

Worldwide competition in pig meat production: trends and developments

Insights on gut health management and nutrition of high performing animals

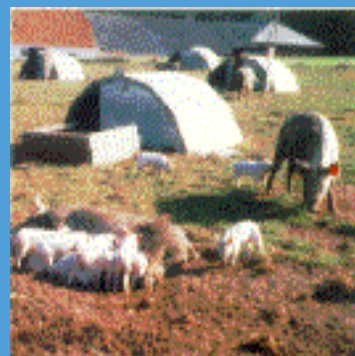
Huvepharma symposium, 9-10 May 2019, Krakow, Poland

Robert Hoste, senior pig production economist



Wageningen University & Research

To explore the potential of nature to improve the quality of life

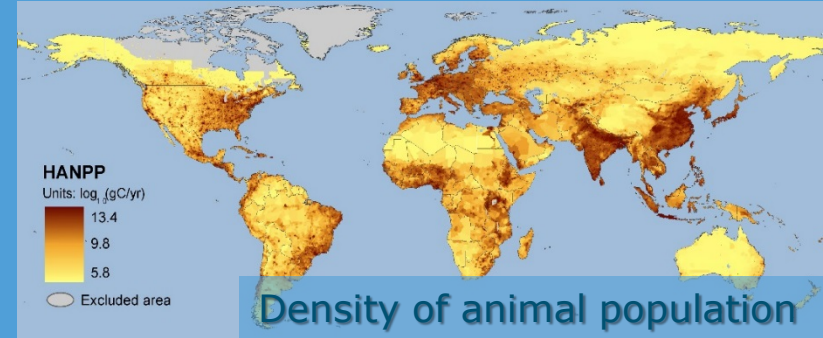
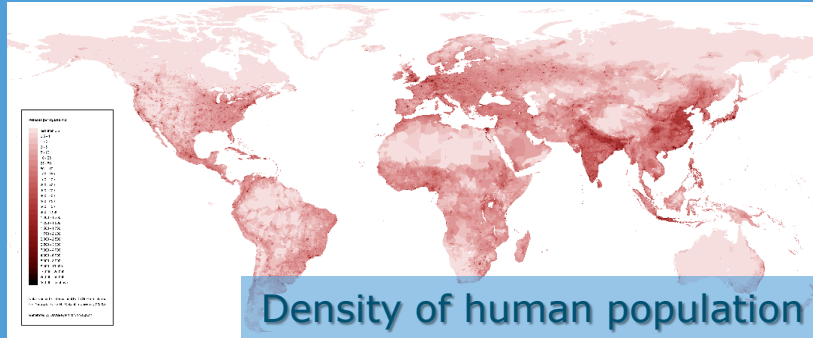


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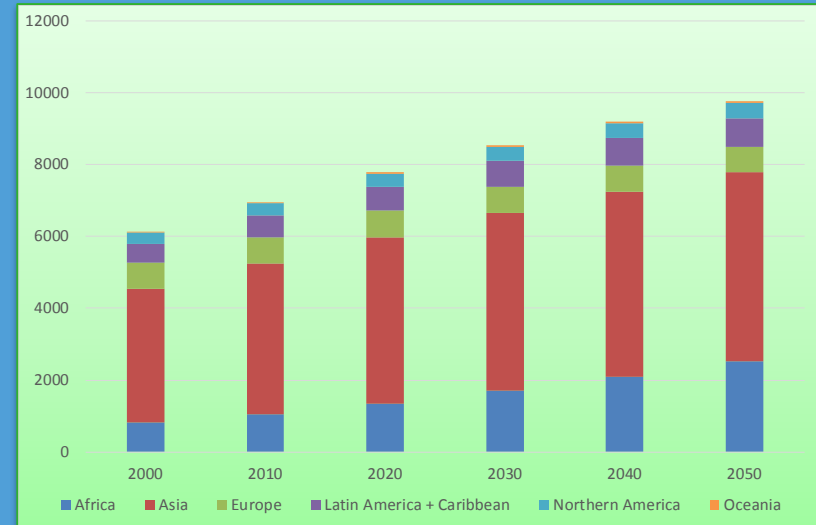


Photo's: Robert Hoste

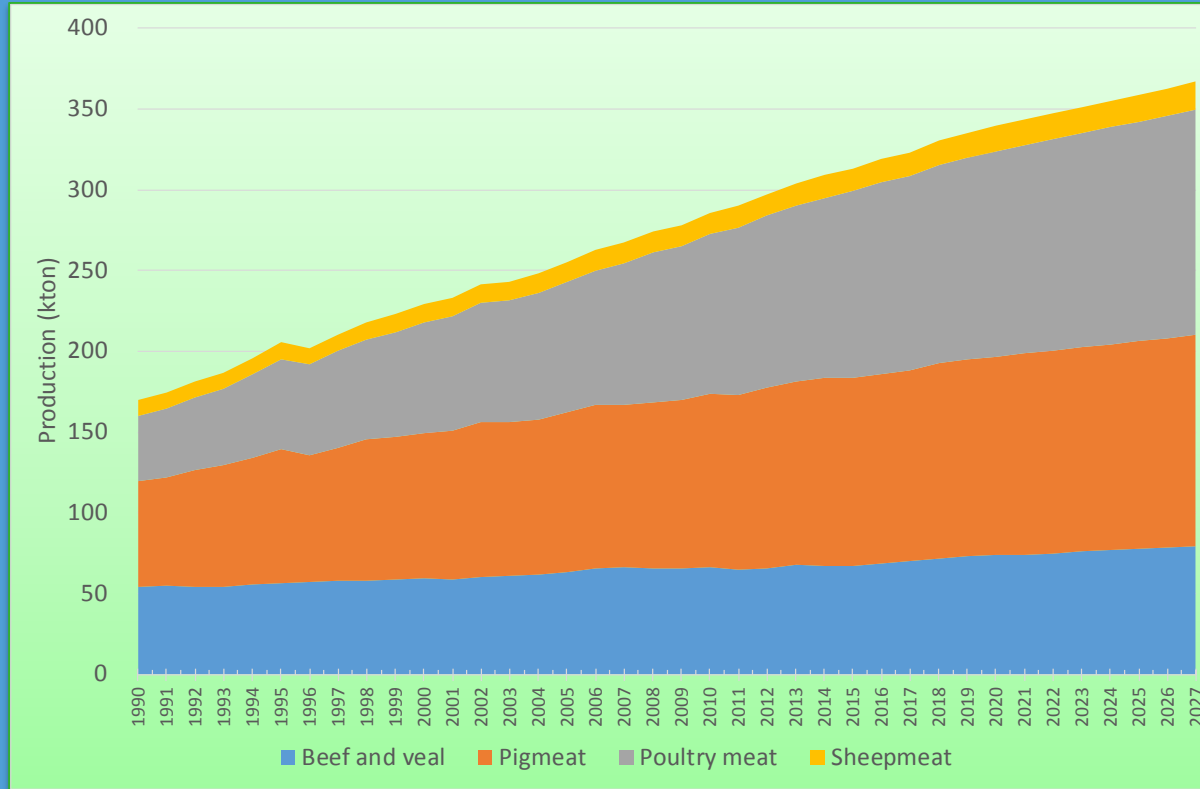
Increasing human population



Need for increased efficiency in animal production



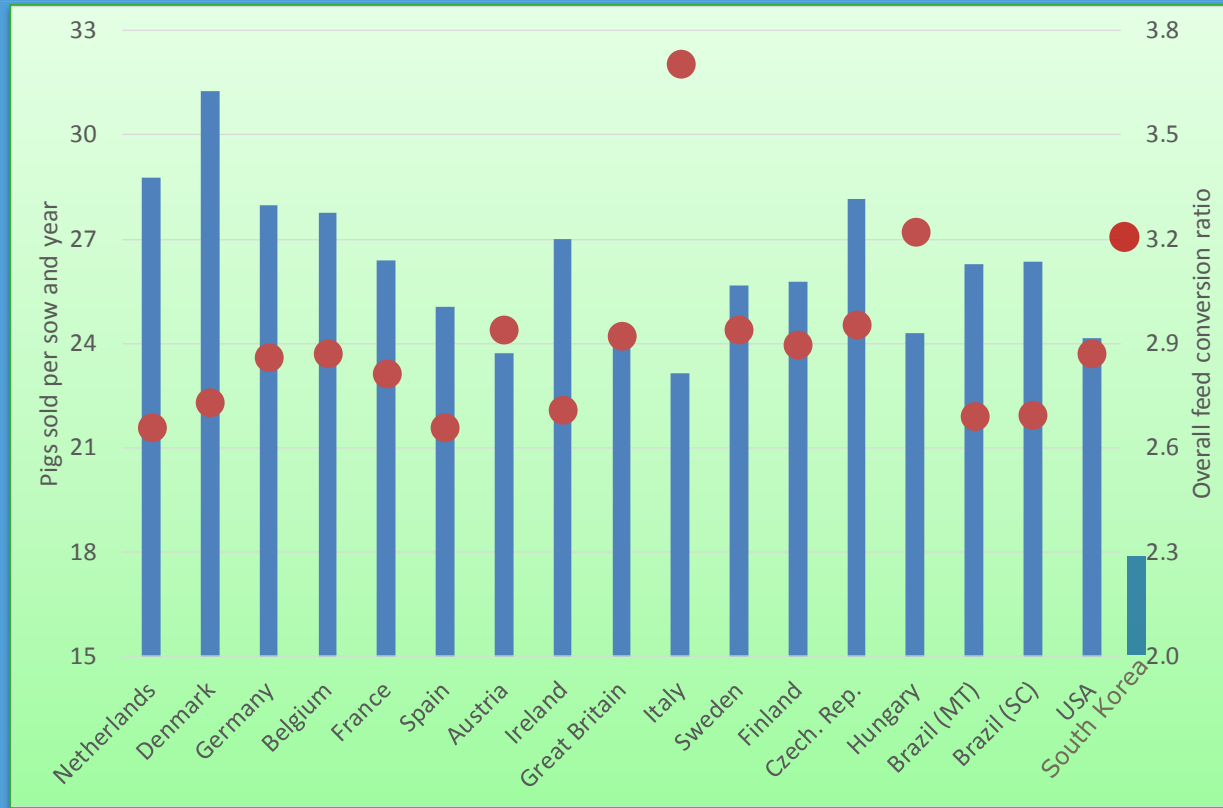
World meat production 1990-2027f



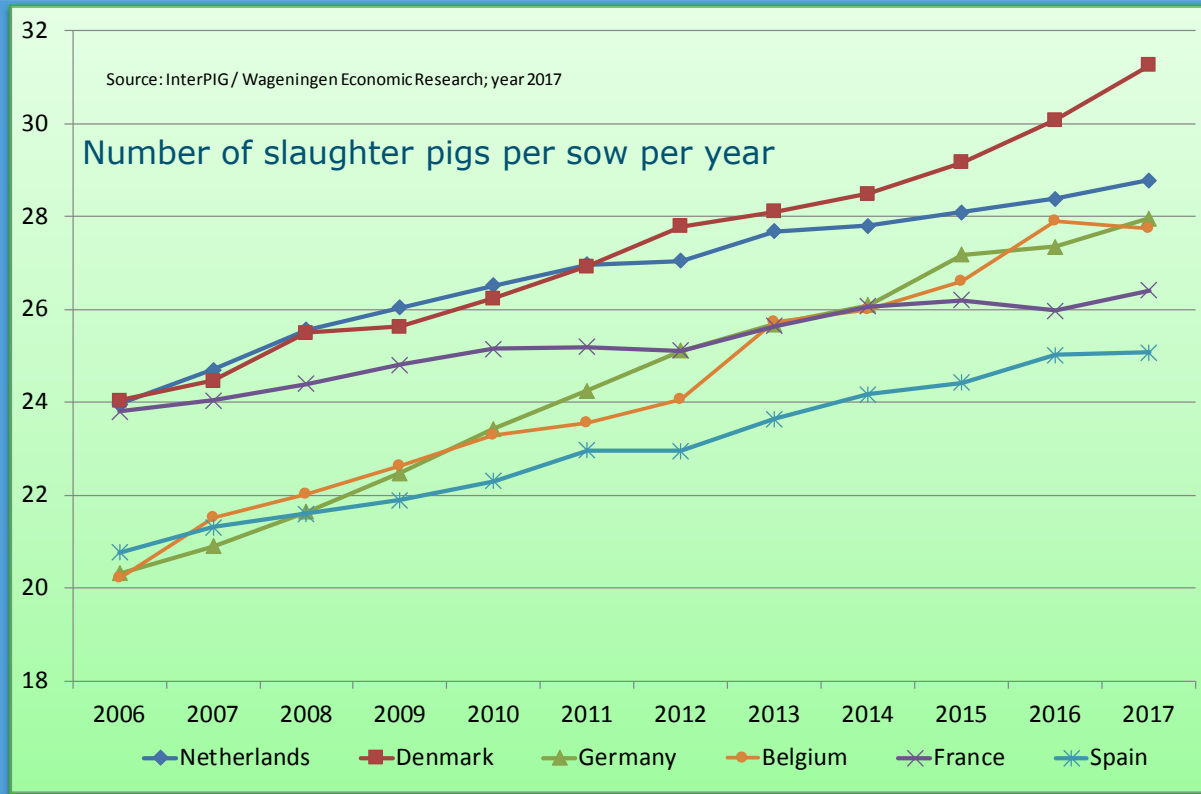


Performance and
efficiency

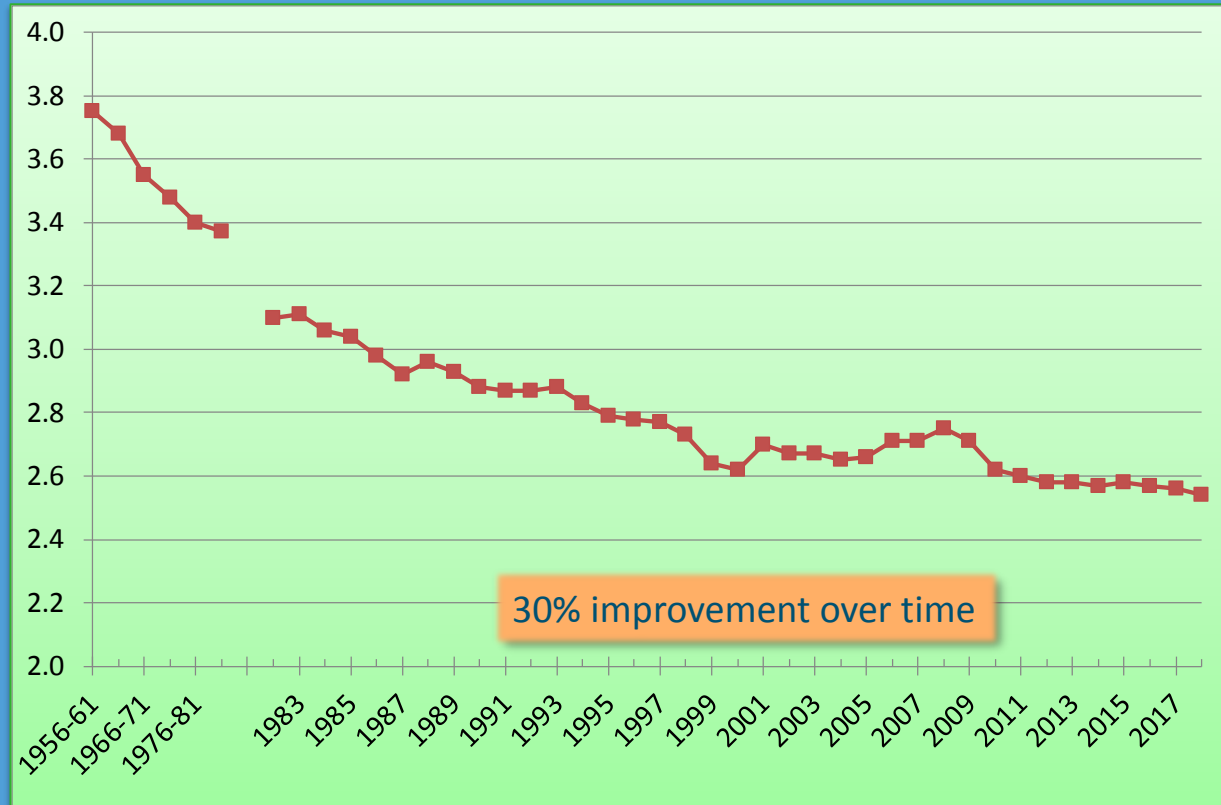
Variation in zootechnical and feed efficiency



Increasing sow performance



Feed efficiency improvement Netherlands



A photograph showing a pig in a metal restraint cage, likely for medical or research purposes. The pig is lying down, and its body is visible through the metal bars. Below the cage, a group of piglets is lying in a blue plastic-lined trough. The scene is set in a laboratory or farm environment.

Economic consequences

Competitive position could be improved

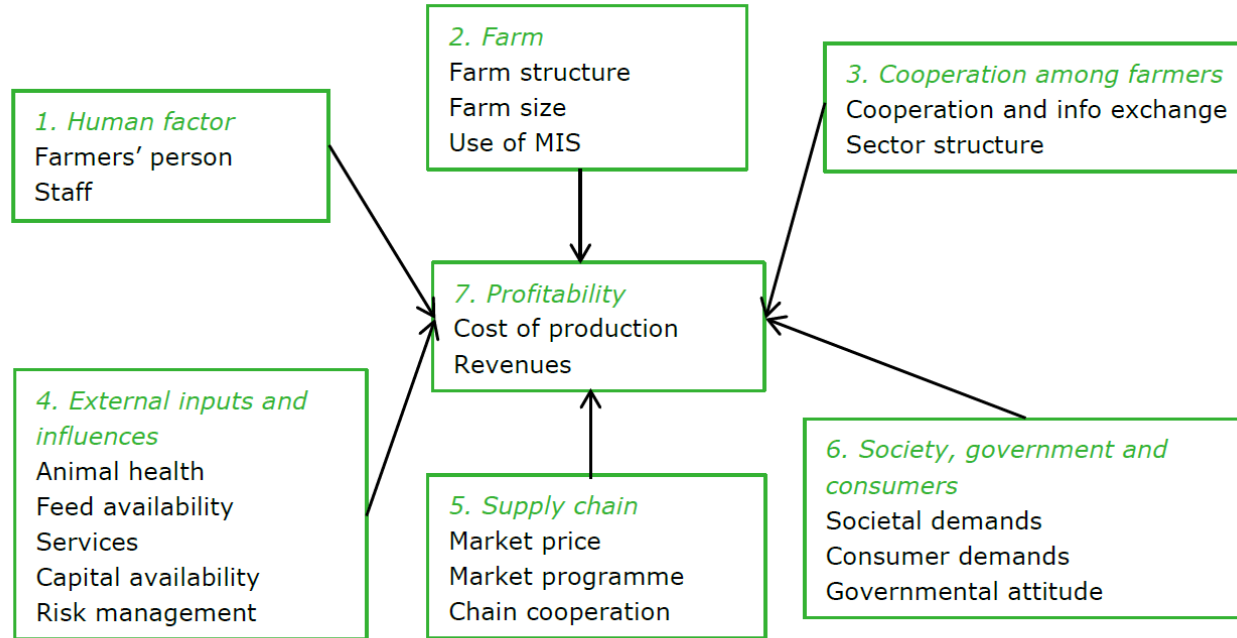
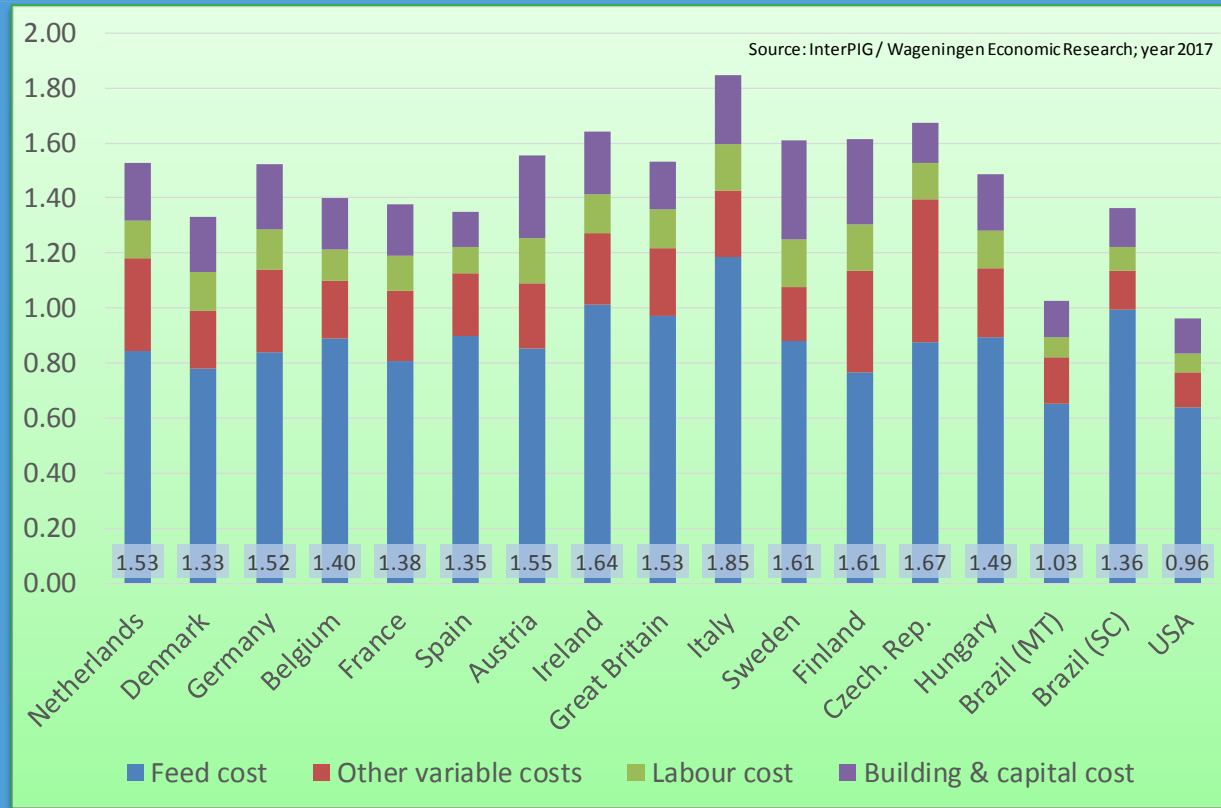
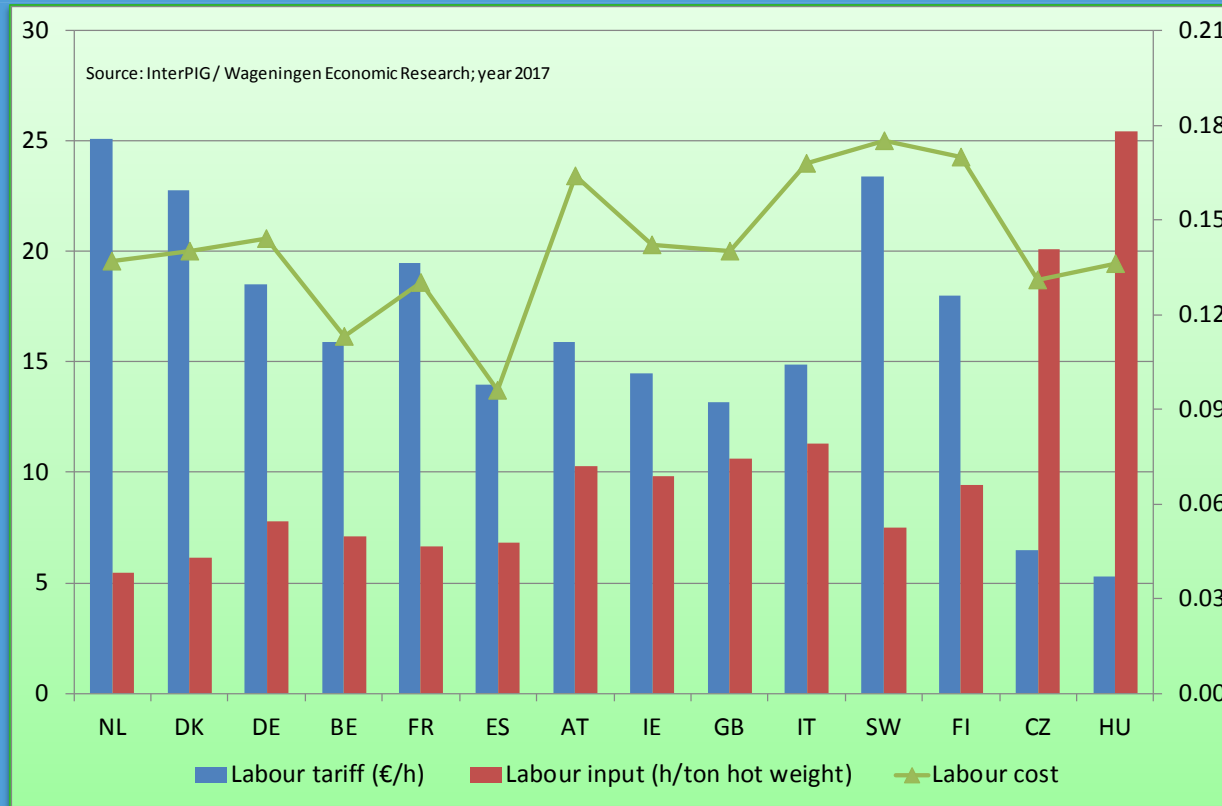


Figure 5.1 Conceptual model on competitive factors in pig production.

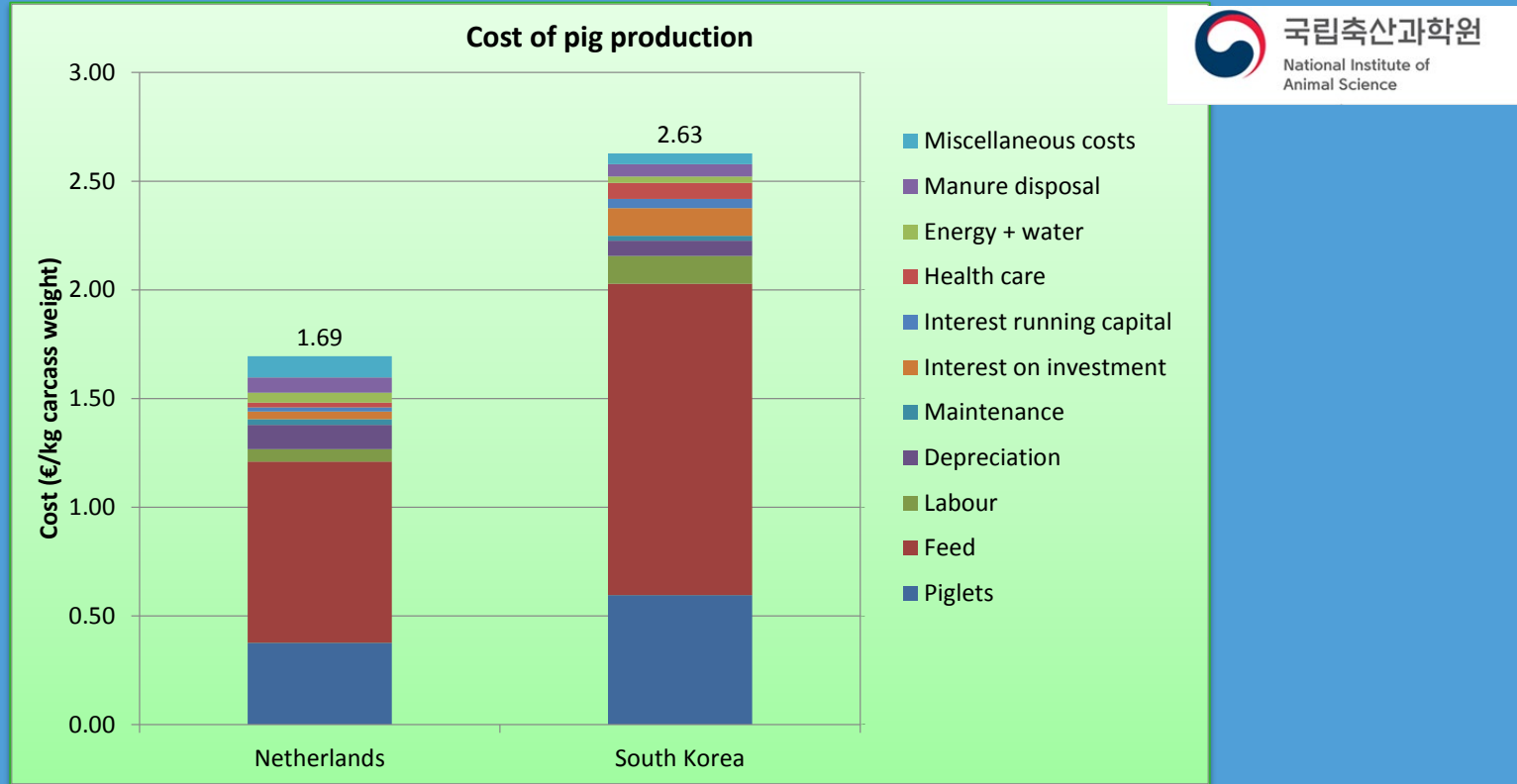
Variation in cost of production among countries



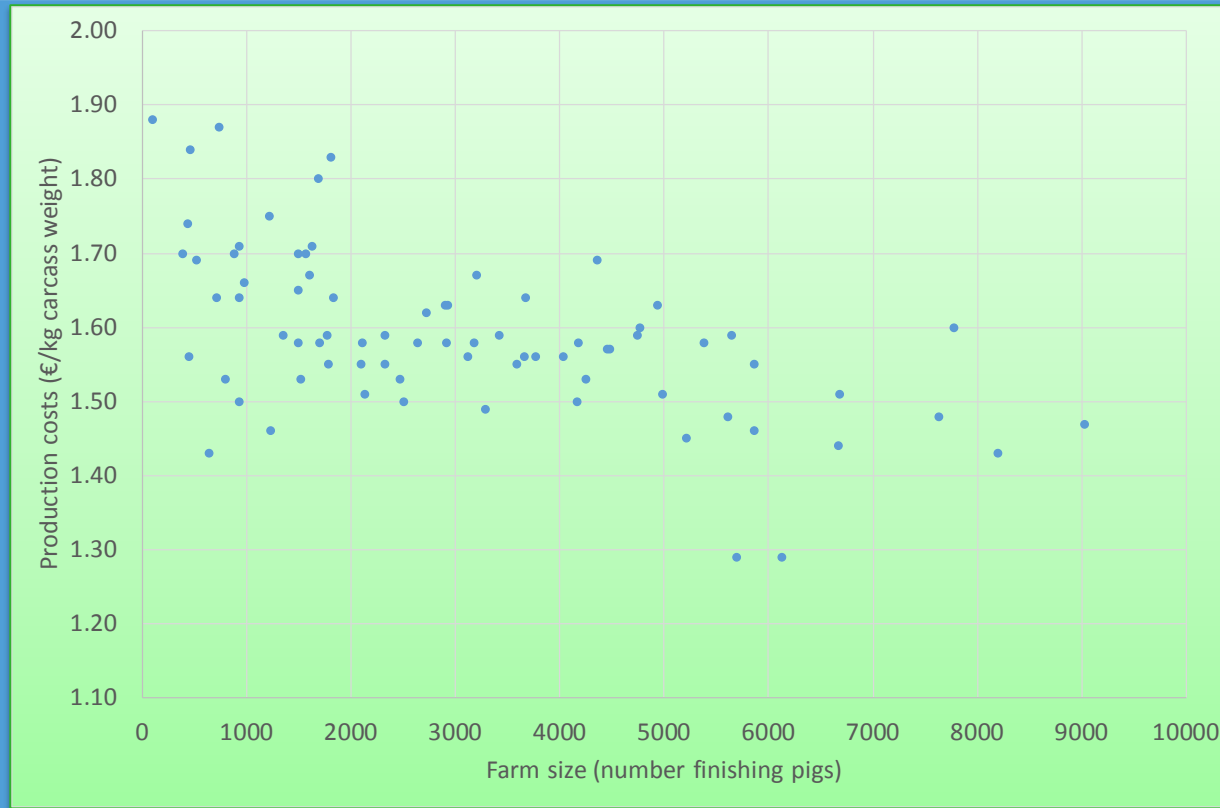
Contrast in labour input and price



Cost of pig production in South Korea



Cost variation among farms



Economic values of sows' performance

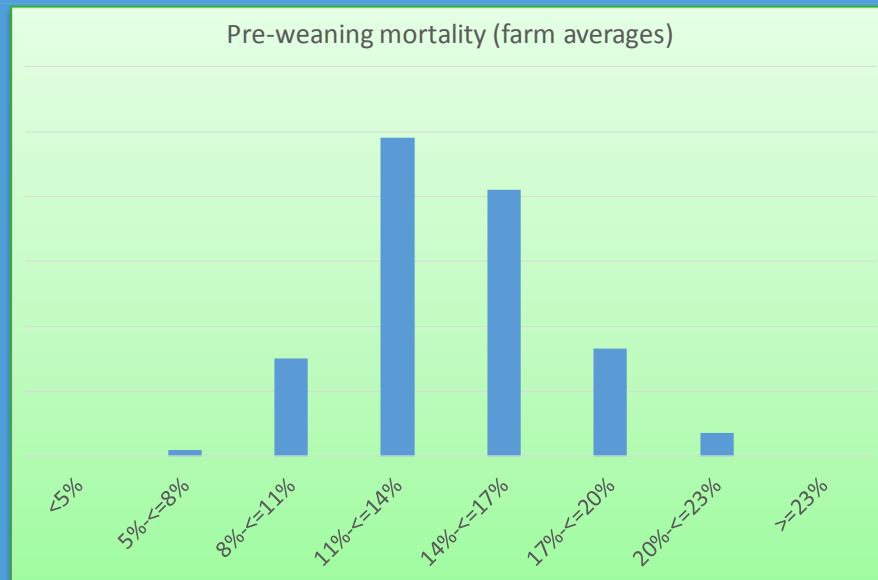
<u>Parameter</u>	<u>Value per sow per year</u>
■ Farm farrowing index	€ 2.43 per 0.01 index
■ Live born piglet	€ 34 per piglet
■ Piglet mortality	€ 9.31 per per cent mortality, per sow
■ Sow returning in heat	€ 74 per sow
■ Empty days	€ 2.5 per day

Economic values in growing-finishing

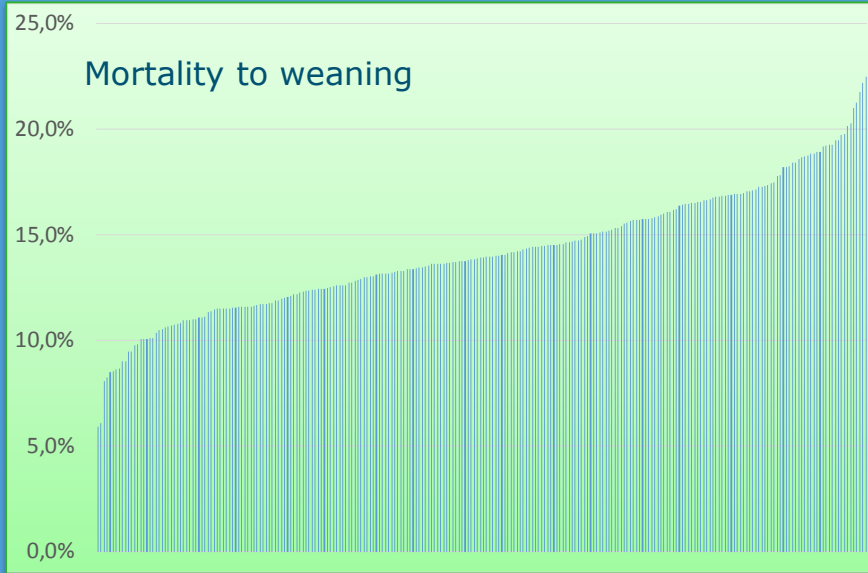
<u>Parameter</u>	<u>Value per slaughter pig</u>
■ Daily gain	€ 0.025 per gram
■ Feed conversion ratio	€ 0.22 per 0.01 FCR
■ Mortality	€ 0.8 per per cent

Mortality

- Economic value: € 9.31 per %, per sow per year
- Economic value for growing-finishers: € 2.78 per % per place



Huge variation among farms – lot of room for improvement





Need for improved animal
health and biosecurity

Economic effects of health problems

- Mortality
- Less performance
- Vet and med costs
- Condemnation
- Culling: value loss, restart
- Management challenges
- Labour happiness
- Lower slaughter quality and less marketing opportunities
- Consequences for the supply chain



Costs of diseases

	Cost per animal
Endemic diseases	€ 30-40
Respiratory diseases	€ 4-7 (per disease)
Enteric diseases	€ 3-5 (per disease)
Parasites	Up to € 7 per affected pig
Reproductive failures	€ 4-11/sow
Lameness	Up to € 180 per lame sow
MMA	€ 10 per produced pig

Cost of culling

- Direct value loss of animals (€ 1,200/sow incl. offspring)
- Stand-still and repopulation period
- Repopulation investment
- Opportunity for transition towards high health or SPF, and low-antibiotics production

Antibiotics use varies strongly in the EU ...

Figure 10. Spatial distribution of overall sales of all antimicrobials for food-producing animals, in mg/PCU, for 30 countries, for 2016



... and worldwide: Need for reduction

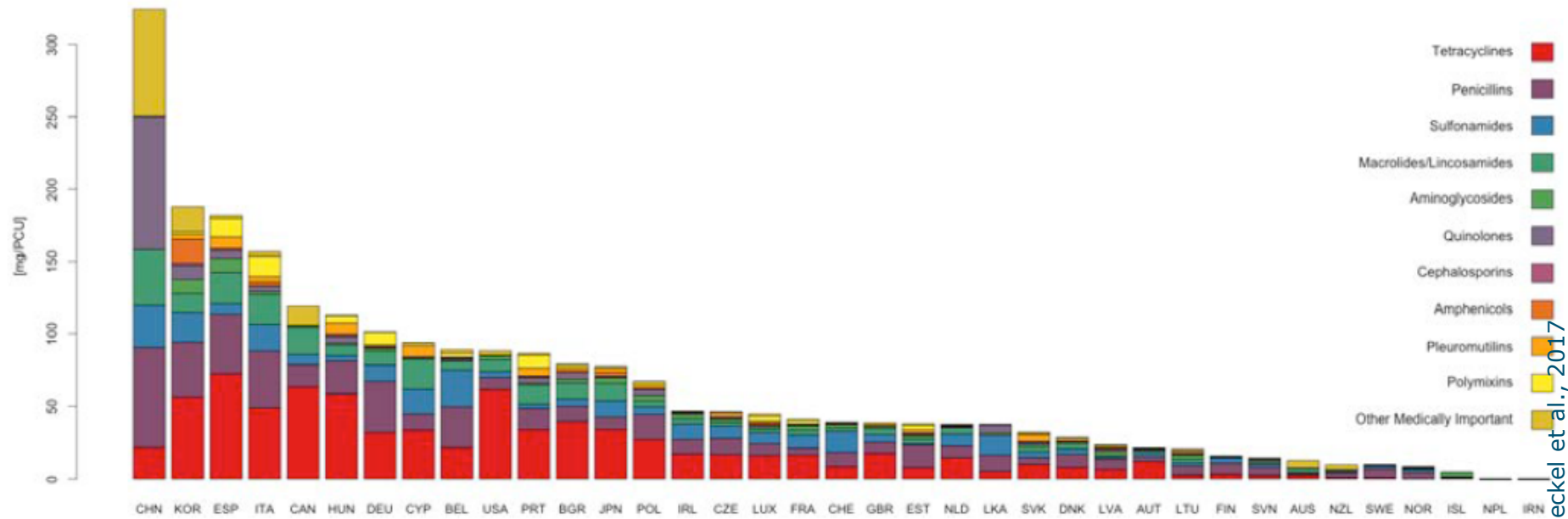
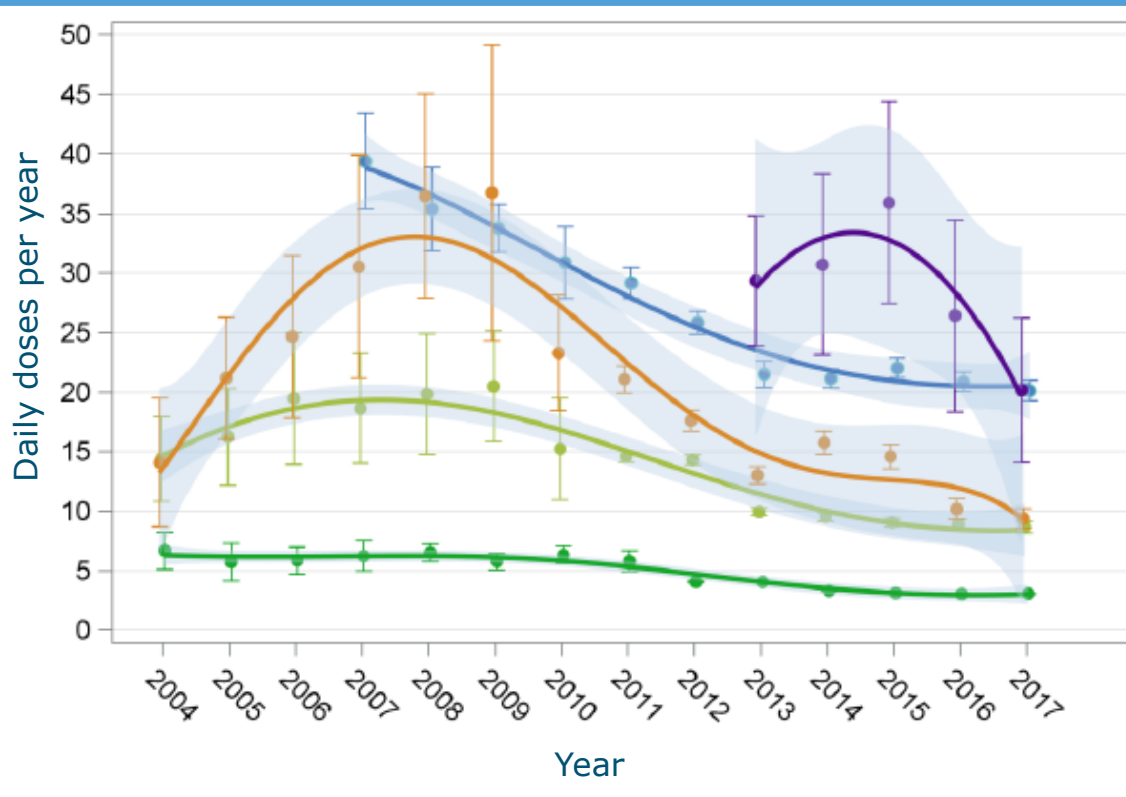


Fig S1. Reported sales of veterinary antimicrobials. Consumption levels in milligrams per population correction unit for 10 classes of compounds (Table S1).

Reduction in the Netherlands

58% reduction
for pigs, period
2009-2017



Specific Pathogen Free

- System mentioned in 1961 already (Lucas)
- Depop-repop investment amounts to some € 200-300 per sow
- Annual benefit € 350 per sow, mainly in the finishing phase
- Challenge to stay fully SPF, esp. in high-density regions
- Integrated management approach necessary, including awareness, craftsmanship, biosecurity measures

Biosecurity



Requires both tangible measures
and awareness



Hygiene approach focusing on infection routes

- Healthy piglets
- Animal transport
- Hygiene sluice, work clothing and tools
- Water pipe system with cleaning additive
- Acid additive in drinking water
- Cleaning, degreasing and disinfection of pens
- Concrete floors and walls are coated up to 1 meter high
- Vermin/rodent control
- Attention to walking lines, shoes, pathways, and fallen stock



Photo: Bert Jansen
<https://www.boerderij.nl/Varkenshouderij/Achtergrond/2018/2/Beter-rendement-met-SPF-varkens-241907E/>

Health effects of hygienic approach

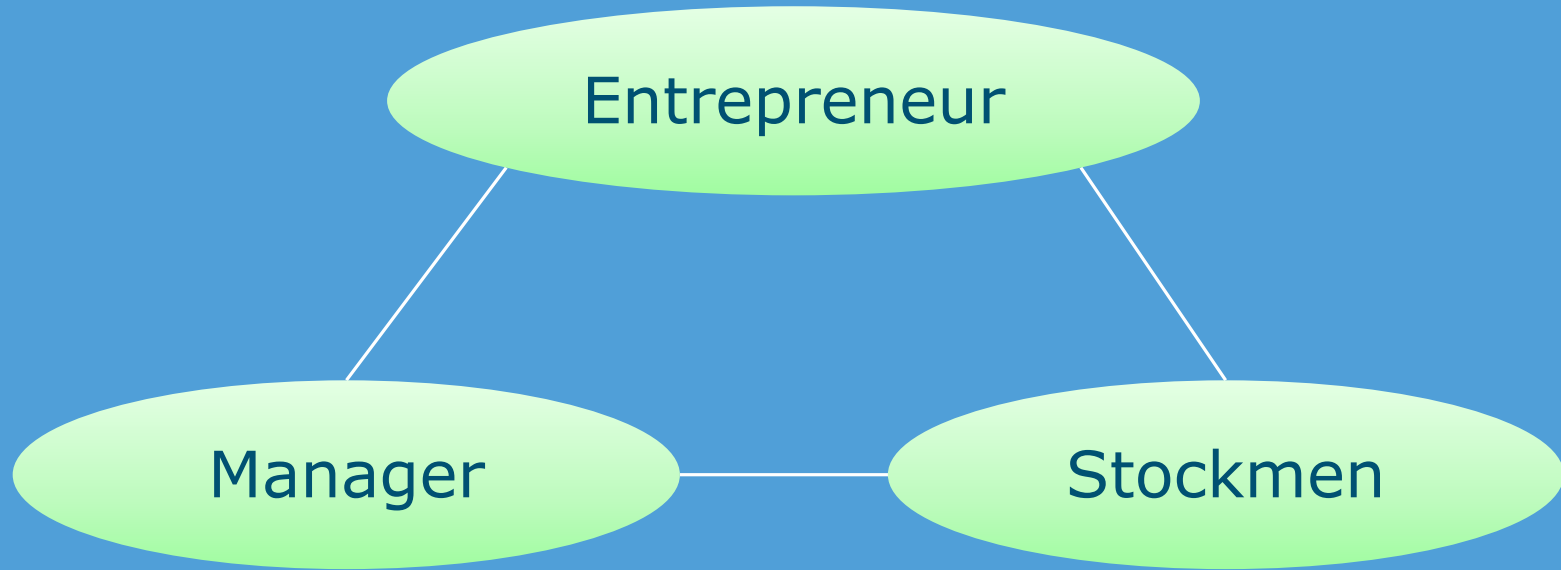
- 90% antibiotics reduction
- 5% feed cost reduction
- 20% ADG increase in rearing and 12% in growing-finishing
- Less mortality
- Improved uniformity of rearing piglets

Management capability



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Farmers' skills triangle

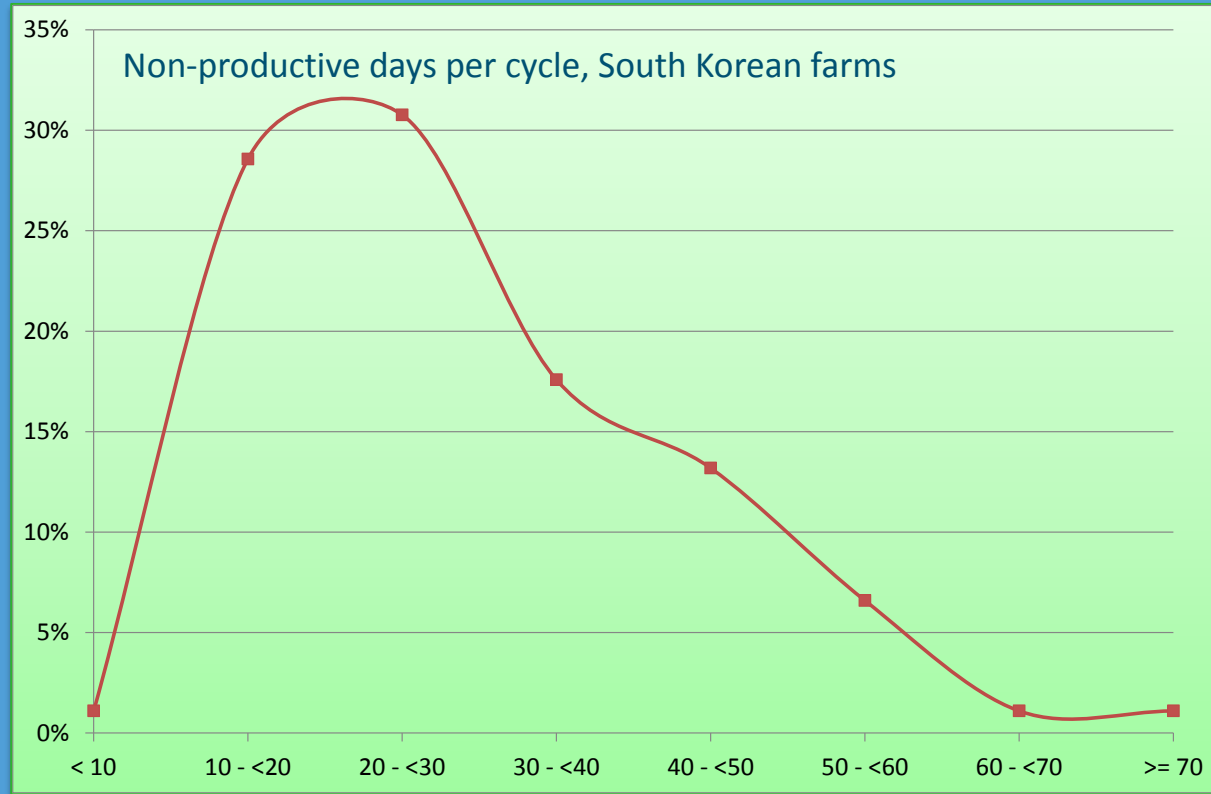


Data and benchmarking

- Use of Management Information System
- Data comparison: within farm, over time, and with other farms
- Study clubs: feedback, based on trust and mutual interest



Lack of intentional management





Worldwide consequences of ASF in East Asia

- Production of pig meat in China reduced by some 20-30%
- Expected market price in China +70%
- Increased import from all over the world
- Lower consumption
- Societal unrest
- Poultry meat more expensive as well
- Expansion of pig meat production in rest of the world
- Soy cheaper
- Redesign of supply chains

Conclusions

- Need for increased efficiency in animal production
- Existing variation among farms and between countries show ample room to improve, with substantial economic benefits
- Need for improved biosecurity, also to prevent diseases like ASF
- Condition is intentional data-based management

Thank you for your attention

Any questions?



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