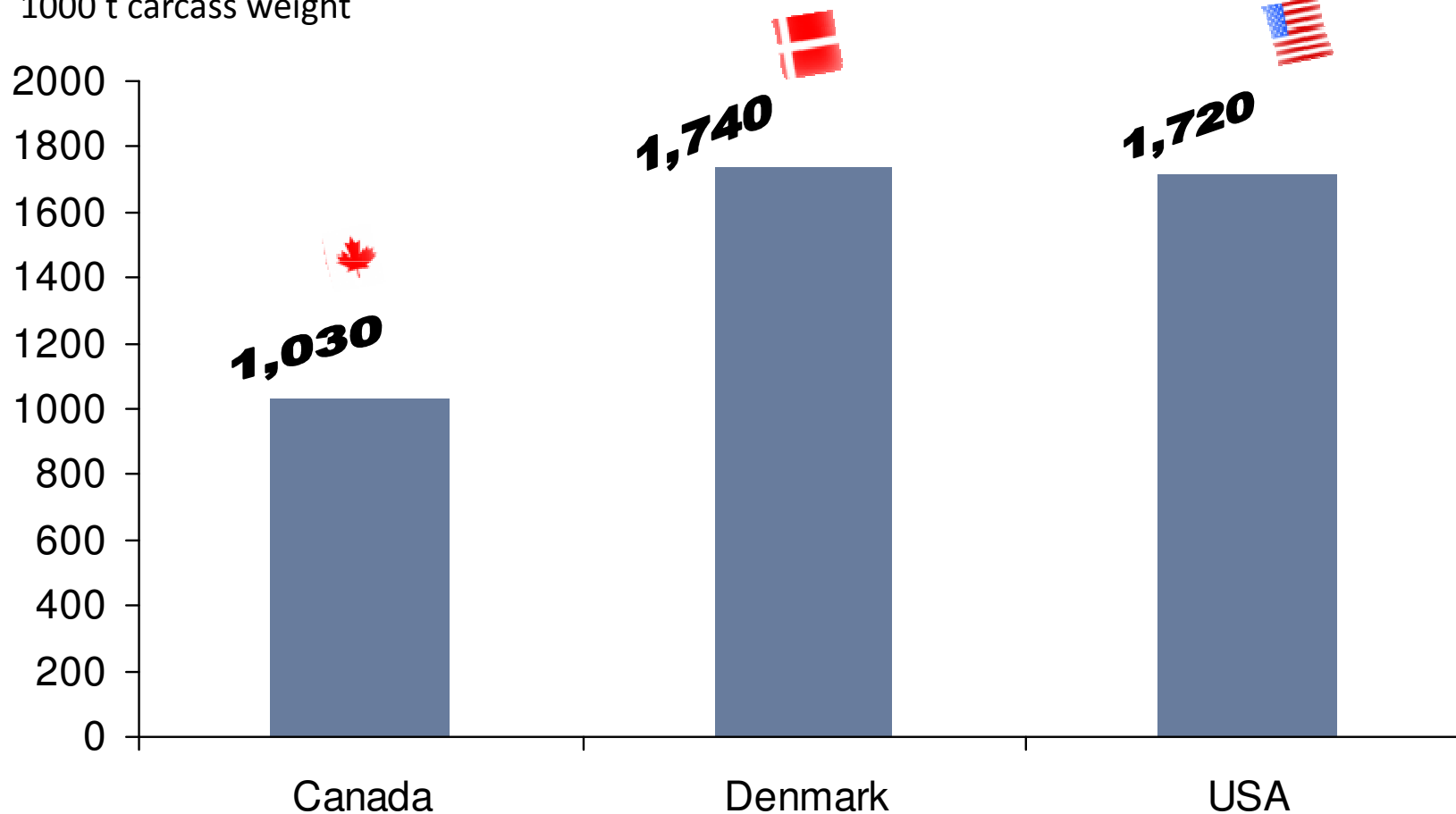


Leading Pigmeat Exporters



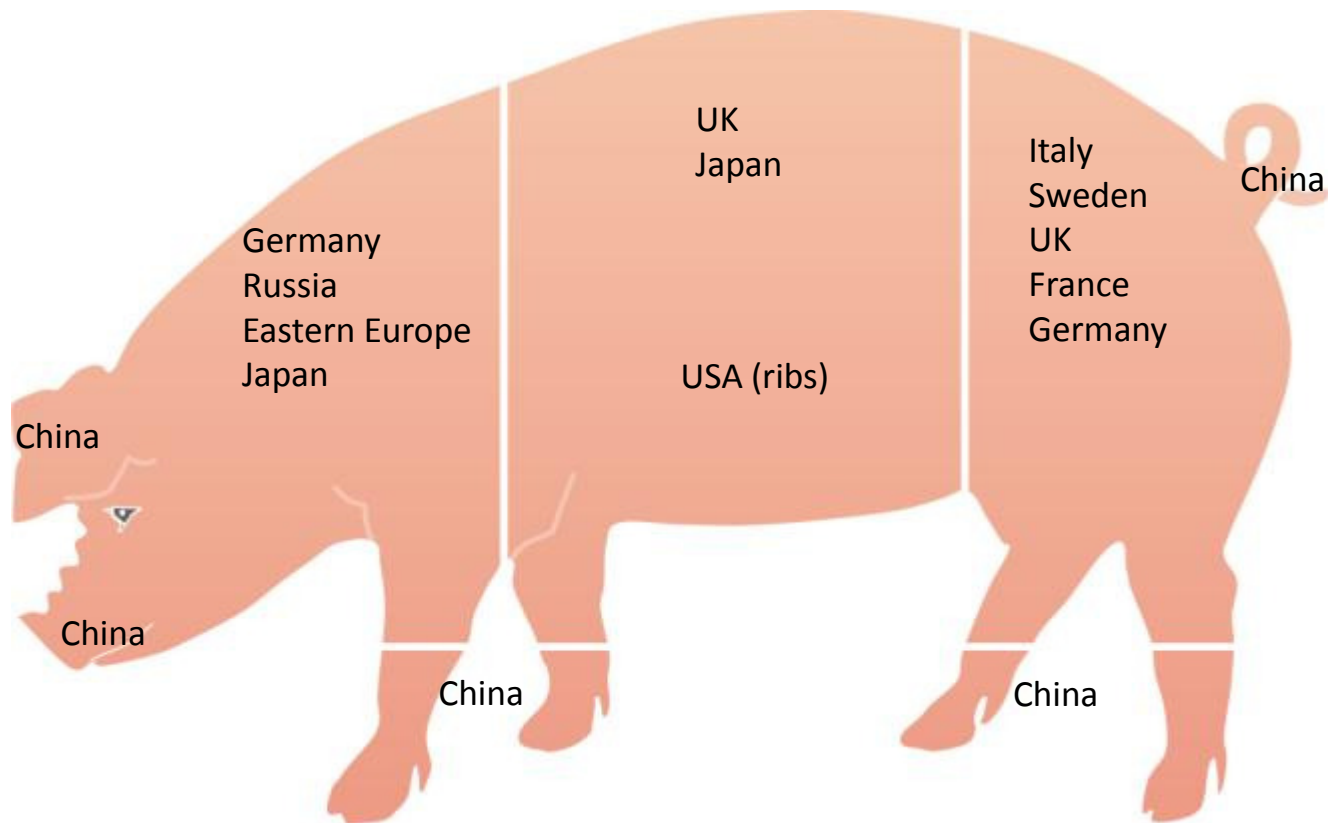
2010

1000 t carcass weight

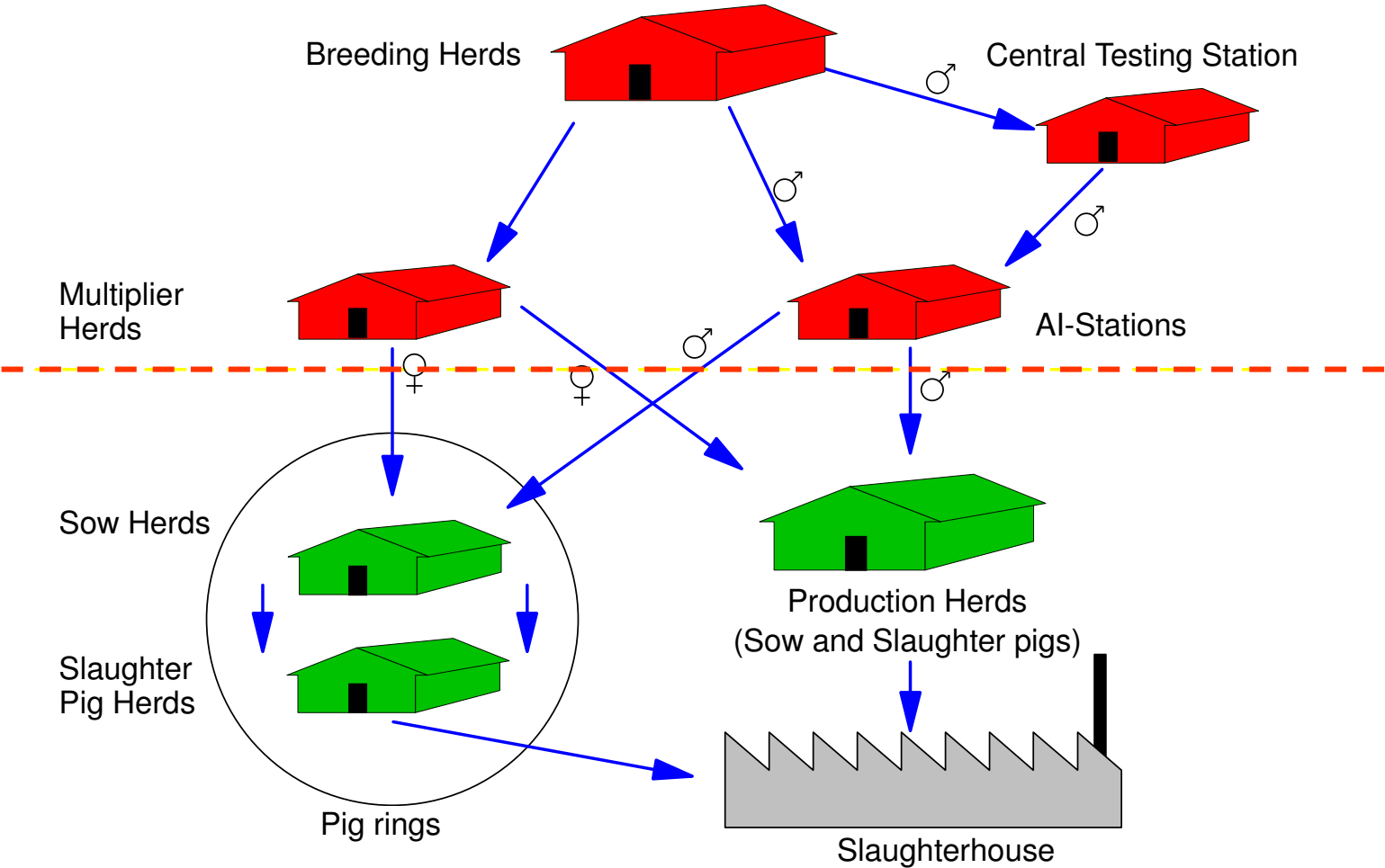


Danish Pigmeat Exports

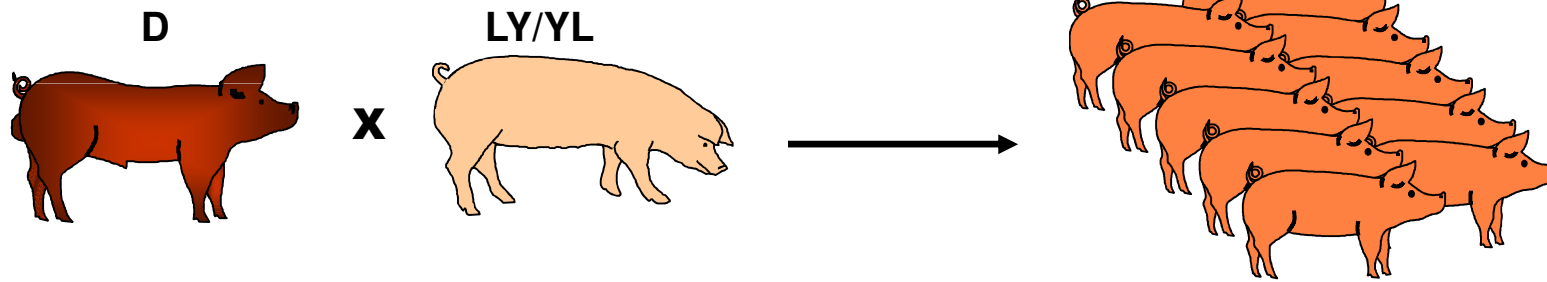
By Country



The Danish pig production



Pig production in Denmark



Breeding structure



- Three breeds (heterosis)
- Specialized breeding objectives (breed type)
- 30 breeders – 16.474 sows
- 141 (169-28) multipliers – 59.968 sows

Danish pig breeds



Landrace

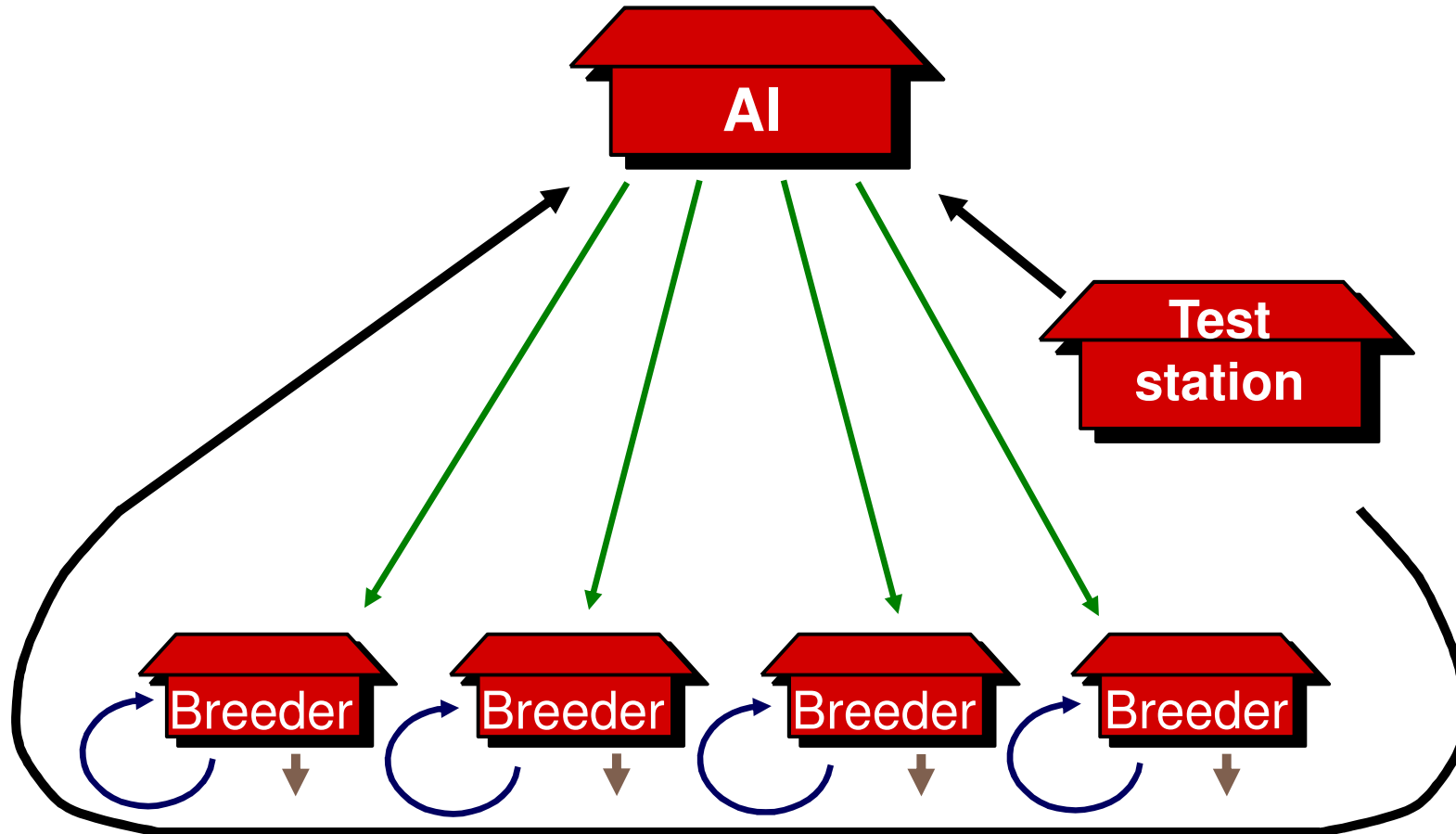


Yorkshire

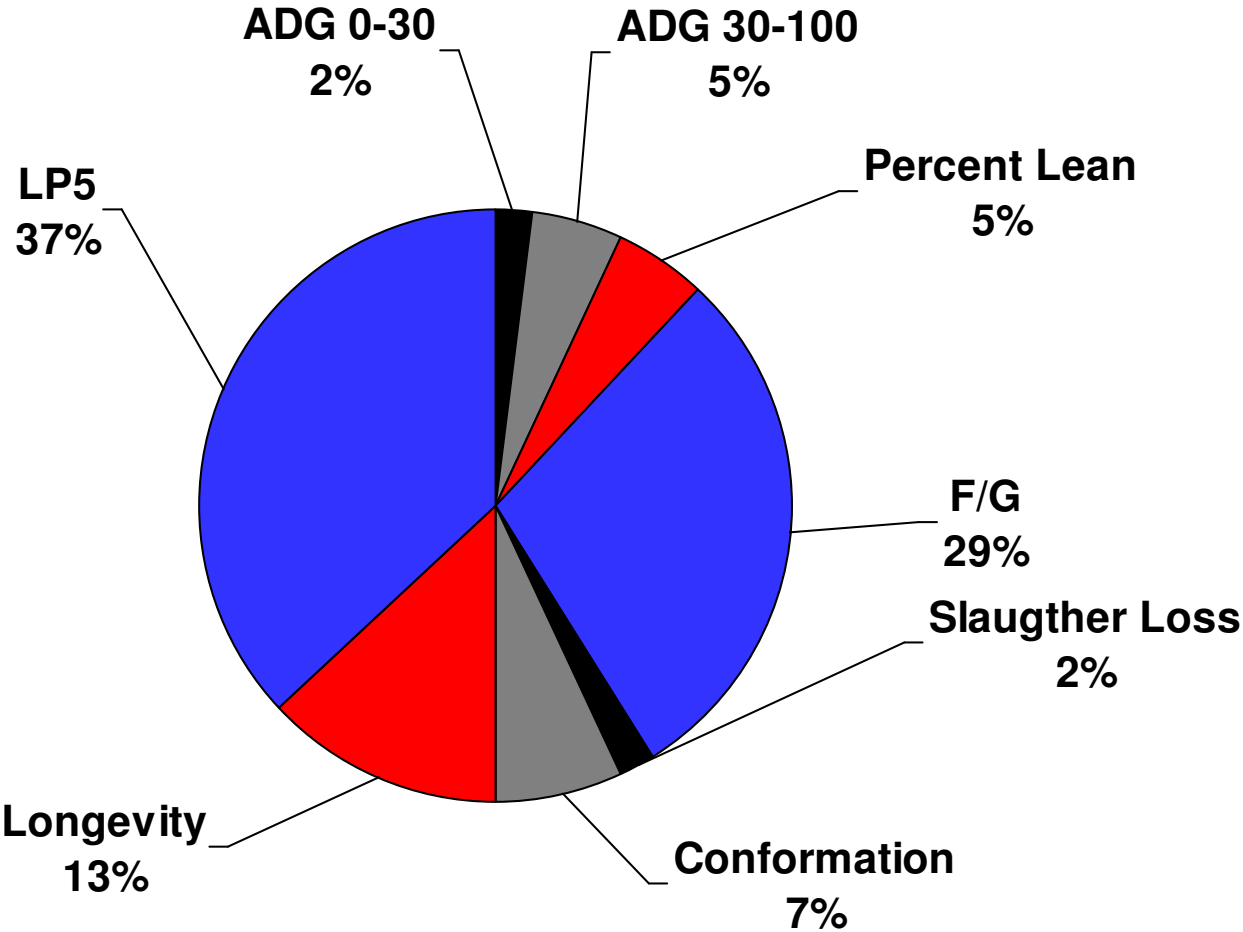


Duroc

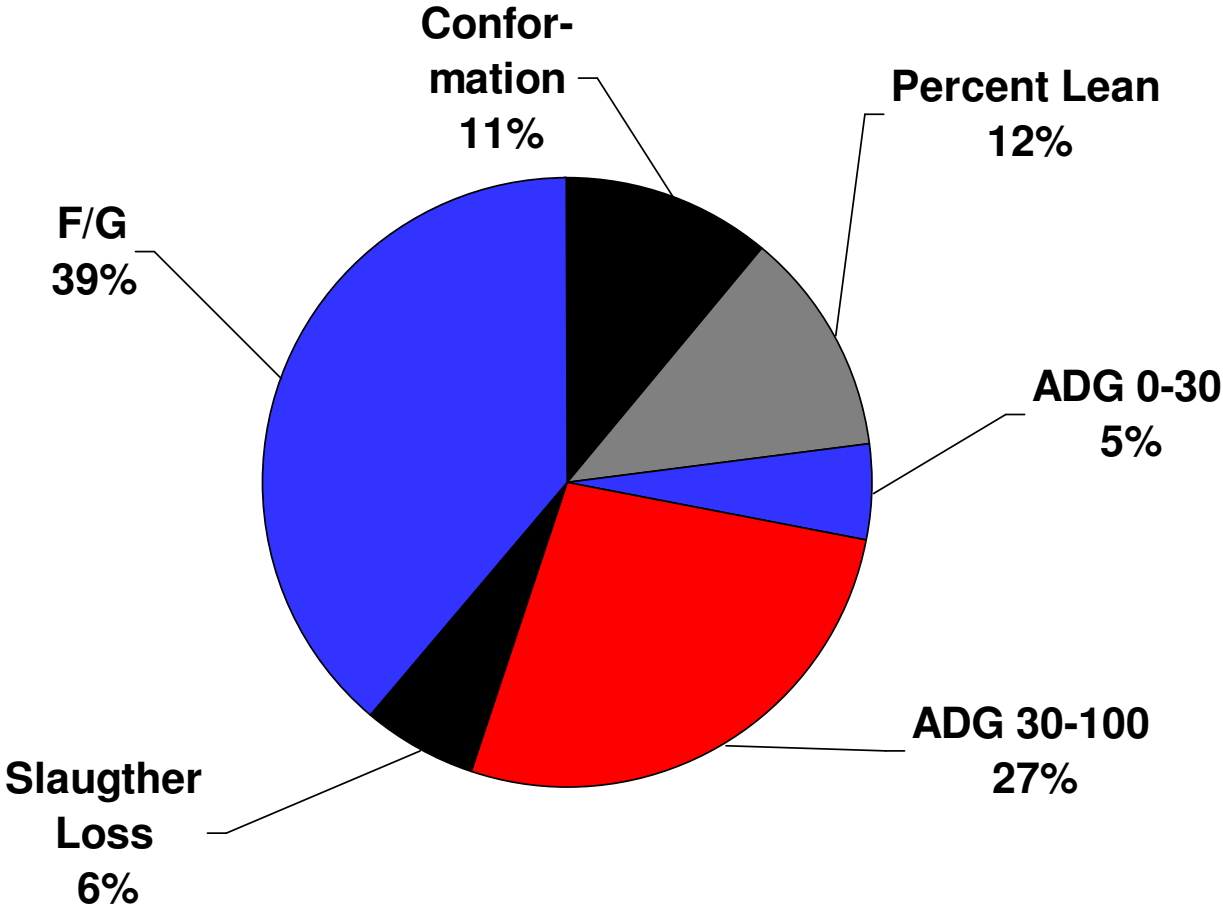
The genetic nucleus



Selection objective – maternal lines



Selection objective – sir lines



Test programme



- On Station

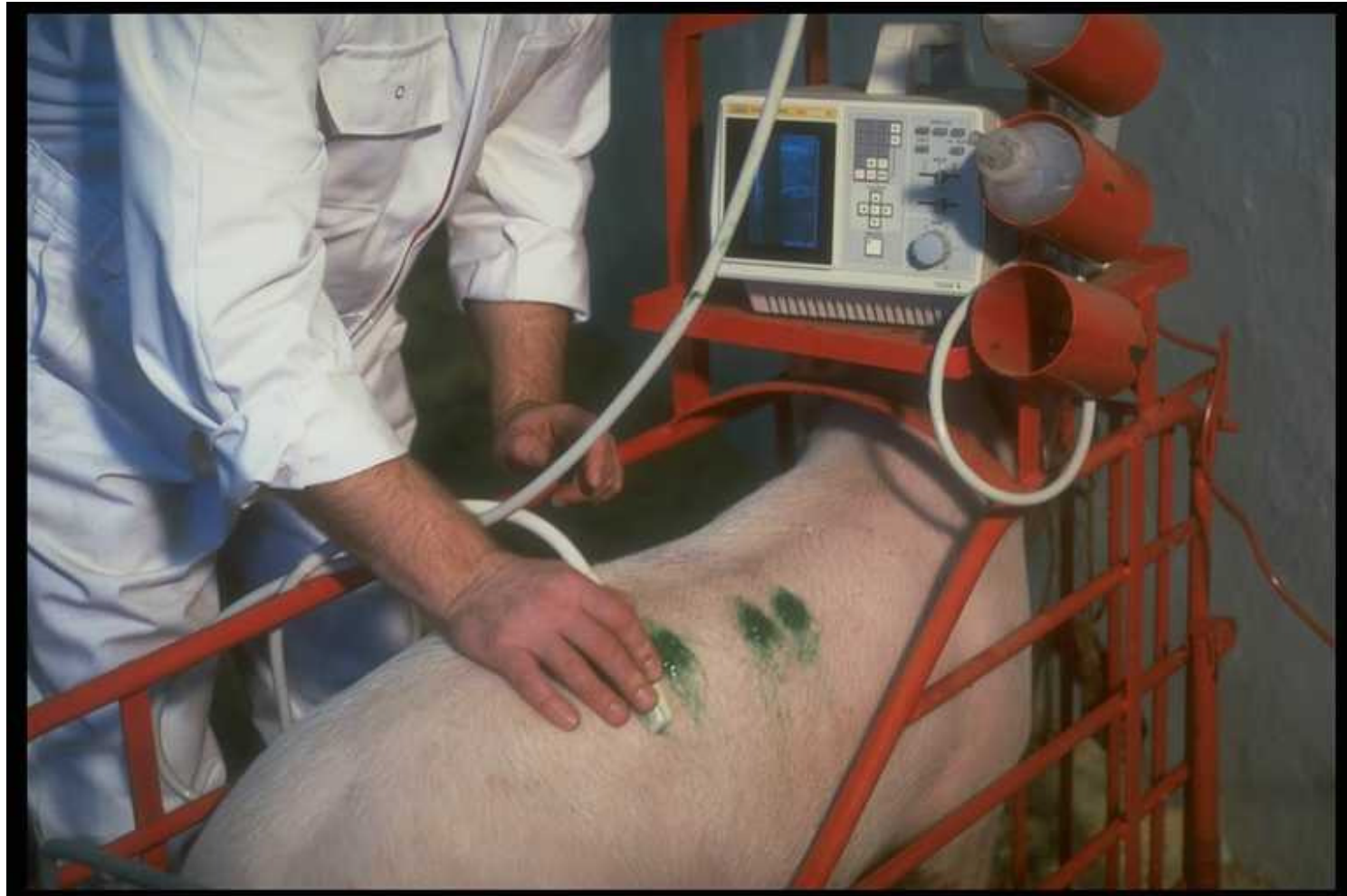
- 5,174 males per year
 - Daily gain 30-100 kg
 - Lean meat percentage
 - Feed conversion
 - Conformation
 - Killing out

- On Farm

- 95,200 males / females per year
 - Daily gain 0-30 kg
 - Daily gain 30-100 kg
 - Lean meat percentage
 - Conformation
 - LP5







Productivity DanBred breeds



Breed	Total born	% sows of first parity
Landrace	15	60,5
Yorkshire	15.5	62,4
Duroc	10	74,7

Breed (male)	daily gain 30-100 kg	Feed conversion	% Lean Meat content
Landrace	963	2.36	61.1
Yorkshire	904	2.36	61.1
Duroc	1007	2.29	60.4

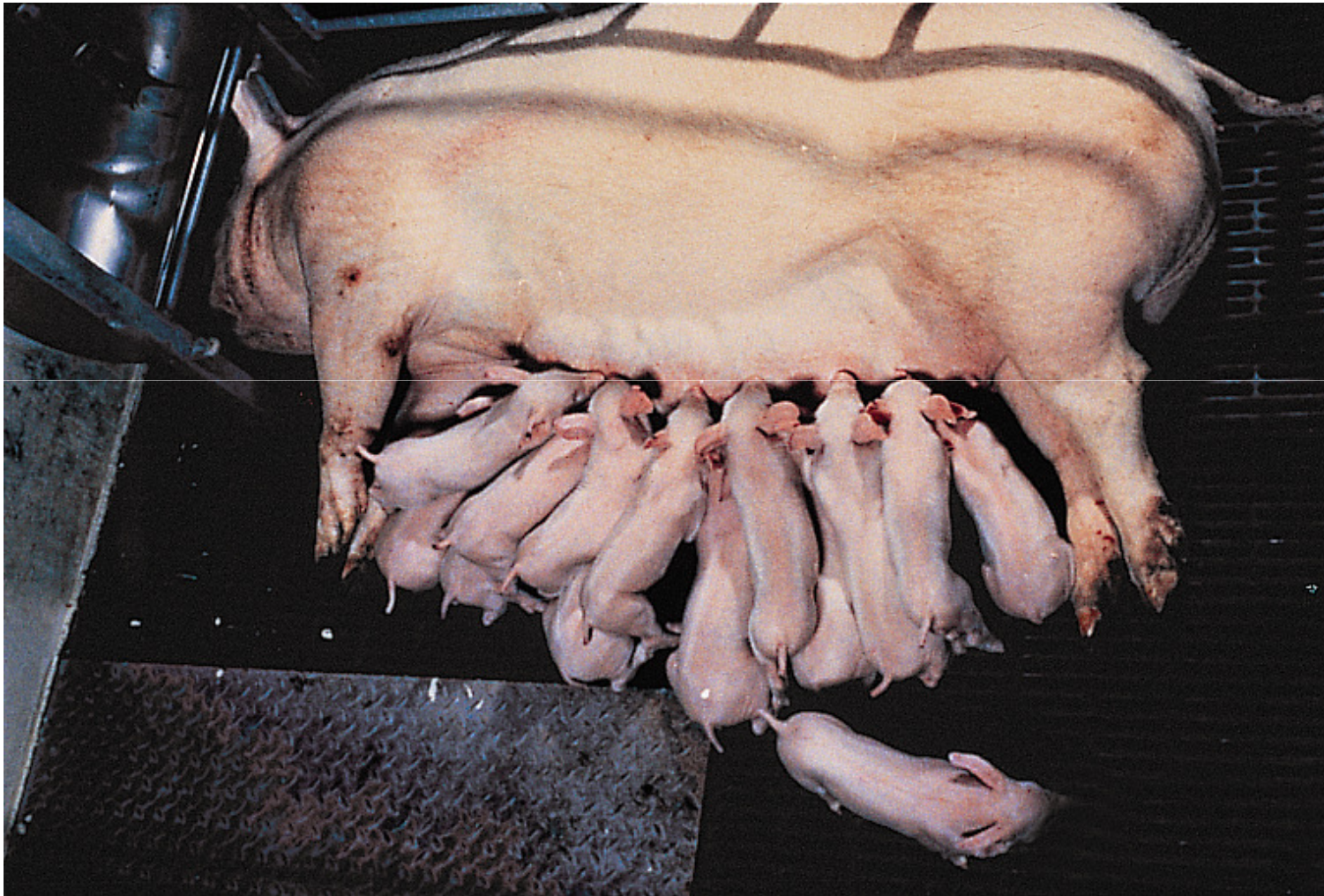
Source: Årsberetning 2008, Avl og Opformering.

Top 5 herds

Sow herds

<u>Herd Number</u>	1	2	3	4	5
Number of sows in the herd	459	344	493	660	479
Weaned pigs per year per sow*	32,5	30,4	30,1	29,7	29,6
Litters per year per sow	2,46	2,41	2,41	2,34	2,37
Liveborn pigs per litter	14,4	13,7	14,1	14,1	13,7
Weaned pigs per litter	13,2	12,6	12,5	12,7	12,5
Age at weaning (days)	25	25	25	28	31
Weight at weaning (kg)	6,1	5,7	6,5	7,3	6,8
Mortality during lactating period (%)	8,3	9,2	8,9	9,0	9,1
Farrowing rate,%	92,5	92,2	90,7	86,5	91,1

* criteria of classification



More than 30 piglets weaned per sow per year?!



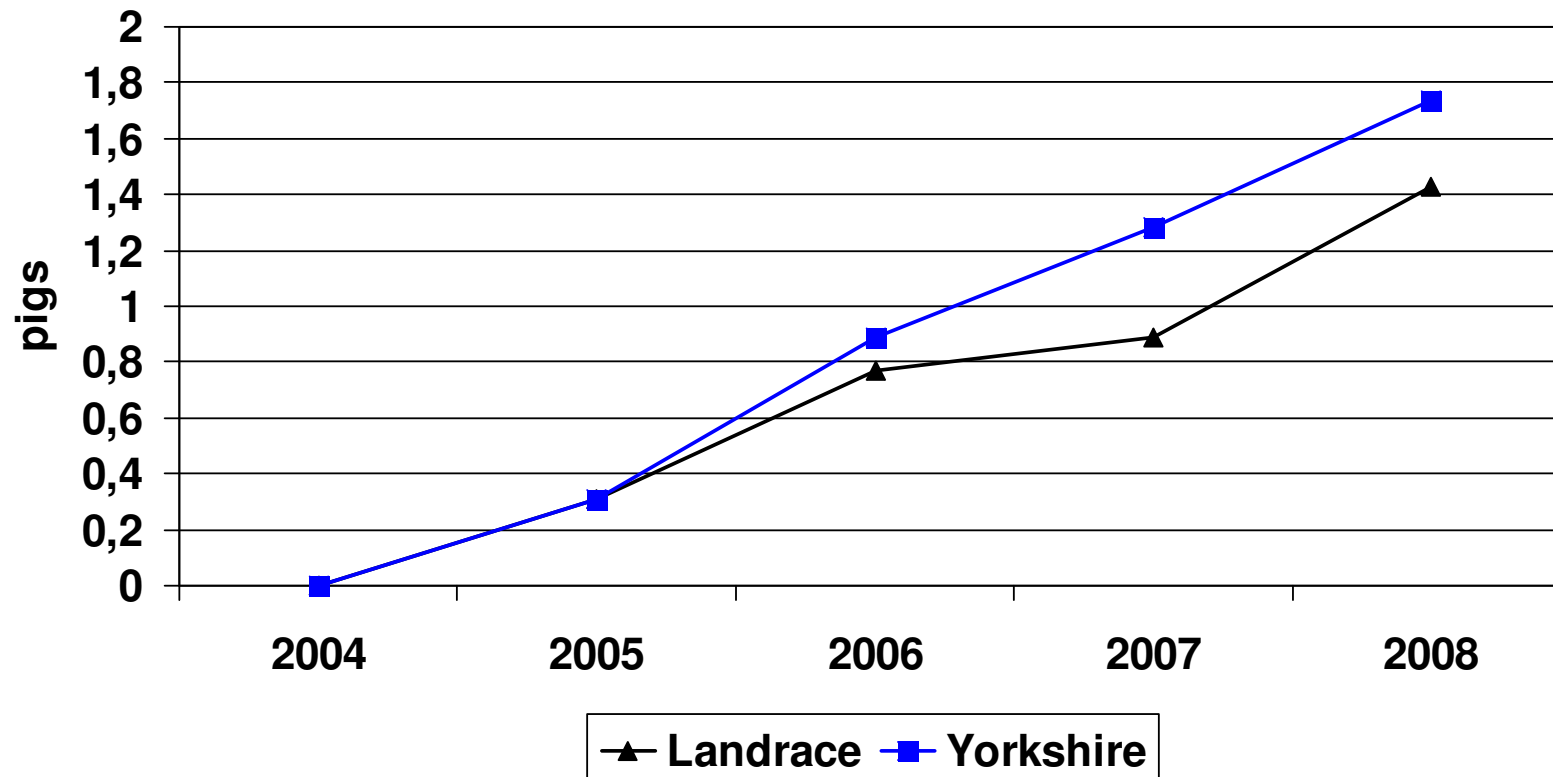
- Top genetics
- Cross breeding
- Top housing
- Top management
- Phenotype = Genotype + Environment
- 'No loss should hit us which can be avoided with constant care'

Herd example



- 650 sows, 12 months, 31.2 piglets/sow/year:
 - 13.8 liveborn per litter
 - 1.2 stillborn per litter
 - 0.9 piglets dead during (28 days of) lactation
 - 12.9 weaned per litter
 - 6 days empty per litter
 - 91.4 % farrowing rate
 - 24 % first parity sows

Genetic progress in litter size



Production records on a typical Danish farm



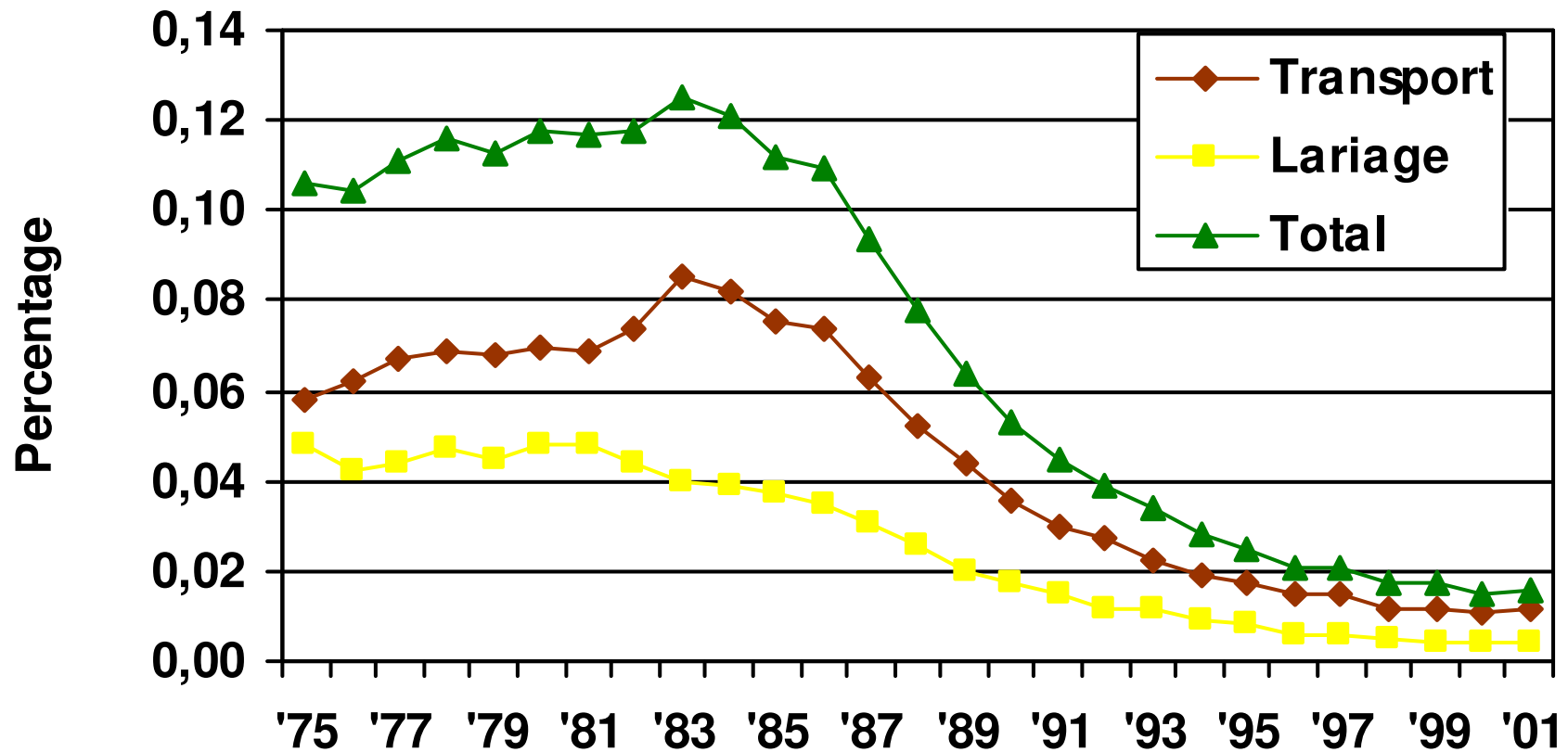
Pigs liveborn per litter	12,9
Pigs weaned per litter	11,1
Age at weaning	31 days
Litters per sow per year including gilts	2,24
Pigs per sow per year including gilts	24,9
Age at 30 kg	86 days
Age at 100 kg	171 days
Daily gain	825 g
Feed conversion	2,88
Pct. lean meat in carcass	60,2 %

Survival trial



- Crossbred offspring of DD, HD and HH sires
- 130 matings to F1-females per combination
- 1200-1500 piglets born per combination
- Survival rate among liveborn piglets:
 - DD: 84.3 %, HD: 78.1 %, HH: 78.0%
- Indication of sire effect within breed

Mortality during transport and lariage



Biotechnology, DanBred projects



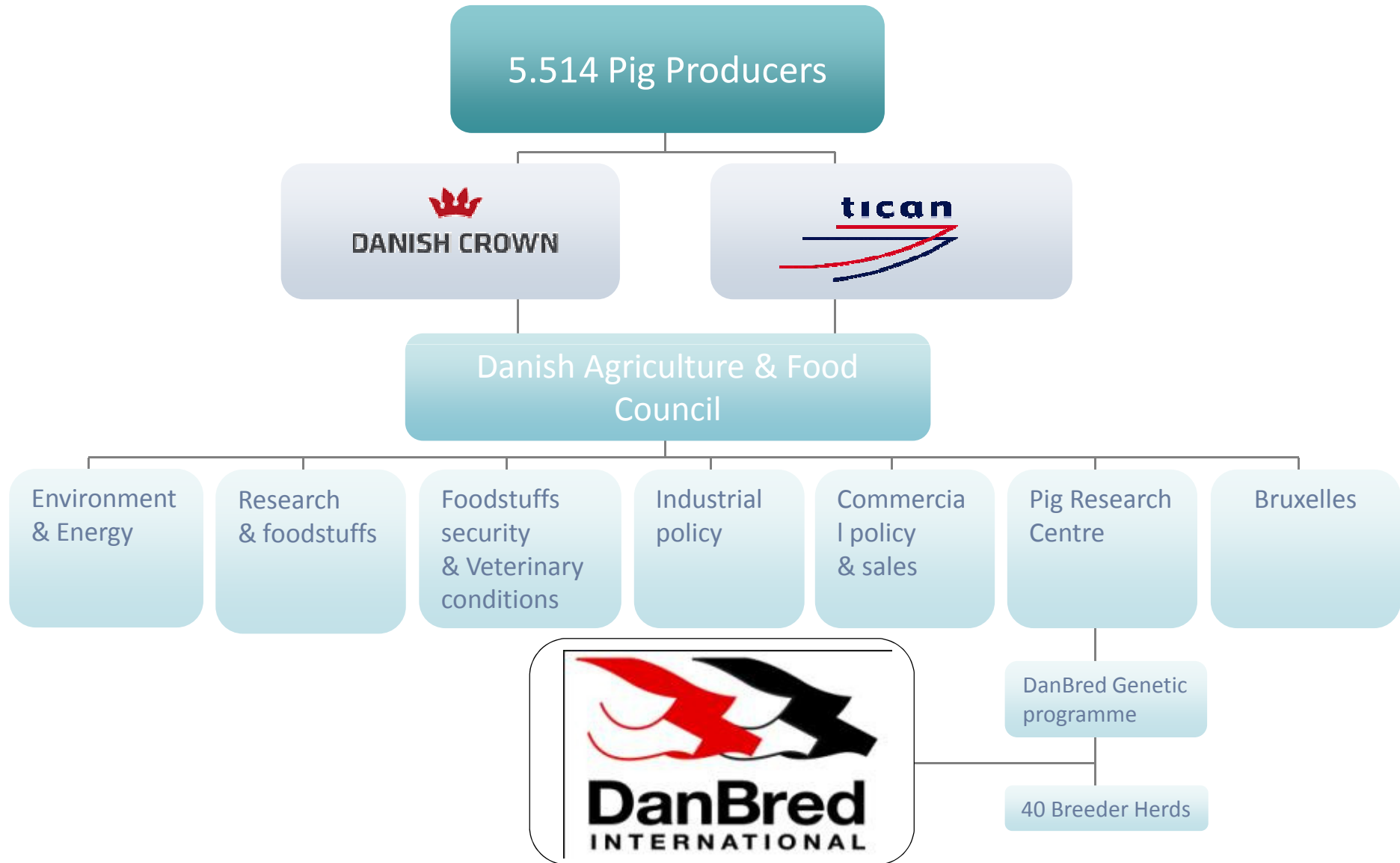
- The halothane gene eliminated in 1996
- The RN-gene eliminated 2003
- Sensitivity to E. coli 149-F4 is being eliminated
- Present projects
 - Pig genome map with BGI
 - Skatole production
 - Salmonella infection
 - Markers/genes for hernias and chryptorchism
- Biotechnology
 - For disease resistance
 - For better meat quality(?)
 - But not for improving gain, fertility etc.

Concluding remarks



- No 1 in number of tested animals
- No 1 in nucleus size
- No 1 in short generation intervals
- Among the 3 best in using biotechnology

Organizational structure



DanBred International



*Sales and Export Association
for Breeding Pigs*



*King Frederik IX's Award
for excellence in export*

DBI has agents/business partners in:



- BELGIUM
- BULGARIA
- GERMANY
- GREECE
- ITALY
- ROMANIA
- SPAIN
- BRAZIL
- CHINA
- MALAYSIA
- RUSSIA
- THAILAND
- USA/CANADA
- KOREA

Countries with DanBred breeding stock



America:

- Brazil
- Canada
- Mexico
- Peru
- USA
- Venezuela

Europe:

- Austria
- Belgium
- Bulgaria
- Croatia
- Czech Republic
- France
- Germany
- Greece
- Hungary
- Italy
- Latvia
- Lithuania
- Macedonia
- Netherlands
- Norway
- Poland
- Portugal
- Romania
- Russia
- Slovakia
- Serbia
- Spain
- Sweden
- Ukraine

Africa:

- Kenya
- Nigeria
- South Africa
- Tanzania

Asia:

- China
- Japan
- Korea, Republic of
- Malaysia
- Philippines
- Taiwan
- Thailand
- Vietnam

DanBred International

Activities



- Backup to Agents
- Direct contact to Farmers
- Exhibitions around the world
- Carry out Exports
 - Make offers / contracts
 - Receive orders
 - Select animals
 - Prepare export documents
 - Load animals on airplanes / trucks
 - Visit customers around the world

DanBred Int. Export by Truck

Using High Health Transportation



DanBred Int. export by Airplane



DanBred International

Customer service



-
- Visits to business relations around the world
 - Technical support
 - Latest test results (equipment and breeding)
 - Management
 - Feeding
 - Housing systems
 - Vaccination programmes
 - Breeding schemes
 - Seminars worldwide

DanBred International in front



- Landwirtschaftskammer Nordrhein-Westfalen
- Participating breeds

Table 1. Participating breeds

	DanBred	BHZP	Hülsenberger	JSR	LRS	PIC	Topigs
Boar	Pietrain	Pietrain	Pietrain	Pietrain	Pietrain	Pietrain	Pietrain
Sow	Dan-Hybrid	Db-Naima	Hülsenberger LW x LL	Gena 90	Rhein-hybrid	Camborought 23	Topigs20

- P x L x W crossbred pigs
- 104 animals (half females and half barrows)
- Test period From 30 – 121 kg.

DanBred International in front



- Animal performance
- Dan-Hybrid sows – superior

Table 2. Animal performance and carcass quality

	DanBred	BHZP	Hülsenberger	JSR	LRS	PIC	TOPIGS	Average
Daily gain g/day	942	877	906	851	875	875	878	887
Feed conversion kg/kg	2.43	2.58	2.51	2.58	2.56	2.55	2.58	2.54
Feed intake kg/day	2.28	2.25	2.26	2.19	2.23	2.22	2.26	2.24
P2 fat, cm	2.20	2.20	2.20	2.20	2.20	2.20	2.20	2.20
Lean meat, %	58.9	58.6	58.7	59.4	58.5	58.3	57.2	58.5
Ham size, kg	18.3	18.2	18.1	18.4	18.1	18.0	17.7	18.1

DanBred International in front



- Reproduction
- DanBred - 1,32 piglets better than the second best
- Weaned pigs per litter

Table 3. Reproduction results

	DanBred	BHZP	Hülsenberger	JSR	LRS	PIC	TOPIGS	Average
Liveborn pigs per litter	13.63	11.74	11.70	11.70	11.43	11.80	12.31	12.05
Mortality, piglets per litter	1.86	1.71	1.55	1.55	1.52	1.99	1.48	1.69
Weaned pigs per litter	11.04	10.03	10.04	10.14	9.96	9.93	10.74	10.27

DanBred International in front



- Economic value
- DanBred – 8,33 €/pig better

Table 4. Economical contribution per pig shown as difference to the average contribution of the participating breeds.

Economy/profit	DanBred	BHZP	Hülsenberger	JSR	LRS	PIC	TOPIGS
€ per pig	8.33	-2.32	0.82	-1.45	-1.26	-2.92	-1.39

- Conclusion – DanBred outclasses all other breeds



Housing of pregnant sows



Housing of pregnant sows



Pregnant sows

Before 1999



Year 2007



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