

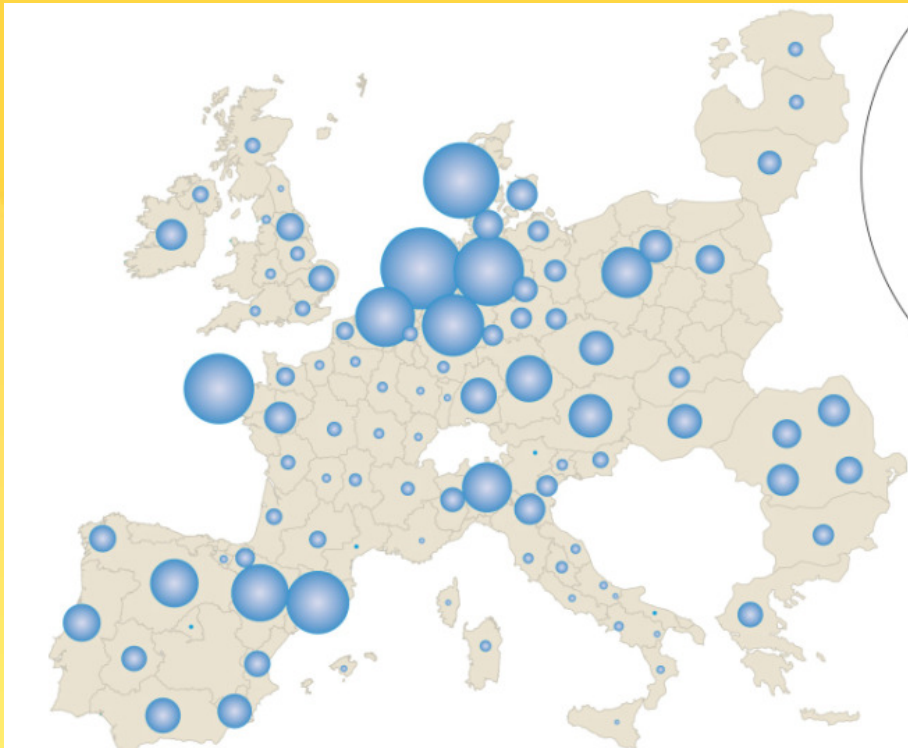
Genetic has an influence on production levels
—
Practical experience with different sow lines in
France

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Program

1. French production
 1. Global observation
 2. Performance of French herds
2. Performance and genetic
 1. French genetics
 2. Danbred
3. The sow in France around farrowing

Quick overlook of the French pig production



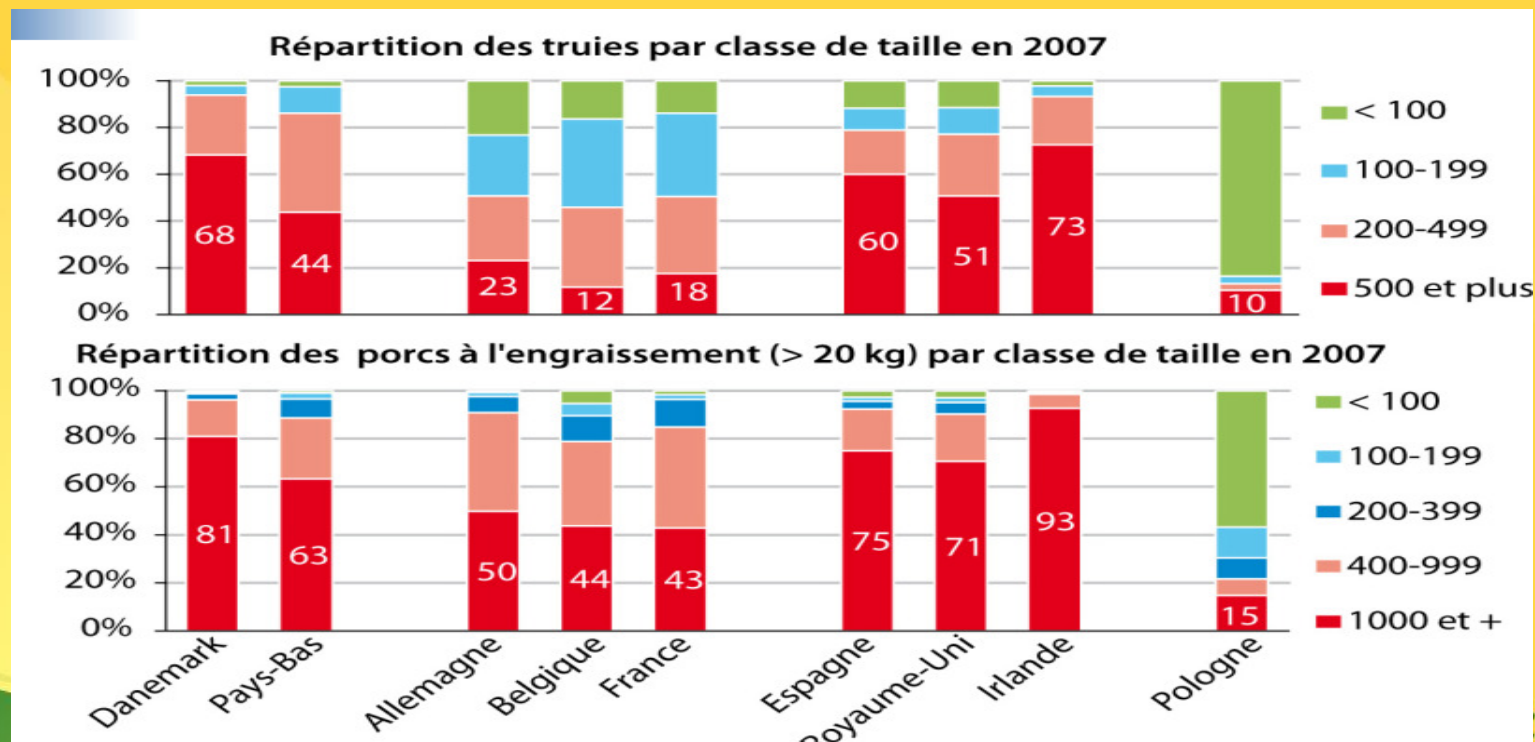
- ▶ High pig density in West of France
- ▶ 2009
 - 1,1 million sows
 - 24,9 pigs culled

Quick overlook of the French pig production

- ▶ Development of French pig production historically bound to Coops
- ▶ Coops with a full management of the production
 - Genetic
 - Feed
 - Slaughterhouse
 - Veterinary and technical service
 - ...
- ▶ Different approaches for the different groups
- ▶ Technical improvement sometimes worked in common through the Ifip (French equivalent for Dansk Svineproduktion)

The French herds

- ▶ 210 sows / herd
- ▶ Farrow to finish units (70% of the sows in 2009)
- ▶ Growth of multisite units proportion



The French herds

► Older building

- In 2008, 75% of French pig facilities were older than 15 years old
- Data that must be taken in count to compare Danish and French figures

► Welfare

- Less than 30% of the sows housed in group in France
- More than 70% in Denmark

Health status of French herds

- ▶ PRRS
 - Only EU strain in the western part of France
- ▶ Influenza
 - H1N1 and H1N2 (new strain in extension)
- ▶ *Mycoplasma hyopneumoniae*
 - Most commercial herds positives
- ▶ *Actinobacillus pleuropneumoniae*
 - Most virulent strains B1S2, B1S9
- ▶ *Brachyspira hyodysenteriae*
 - No clinical signs, no official status
- ▶ Mange
 - Most commercial herds positives
 - No official status

Productivity levels

	Mean	Best 25%	Worst 25%	Dk (2008)
Weaned / sow in production/year	27,9	29,7	24,9	27,2
Weaned / litter	11,3	11,8	10,3	12,1
Live born / sow	13	13,4	12,3	14
Dead born	1	1	1,1	1,8
Mortality until Weaning	13,1	11,2	16,4	13,8
Lactation lenght	24,3	22,9	26,1	32
Weaning Weight	7,3	7	7,6	7,3
Number of cycle / year	2,47	2,52	2,4	2,25
Days from Weaning to 1st service	6,2	5,9	6,8	5,1
Fertility (%)	89	91,4	84,3	

Annual report 2009 - Danish Agriculture and Food Council, Pig Research Centre.

Le Porc par les Chiffres, éditions 2010 – 2011 – Ifip Institut du porc.

Comments on productivity

- ▶ Higher prolificacy in Denmark
 - 15,8 total born vs. 14
- ▶ But smaller difference on total live born
 - Increase in Dead born
 - Same tendency observed in the highly prolific herd in France (often more than 1,5 dead born if more than 15,5 total born)
 - Limit to the prolificacy improvement
 - Work to do on viability of the piglet
- ▶ Difference in prolificacy explain the higher weaning performance / litter
 - Same mortality levels under the sow

Comments on productivity

- ▶ Short lactation in France
 - 24,3 days but 32 days in Denmark
 - Rise of weaning at 21 days proportion
- ▶ But same weaning weight than in Denmark (7,3kg)
 - Lactation length is not weaning age (it is an overestimation of the age of piglet at weaning)
 - Feeding strategies ?
 - Genetic ?
- ▶ Days from weaning to 1st mating
 - 6,2 days in France; 5,1 in Denmark
 - Change in the Danish calculation ?? (drop from 6 to 5,1 days between 2007 and 2008!)
 - Can be also explained by a shorter lactation in France

Comments on productivity

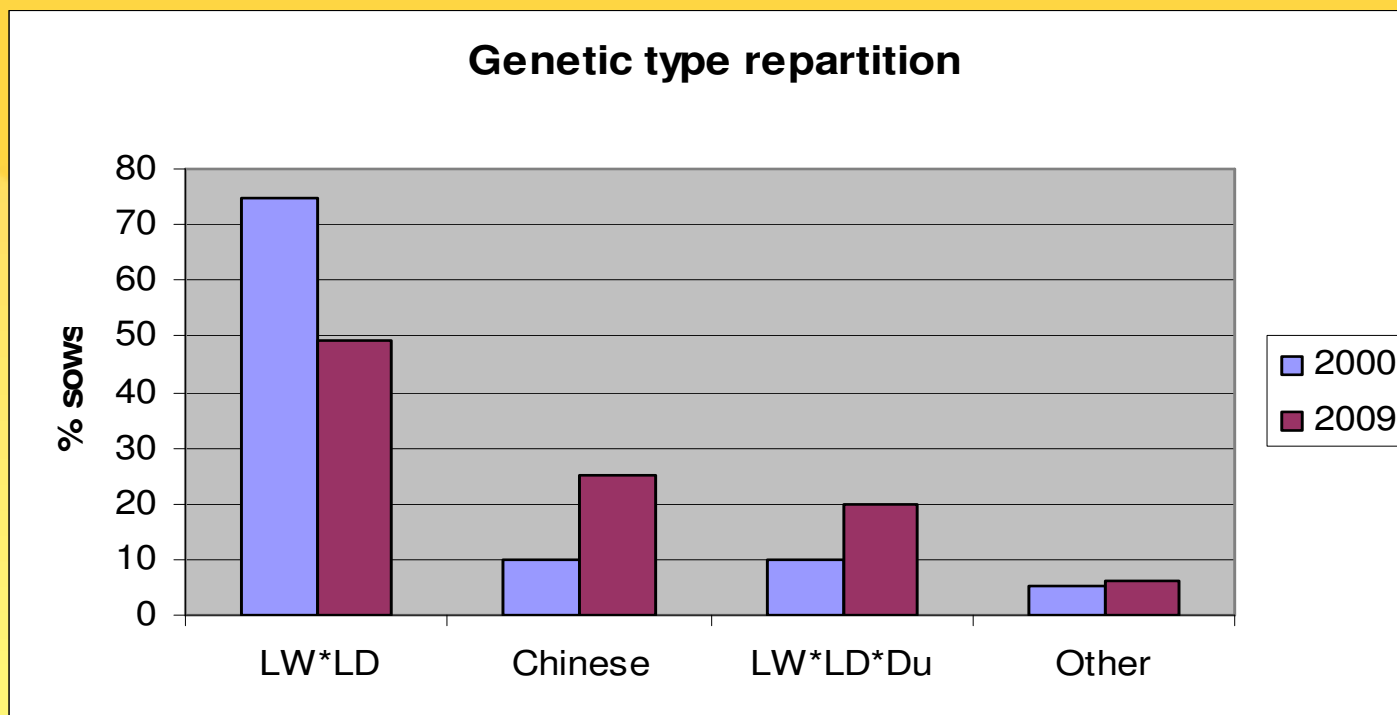
- ▶ Equivalent number of weaned pigs / sow in production / year
 - 27,9/litter in France in 2009; 27,2 in Denmark in 2008
 - Just because of a shorter cycle

Performance and genetic

Genetic in French production

► 3 main genetic types

- Classic LW * LD cross breeding
- Breedings with Chinese blood (Meischan...)
- LW * LD * Duroc

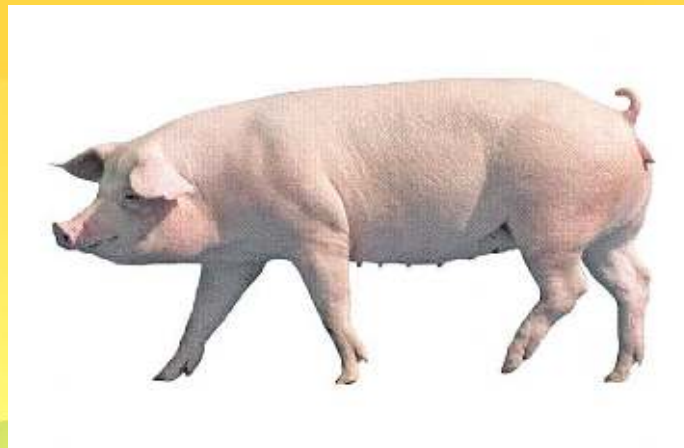


Genetic suppliers

- ▶ Many genetic suppliers
 - Nucleus
 - Gene +
 - Hyporc / France Hybride
 - Pen ar Lan
 - ADN
 - PIC
 - Topigs / Daland
 - (Danbred)
- ▶ Different genetic types for each supplier

Duroc lines and Topigs

- ▶ Good maternal behaviour
- ▶ Healthy sows (small loss of back fat during lactation, good legs, good longevity...)
- ▶ "Small" sows
- ▶ More nervous, harder to manipulate
- ▶ Lower prolificacy (even if we can see an improvement)



- ▶ Good prolificacy levels
- ▶ Medium maternal behaviour
- ▶ Bigger sows
 - Higher feed consumption (in particular for Hyporc sows (France Hybrid))
 - Inferior leg quality (even if improvements are done)



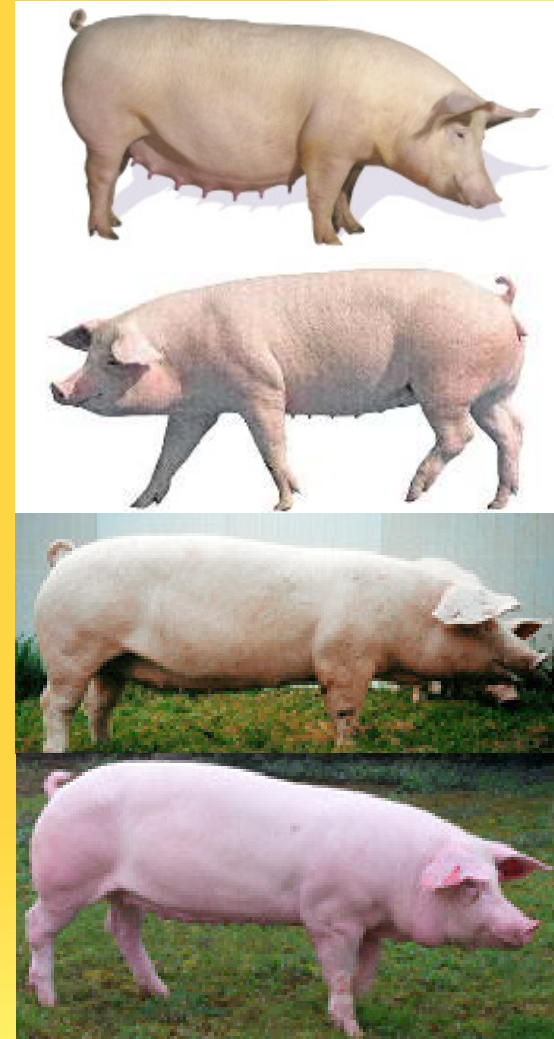
Chinese lines

- ▶ Results close from classical LW*LD
 - Best prolificacy levels (0,2 – 0,3 total born)
 - Normally more maternal sows
- ▶ Good milking performance
- ▶ Good longevity
- ▶ A bit more difficult to conduct the feeding strategy.



Management great lines

- ▶ No big difference between the different lines
- ▶ Feeding program
 - Chinese lines : more extra-feeding after weaning
 - Duroc / Topigs : smaller loss of body condition during milking period – lower extra-feeding
 - Anyway small variation between genetics (0,2 – 0,3 FUs)
- ▶ Sow behaviour
 - Duroc / Topigs : avoid any intervention that is not necessary.
 - LW*LD / Chinese : less dynamic sow, more presence needed in farrowing unit.



Conclusion

- ▶ Genetic is a source of variation of the results in farms
- ▶ BUT it is secondary to
 - Health status
 - Feeding strategies
 - Management of the farm
- ▶ Too easy to say I will improve my results thanks to genetic when closing the eyes in front of the real problems

French genetics / Danbred

- ▶ Considering the fact that Danbred is the « only » genetic line in Denmark
 - Global Danish results reflects potential of the Danbred genetic
- ▶ Comparison biased by many factors
 - Management (milking period)
 - Feeding strategies
 - Buildings
 - Health status
 - ...

- ▶ Close from the LW*LD hyper prolific
- ▶ « big sow »
 - High ingestion levels
- ▶ More fragile sow
 - Higher mortality rate (15% in Dk vs 4,2% in France)
 - Bound in part to the long lactation in my opinion
 - ▶ Euthanasia if big shoulder wound
 - ▶ Thicker sow
 - But it doesn't explain such a mortality difference

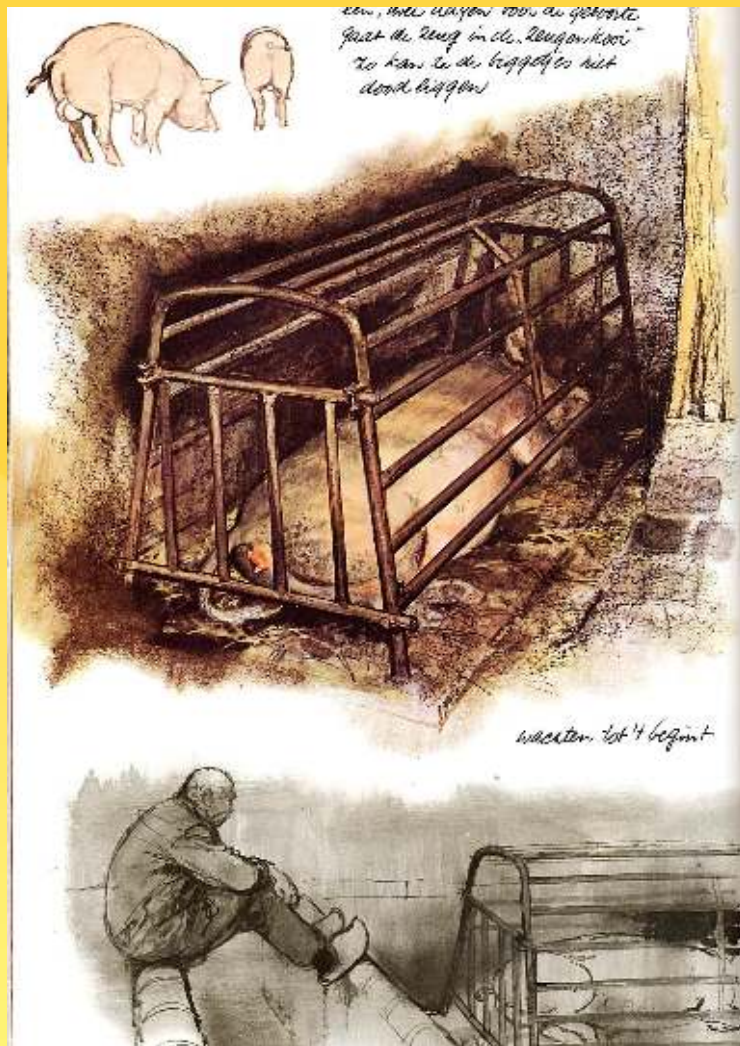
- ▶ A very highly prolific sow
 - Interesting to consider that genetic selection is done on the % of live born after 4 days
 - Good homogeneity level of piglet regarding the prolificacy

- ▶ A maternal sow
 - Easy to deal with farrowing

► Lactation quality

- If the national level represent the potential of Danbred
- Lactation length in not weaning age
- Doubt on the quality (only 7,3kg)
 - Litter daily gain : 2,5kg/days in Denmark, 3,3 in France (not so many variations between genetics)
 - Boar effect ? (Piétrain in France, Duroc in Denmark)
 - Good levels of ingestion of sows during lactation in Denmark
 - No energetic deficit during that lactation (there would be consequences on time from weaned to 1st service)
- I can't explain this point
 - Bound to excessive adoptions under the sow in Denmark?

The sow around farrowing in France



The farrowing management

▶ Farrowing induction

- For a better surveillance of farrowing
- Gilts most of time not induced
- Important in the 3 weeks lactation (minimum 19 days of lactation for the uterus involution)
- Around 50% of farms induce parturition in our practice
 - ▶ 10% systematically on multiparous sows
 - ▶ 15% frequent use
 - ▶ 25% occasionally

▶ Risk

- Too early induction
- Non viable piglets

Farrowing management

► Farrowing

- Possible to use oxytocin to stimulate farrowing

► Use of prostaglandins after farrowing

- Done in a lot of farms to limit the risks of uterine infection

Feeding strategies

Normal feeding strategy

- Weaning – service : flushing for 4 days
- Gestation
 - ▶ 0 – 28 days : extra-feeding to recover good body condition (14 – 16 mm of back fat) : 3 to 4 FUs depending on the sow fatness.
 - ▶ 28 – 90 days : 2,5 FUs
 - ▶ 90 days – farrowing : 3 – 3,5 FUs
- Lactation
 - ▶ D1 : 2,5kg of lactation feed then rise of 500g/day to 5kg then reduction of the rise rhythm
 - ▶ Start with gestation feed to 5 days of lactation then transition on 3 days to lactation feed.

Feeding strategies

► Evolutions in feeding strategies

- Historically linear feeding strategies in gestation (2,8 FUs)
- Increase of diminution of the feed distribution from 28 days to 90 days of gestation
 - For 10 years through the work of the Ifip
 - Drop to 2 FUs in some herds (sometimes not enough for me) with the influence of Vitfoss development in France
- Development of the distribution of lactation feed the week before farrowing
 - To improve lactation start
 - Limit : piglet diarrhoea

Conclusion

- ▶ Same performance levels between France in Denmark in farrowing units
 - Weaned piglets / sow / year
 - But different ways to come to those results!!!
- ▶ Genetic can be a way to improve the results but do not forget basic things

► Thank you for your attention