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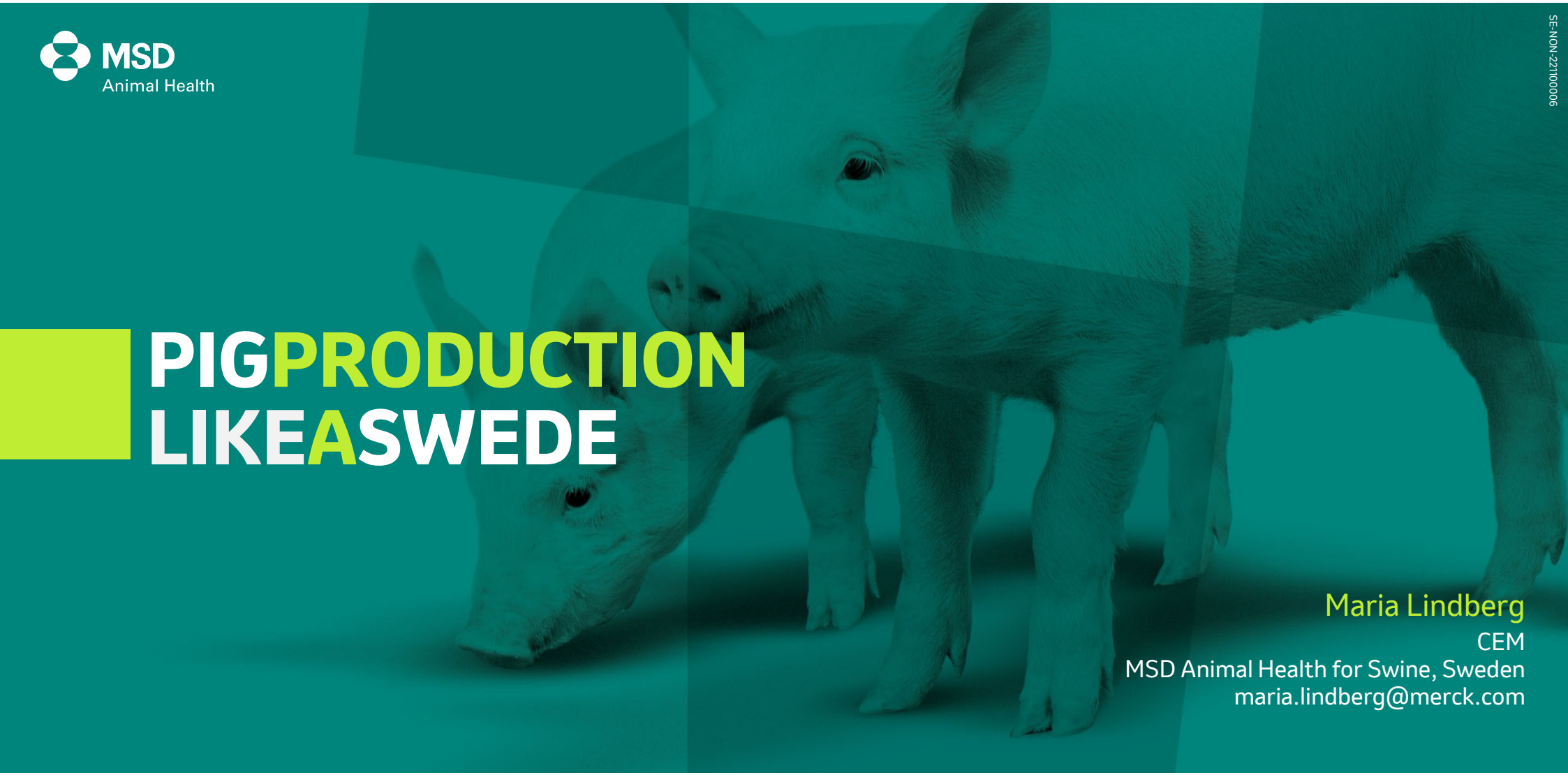
PIGPRODUCTION LIKEASWEDE



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PIGPRODUCTION LIKEASWEDE

SPEAKERS

- **How it all began**

  PER WALLGREN
  Professor SVA, National Veterinary Institute

- **Experiences from a Swedish pig farmer**

  JEANETTE ELANDER
  Pig farmer, Business expert LRF,
  Federation of Swedish Farmers,
  Business manager Swedish Pig Farmers' Association

- **Low antibiotic use combined with high performance**

  MARIE SJÖLUND
  Associate professor SVA, National Veterinary Institute
  SLU, Swedish University of Agricultural Sciences

- **Mate like a Swede**

  GUNNAR JOHANSSON
  DVM, Farm&Animal Health

- **No man is an island**

  FREDRIK ENGSTRÖM
  DVM, Farm&Animal Health

- **Veterinarian holds the key**

  AXEL SANNÖ
  DVM, PhD
  SLU, Swedish University of Agricultural Sciences,
  Farm&Animal Health

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TAKEAWAYS

- **Cooperation** between farmers, staff, veterinarians and advisors is the key for successful pig production
- **Loose housing, increased space allowance** and access to **rooting material** improve animal welfare
- **Age segregated, batch-wise production** from birth to market weight with a limited mixing of pigs reduces disease transmission
- **Increased weaning age** creates more robust weaners better prepared for optimal performance as finishers
- **Strive for individual treatments** over group treatments

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PIG PRODUCTION LIKE A SWEDE

Per Wallgren
Dept of Animal Health and Antimicrobial Strategies, SVA

SWEDEN FIRST OUT TO BAN GROWTH PROMOTORS IN 1986

How it all began and a comment to the situation today

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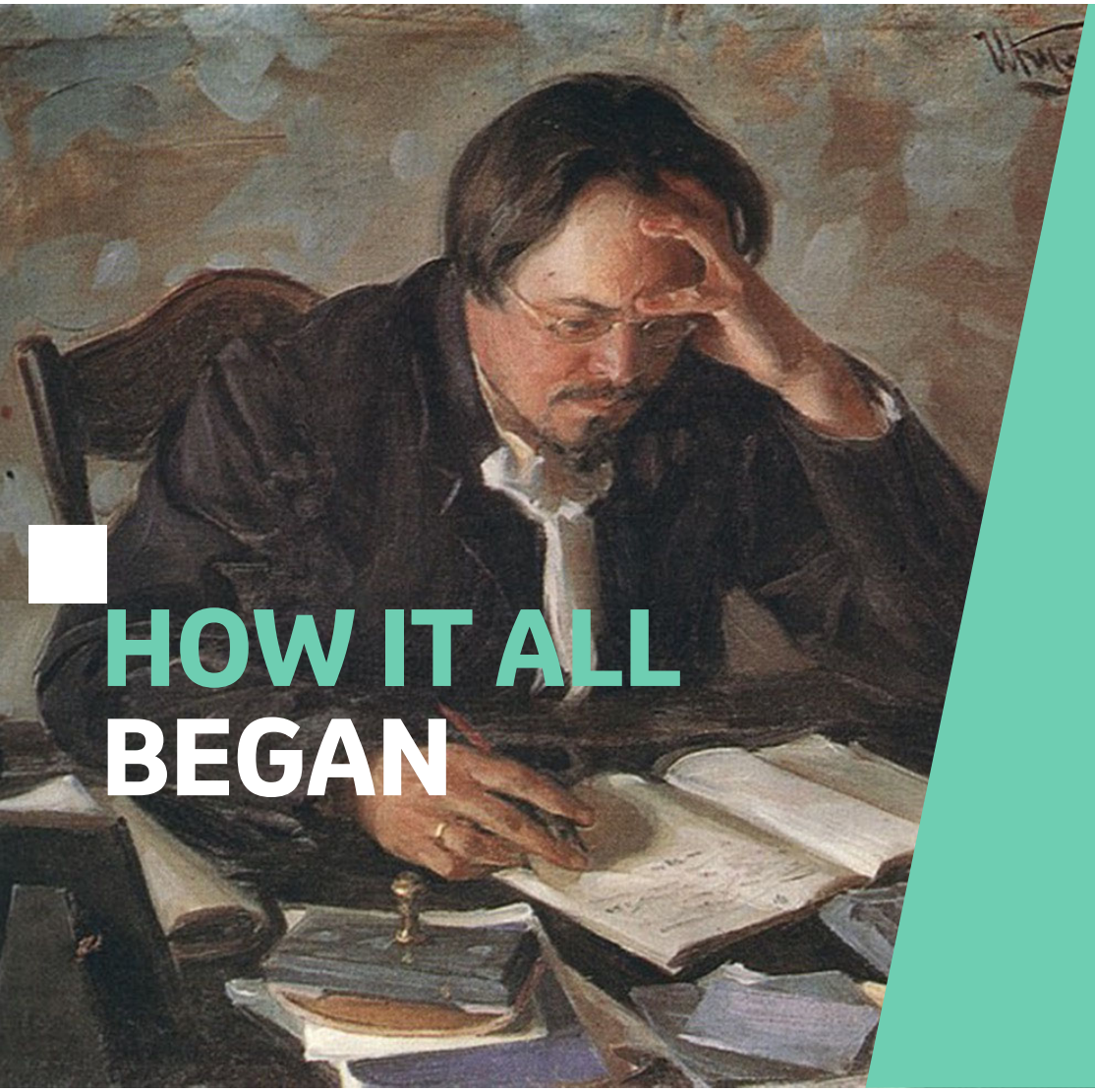
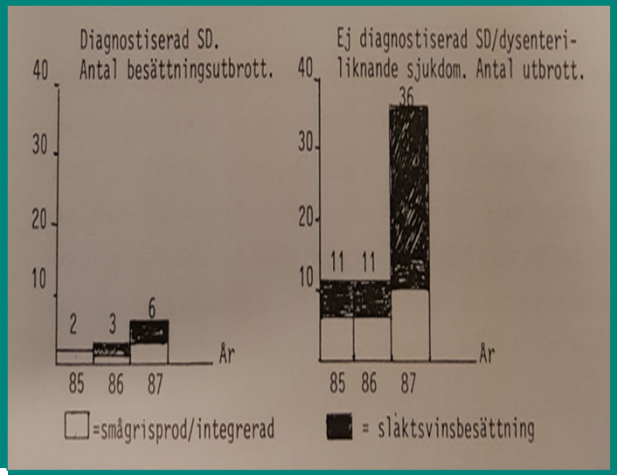


HOW IT ALL BEGAN

- **A general discussion** about the use of antibiotics in the 1980ies – including consumer aspects
- **A proposal about banning growth promotors** was written by the farmers in 1985
- It was **accepted by the government**
- Thus, the ban of growth was not initiated by the authorities, the ban was **initiated by the farmers**
- The ban was **effectuated by January 1 in 1986**

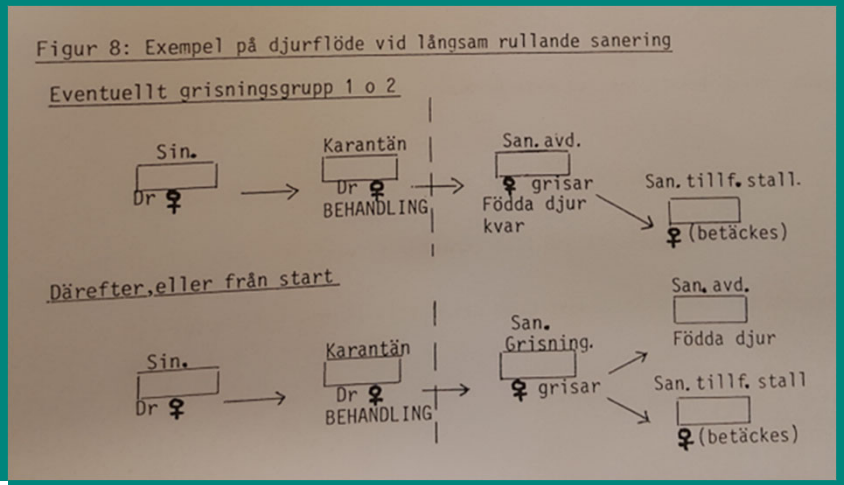
Wallgren, 1988



THE FIRST YEARS ...

- **New problems**
  Especially with intestinal diseases
  Age at 25 kg increased with 5-6 days
- **PWD (Post Weaning Diarrhoea)**
  Toxigenic *E. coli*
  Treament incidence increased >100%
- **Dysentery** – previously unknown
  Brachyspira hyodysenteriae
  Especially in weaners and young fatteners

Wallgren, 1988



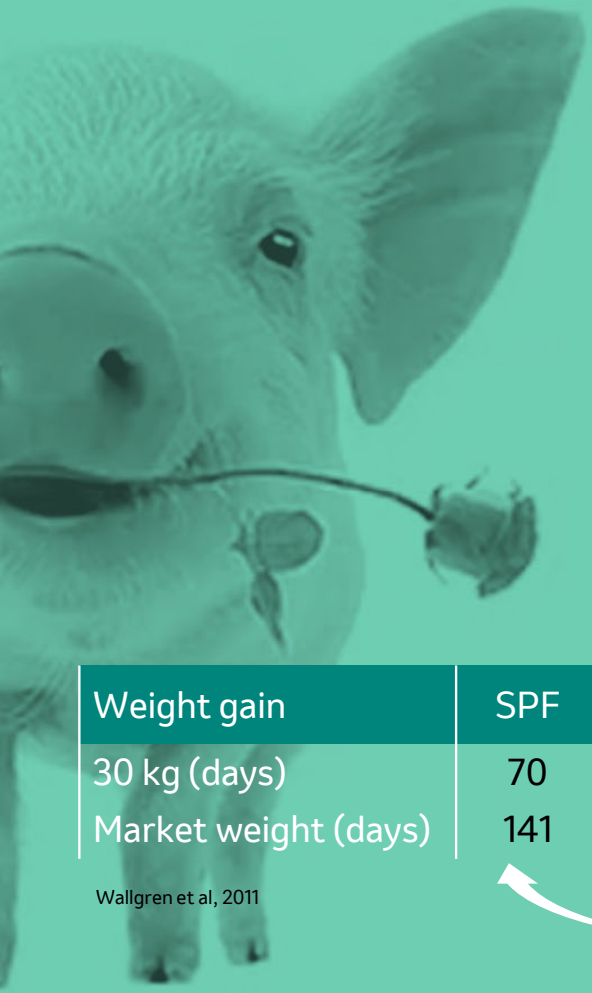
MEASURES USED TO PREVENT PROBLEMS

- **General**
  Improved hygiene
  Improved management
  Age segregated rearing from birth
- **PWD**
  Improved feed recipes
  Protein from 20% to 15%
- **Dysentery**
  Sanitation of affected herds
  Growers sold out/slaughtered
  Treatment of breeding stock with tiamulin …
  and transfer to cleaned and disinfected units
- **The productivity of today is by far better than before the ban!**

INFLUENCE OF INFECTIONS

- Infections **reduce DWG**
- Infections **prolong rearing time**
- Infections **needs antibiotics!**
- Infections **reduce welfare!**

- Infections **decrease profits!**
- Infections **also increase the environmental footprint!**



Weight gain	SPF	Top 25%	Mean	Low 25%
30 kg (days)	70	80	83	86
Market weight (days)	141	171	181	192

Wallgren et al, 2011

INFLUENCE OF HEALTH

- Health **increase DWG**
- Health **reduce rearing time**
- Health **need no antibiotics!**
- Health **improve welfare!**
- Health **improve profitability!**
- Health **also reduce the environmental footprint!**



- **Pigs, including sows, are always lose housed**
- **Access to bedding material for all age categories**
- **No weaning before 28 days of age**

→ Heavier and more mature piglets at weaning

→ … but fewer piglets per sow and year

HIGH ANIMAL WELFARE 1

FARROWING – CRATE OR PEN?

- Fixation of sows has been banned in Sweden since 1989
- Negative effects of this have been discussed ever since

FARROWING – CRATE OR PEN?

- In 2015, a trial comparing fixation of sows at farrowing with free farrowing sows in the same herds

Category	Suckling time (days)	Weaned per sow & year
Fixation of sows	32.8 ± 1.6	26,0 ± 2,6
Free farrowing sows	32.7 ± 1.3	26,2 ± 1,6
Difference; fixation vs free	*+ 0.1*	*- 0.2*

Wallgren and Gunnarsson, 2015

- Free farrowing sows performed equal to fixed sows
- Consequently, no need for fixation

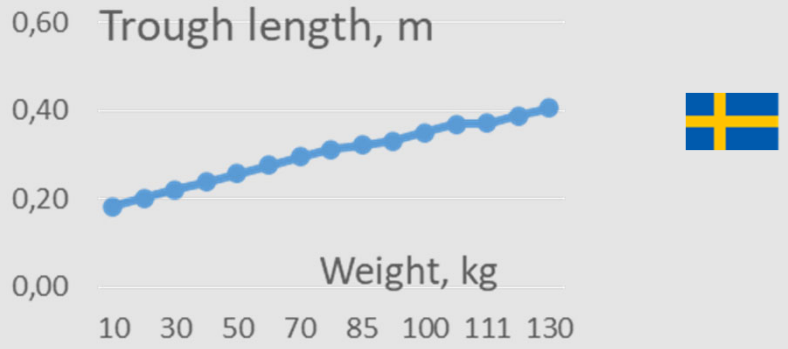
COMMENTS ON FIXED SOWS

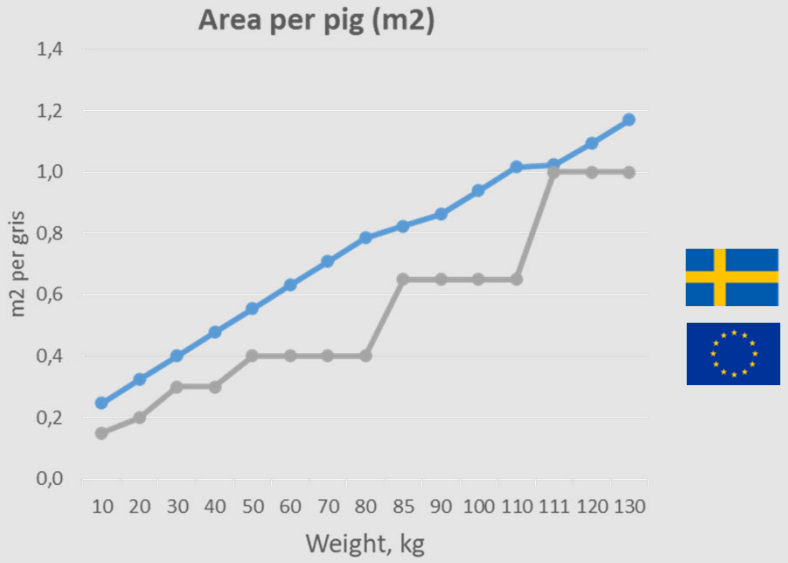
- Fixation of sows may have an effect when pens are smaller than 5m^2, but not in larger pens
  (concluded by EFSA, 2007)

- Farrowing pens in Sweden have to be at least 6 m^2
  Is that enough?
  - Bigger sows
  - Larger litters

HIGH ANIMAL WELFARE 2

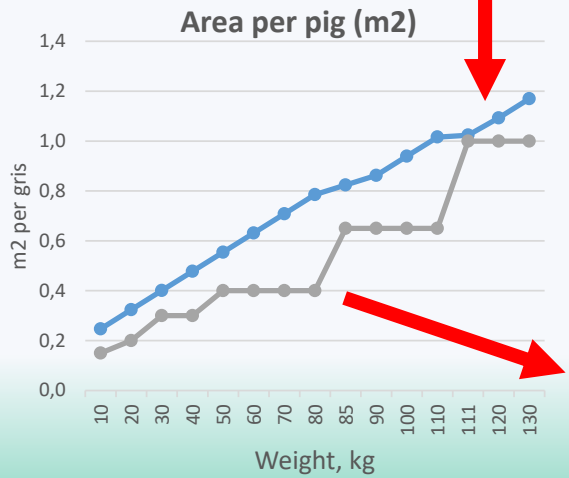
- No tail docking
- Larger space per pig

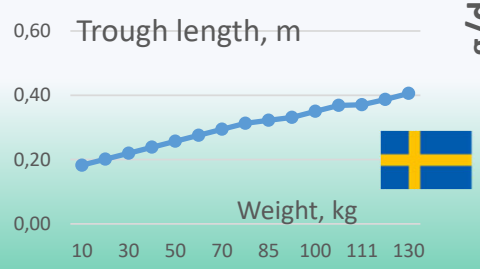




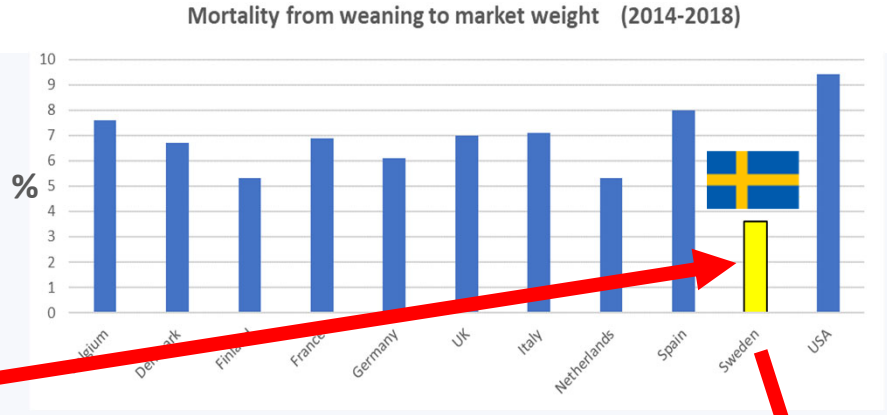
IS THIS REALLY JUST A COINCIDENCE?

WEANING	Sweden	”General”
Age	33 days	23 days
Weight	8.2 kg	≈5 kg
Litters weaned	2.2	2.5





g/day



Source: Interpig

GENERAL CONCLUSIONS

- There is no conflict between welfare and productivity!
- Instead, welfare is a request for good productivity!
- Conditions above the minimum may even be profitable!
- Happy pigs produce well because they are comfortable

ANTIBIOTICS IN SWEDEN

Prevention without antibiotics is better than cure

Healthy animals do not need antibiotics

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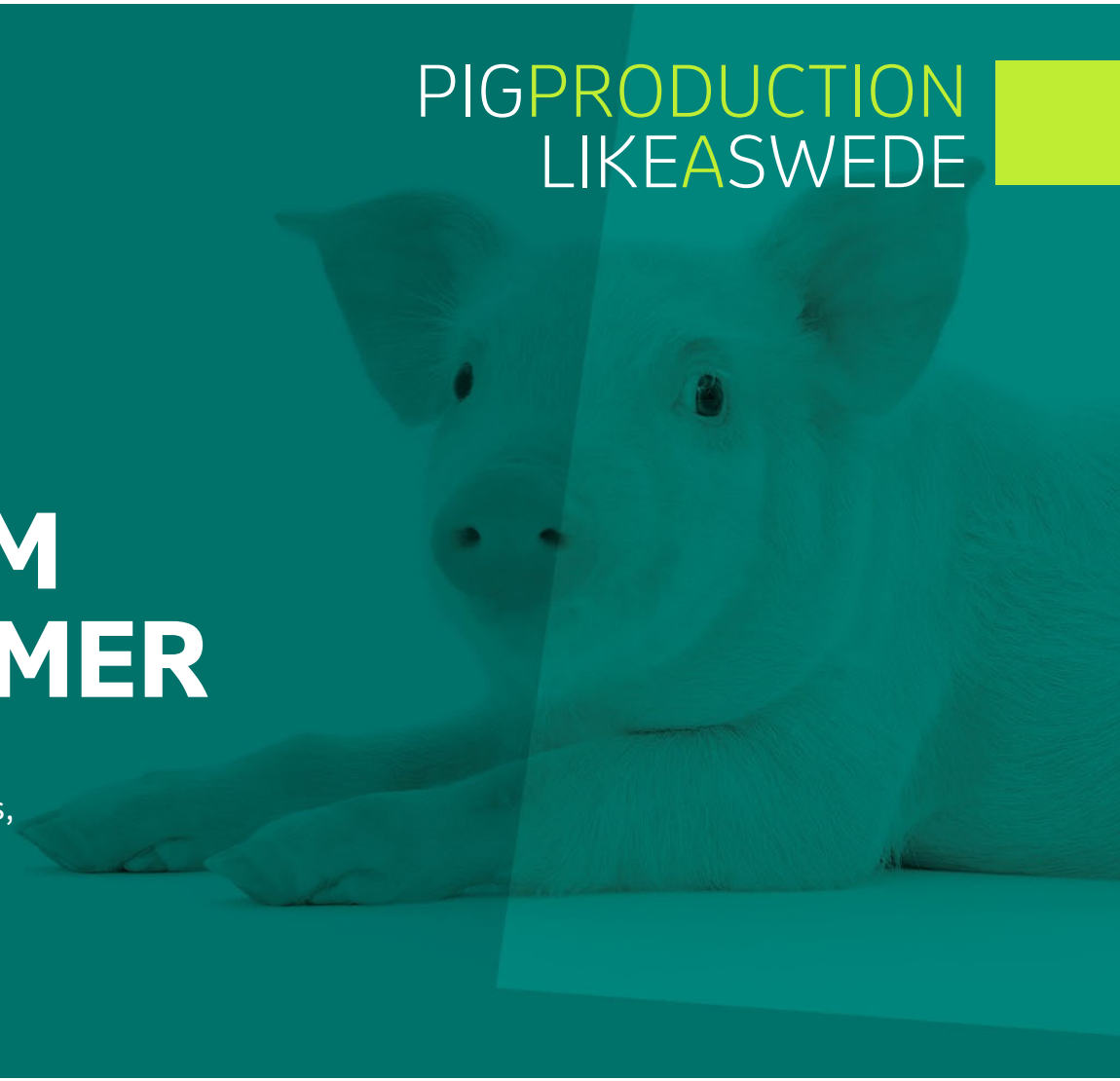

EXPERIENCESFROM ASWEDISHPIGFARMER

Jeanette Elander
Pig farmer, Business expert LRF, Federation of Swedish Farmers,
Business manager Swedish Pig Farmers´ Association

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PRODUCES FOR THE SWEDISH MARKET

- Swedish consumers (and producers) value high animal welfare with
  - tails
  - larger area per pig
  - daily supply of straw
  - animal health, low need for antibiotics
- We work, and have done for a long time, together in the industry with infection prevention and for a good environment for the pigs

SWEDISH PIG PRODUCTION HISTORICALLY & THE RESULT OF NEW GENETICS (TOPIGS NORSVIN)

Number of sows in production(1 000-tal)

Slakt av större lantbruksdjur vid slakteri efter År. Summa gris, Slaktade hela kroppar, 1 000-tal.

2013-2021
-13,7% sows, same number of slaughterpigs

1995 Sweden a part of EU

2014 Action plan for Swedish pig production

2017 National food strategy

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NEW GENETICS & PRODUCTION

Slaughterpigs results 2011-2021, best 25%

	Best 25% growth			Best 25% feed/kg growth		
	Meat %	Growth g/day	Feed MJNE/kg growth	Meat %	Growth g/day	Feed MJNE/kg growth
2021	**58,2**	**1071**	**23,4**	**58,6**	**1026**	**22,4**
2011	58,1	985	25,2	58,1	949	24,5

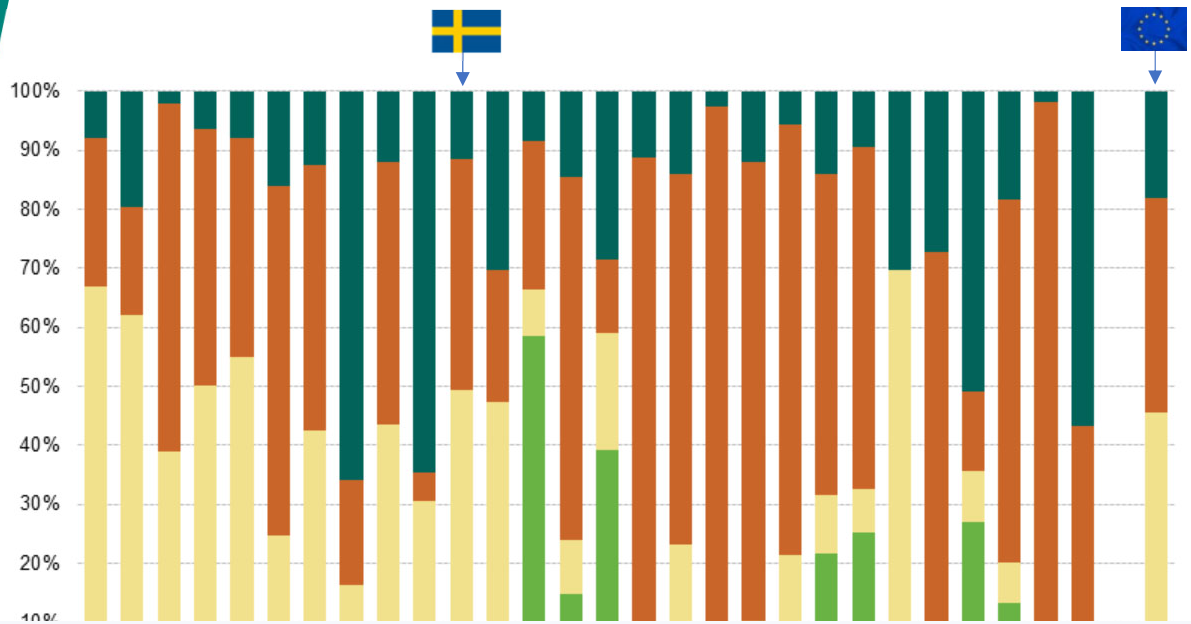
Sows results 2011-2021, best 25%

	Piglets/sow/year	Born alive	Mortality suckling pigs	Farrowing %
2021	**31,1**	**15,6**	**13,6**	**91**
2011	26,3	13,5	14,9	87,4

MORTALITY

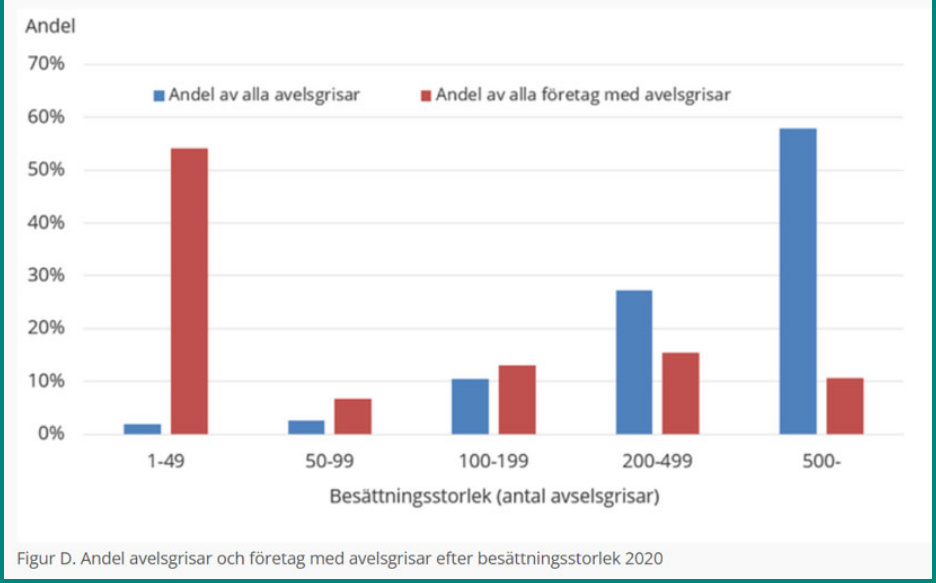
InterPIG 2020

DISTRIBUTION OF OTHER PIGS BY TYPE OF PIG FARM (FSS 2010)



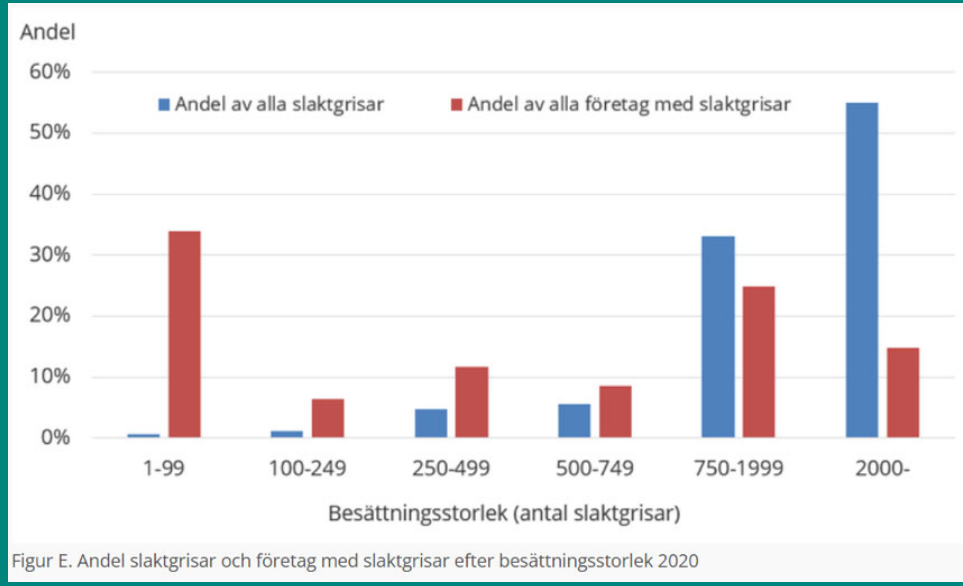
https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Pig_farming_sector_-_statistical_portrait_2014

Close to 60% of the piglets are produced in herds with at least 500 sows



Figur D. Andel avelsgrisar och företag med avelsgrisar efter besättningsstorlek 2020

55% of the slaughterpigs are produced in herds with 2000 places



Figur E. Andel slaktgrisar och företag med slaktgrisar efter besättningsstorlek 2020

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PIGPRODUCTION LIKEASWEDE

ANTIBIOTICUSEIN SWEDISHPIGS

Marie Sjölund
Deputy State Veterinarian National Veterinary Institute, SVA
Associate Professor Swedish University of Agricultural Sciences, SLU

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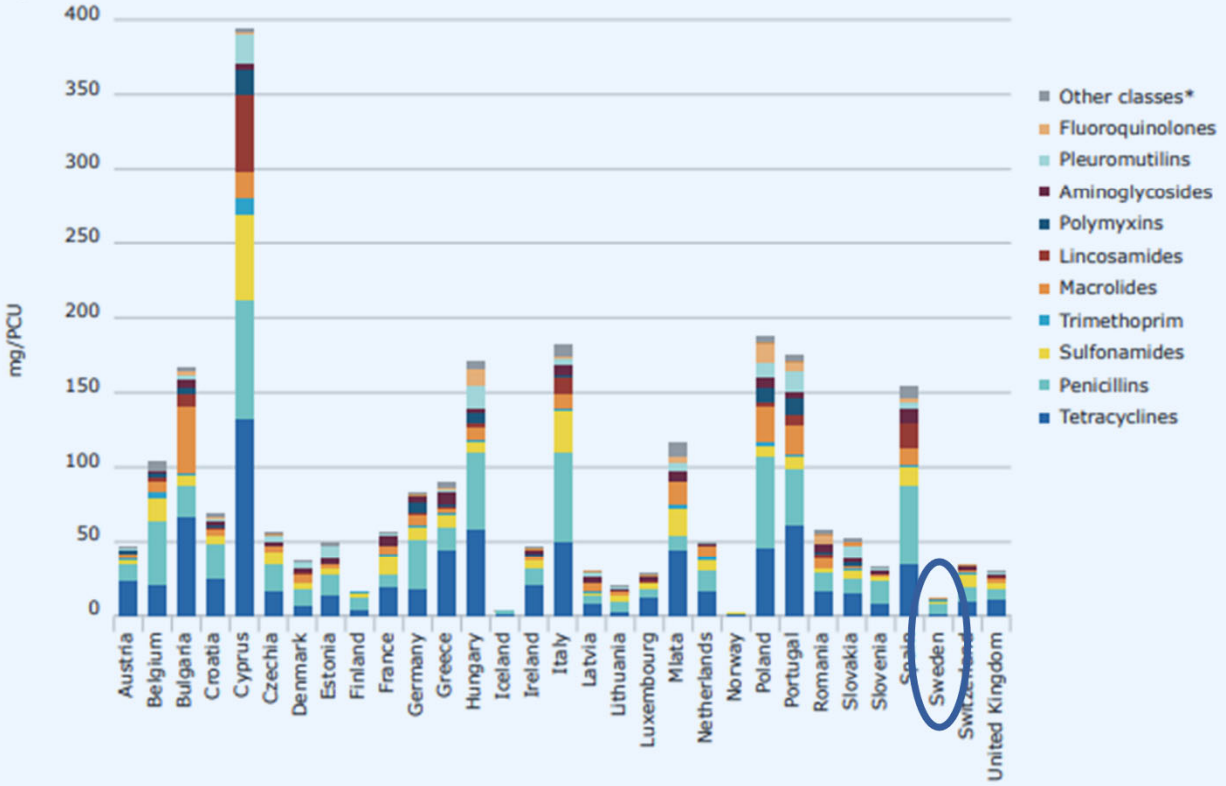
SALES FOR FOOD-PRODUCING ANIMALS IN EUROPE

Figure 2. Sales for food-producing animals, in mg/PCU, of the various antimicrobial classes, for 31 European countries, in 2020[1]



* 'Other classes' includes amphenicols, cephalosporins, other quinolones and 'Others'.
[1] Differences between countries can be partly explained by differences in animal demographics, occurrence of bacterial diseases, selection of antimicrobial agents, dosage regimes, types of data source, and veterinarians' prescribing habits.

https://www.ema.europa.eu/en/documents/report/sales-veterinary-antimicrobial-agents-31-european-countries-2019-2020-trends-2010-2020-eleventh_en.pdf

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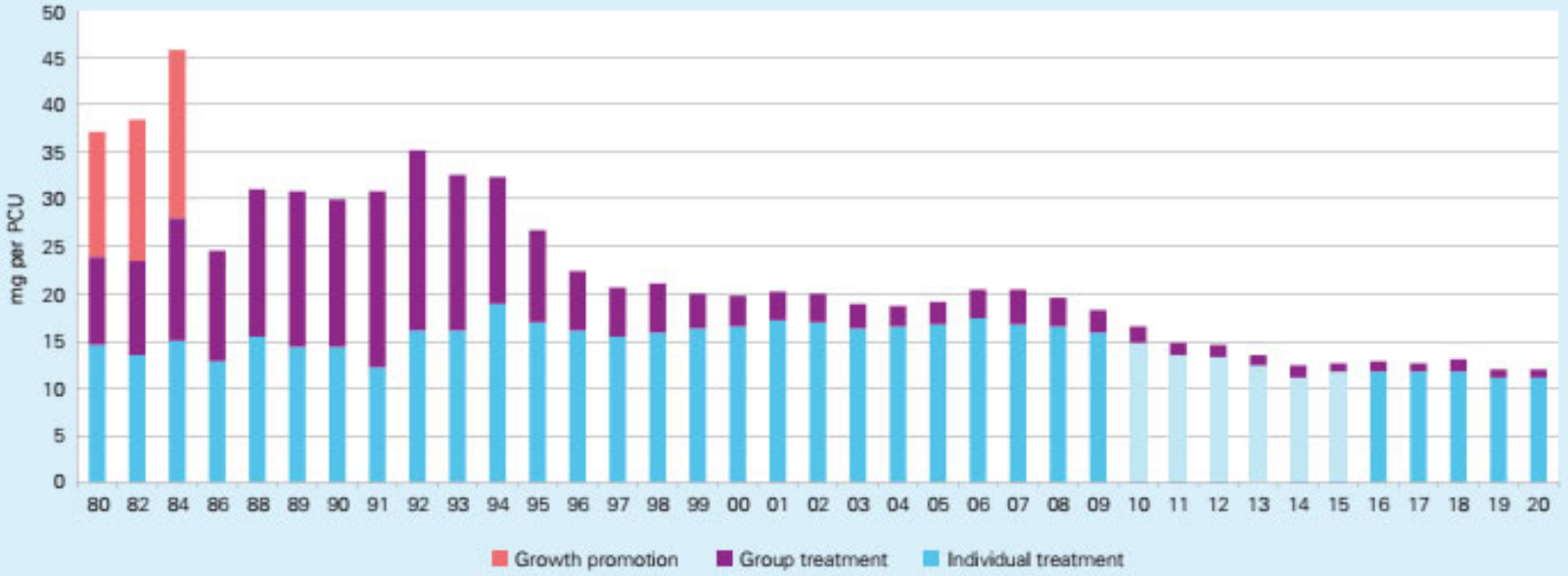
SALES OF ANTIBIOTICS FOR ANIMALS IN SWEDEN

Figure 2.1. Sales of antibiotics for animals expressed as mg per population correction unit (PCU)[a].



[a]Data from 2010-2015 are uncertain because of a lack of completeness mainly affecting injectable products. This is indicated by a paler colour for antibiotics for individual treatment. In the present figure, all products (including tablets) are included while in data presented in the European surveillance of veterinary antimicrobial consumption tablets are excluded when calculating mg/PCU.

https://www.sva.se/media/8d9678c390929e9/swedres_svarm_2020.pdf

SALES OF ANTIBIOTICS PER SPECIES

Figure 4.2 Distribution of live biomass and antimicrobial consumption in main animal species, tonnes, Denmark

COMPARISON BETWEEN COUNTRIES

Preventive Veterinary Medicine 130 (2016) 41–50

Contents lists available at ScienceDirect

Preventive Veterinary Medicine

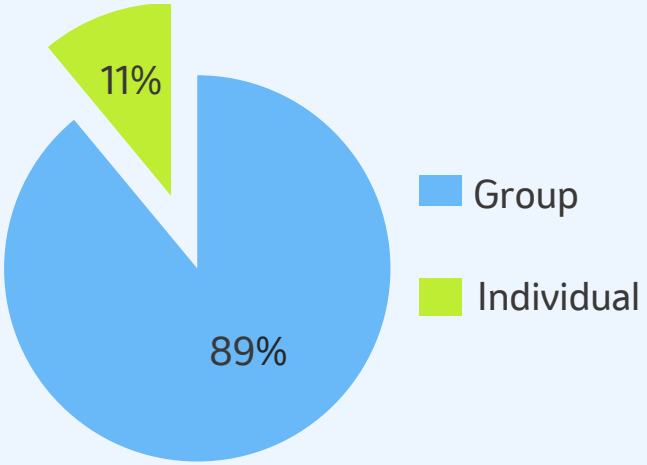
journal homepage: www.elsevier.com/locate/prevetmed

Quantitative and qualitative antimicrobial usage patterns in farrow-to-finish pig herds in Belgium, France, Germany and Sweden

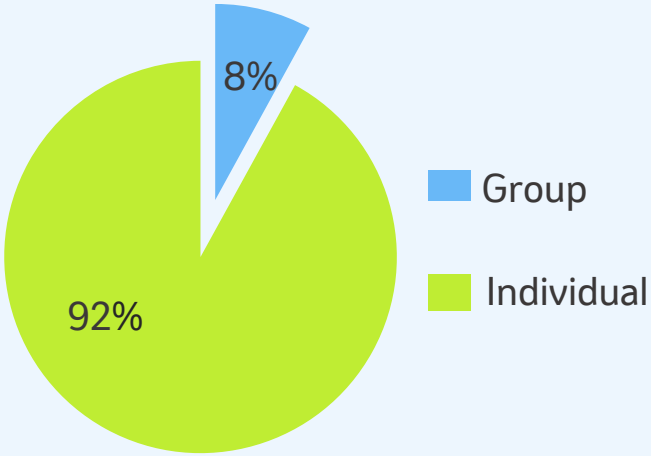
M. Sjölund[a,b,*], M. Postma[c], L. Collineau[d,e], S. Lösken[f], A. Backhans[b], C. Belloc[e,g], U. Emanuelson[b], E.Große Beilage[f], K. Stärk[d], J. Dewulf[c], on behalf of the MINAPIG consortium

Photo by Marie Sjölund, SVA

THE IMPORTANCE OF THE ROUTE OF ADMINISTRATION



Mean for 31 countries



Sweden

ESVAC 9th report, www.ema.europa.eu

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ADMINISTRATION ROUTE FOR PIGS

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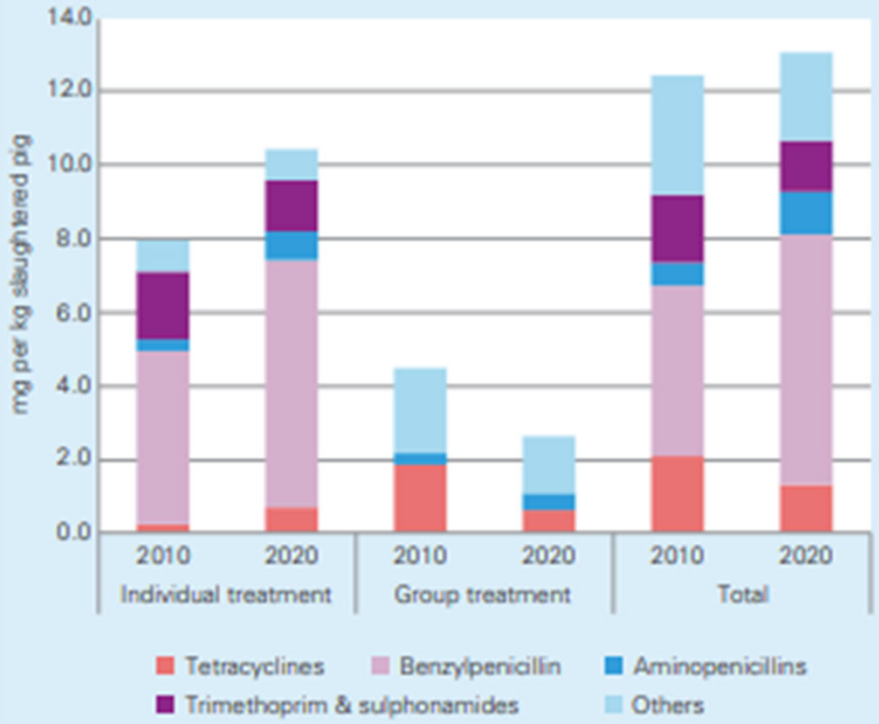
SALES OF ANTIBIOTICS FOR PIGS

- Increase in treatments for individual pigs
- Reduction in group medications
- Slight increase in total use

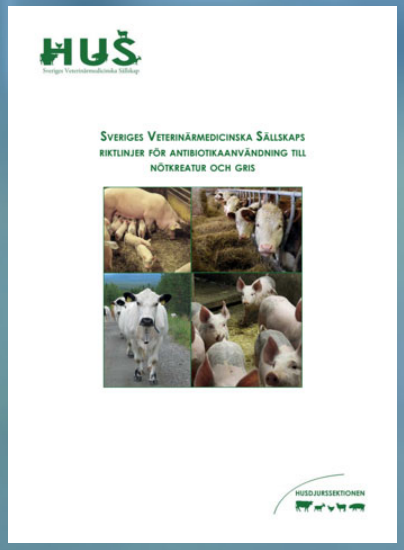
https://www.sva.se/media/8d9678c390929e9/swedres_svarm_2020.pdf

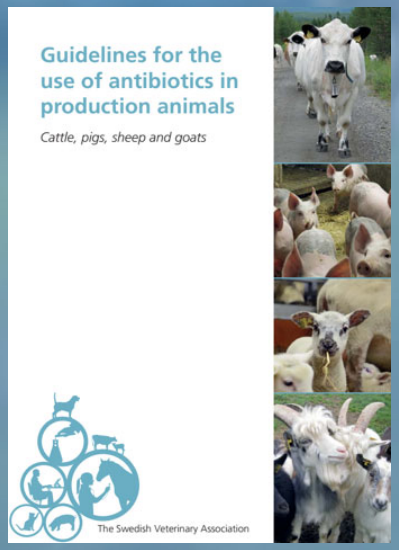
Figure 2.2. Sales of antibiotics for pigs in 2010 and 2020 expressed as mg active substance per kg slaughtered pig[a].



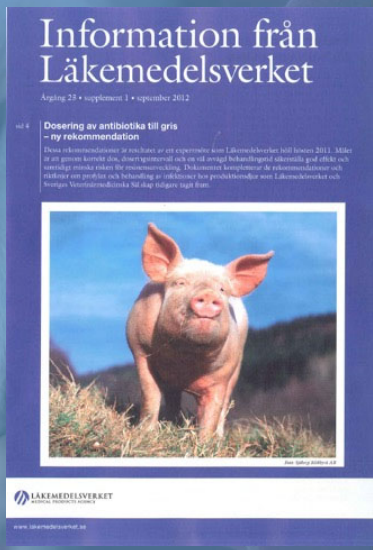
[a]Others include all classes not given separately, mainly aminoglycosides, macrolides, pleuromutilins and polymyxins.

GUIDELINES IMPORTANT TOOLS





https://www.svf.se/media/vd5ney4l/svfs-riktlinje-antibiotika-till-produktionsdjur-eng-2017.pdf



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PIGPRODUCTION LIKEASWEDE

MATELIKEASWEDE

Gunnar Johansson
DVM
Farm&Animal Health

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

BATCH-WISE PRODUCTION AND REPRODUCTION

- Everything started with **the ban on growth promoters**.
- To handle **the postweaning diarrhoea and dysentery** that came as a consequence, **age segregated batch-wise production became essential**.
- All-in-all-out systems with improved biosecurity and hygien took the place of antibiotics **to ensure healthy pigs**.

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WEANING STEERS
THE ESTRUS

The weaning of the sow became the way to steer the next farrowing and also to direct the batch-wise playing orchestra.

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

QUALITY ASSURED PRODUCTION REPRODUCTION IS THE KEY

- Swedish farmers started programs to increase productivity and to increase animal welfare.
- Better environment, ventilation and hygien and feeding became crucial to control the reproduction.

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

A SHORT FARROWING PERIOD

A short period from the first farrowing to the last in a group is the trick!

With a long period of time between the first and last sow to farrow, the piglets in the litter borned late got a short suckling phase and are weaned quite early.

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

- Sows in god shape
- Control of diseases and vaccinations
- Synchronized estrus
- Food
- Light
- And no stress!

CONTROL OF REPRODUCTION

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AVOID STRESS

- Avoid stress and regrouping during the inplantation!
- Loose housing but individual feeding!
- Fixed management routines

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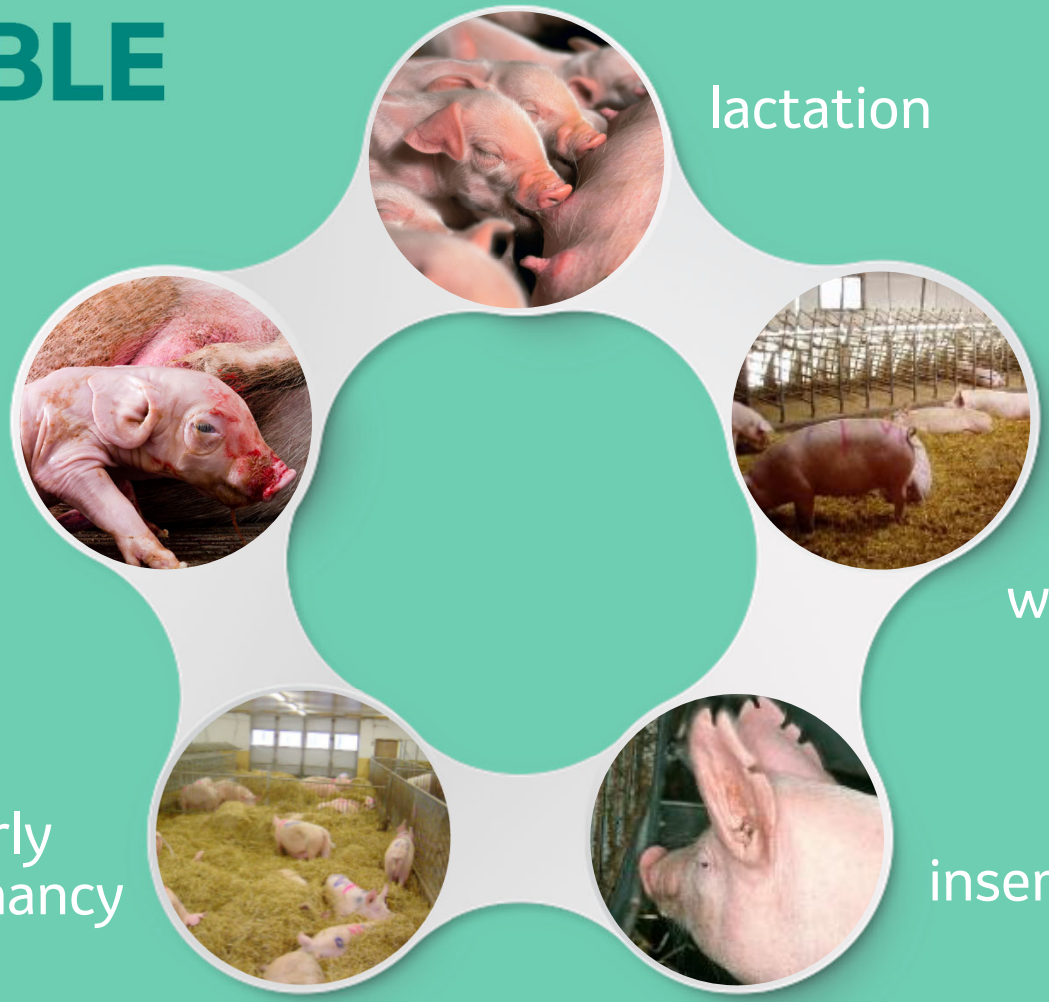
VULNERABLE PERIODS



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ESTRUS PLANNING FOR GILTS

- **Altrenogest** can help gilts in estrus with a group of weaned sows. Just another tool in the toolbox!
- **Relationship** between Age at First Farrowing and Longevity

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GOOD REPRODUCTIVE PERFORMANCE IS CRITICAL FOR HEALTHY PIGLETS!

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PIGPRODUCTION LIKEASWEDE

CONSULTINGIN PIGPRODUCTION NOMANISANISLAND

Fredrik Engström
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HEALTH AND WELFARE

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MAXIMIZE ECONOMIC PAYBACK

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

FIVE MAJOR FACTORS THAT CONTRIBUTE TO SUCCESSFUL CONSULTING

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

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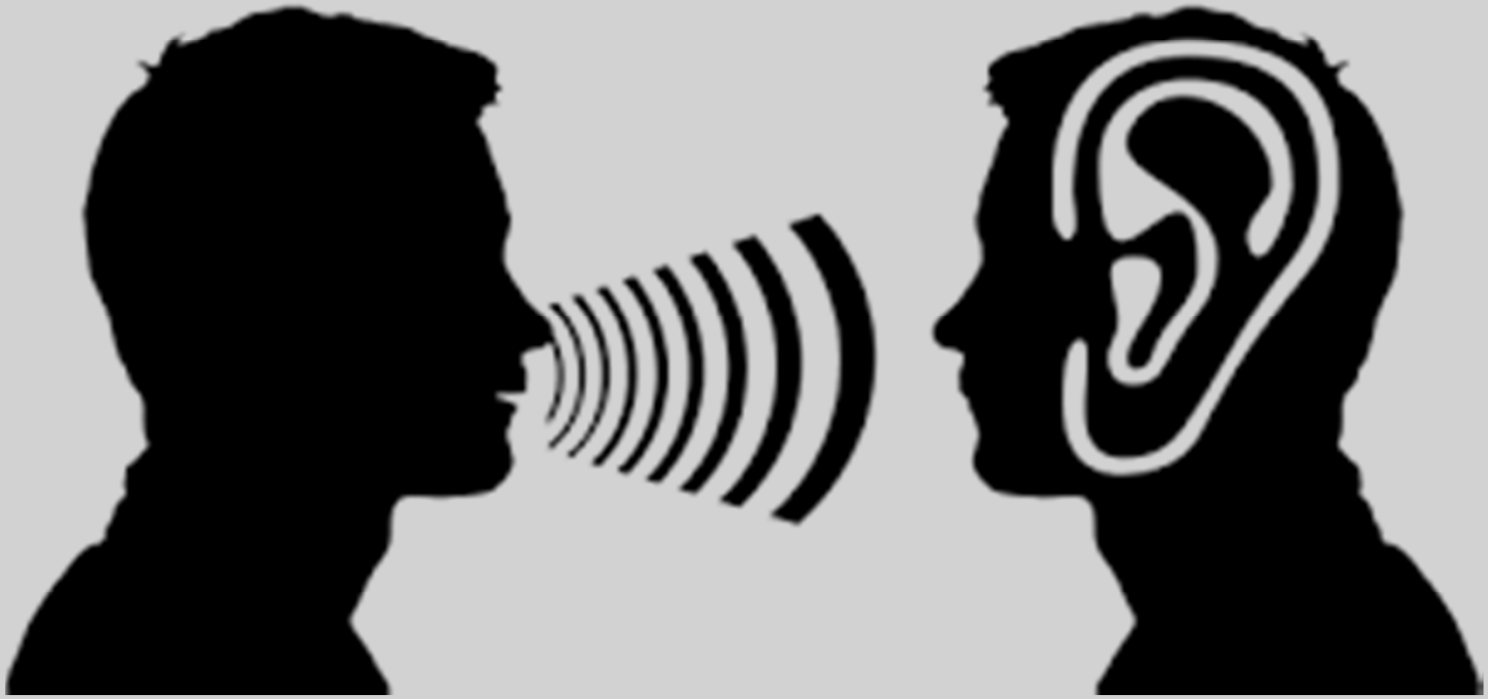
HEALTHY ANIMALS FOR PROSPEROUS FARMS



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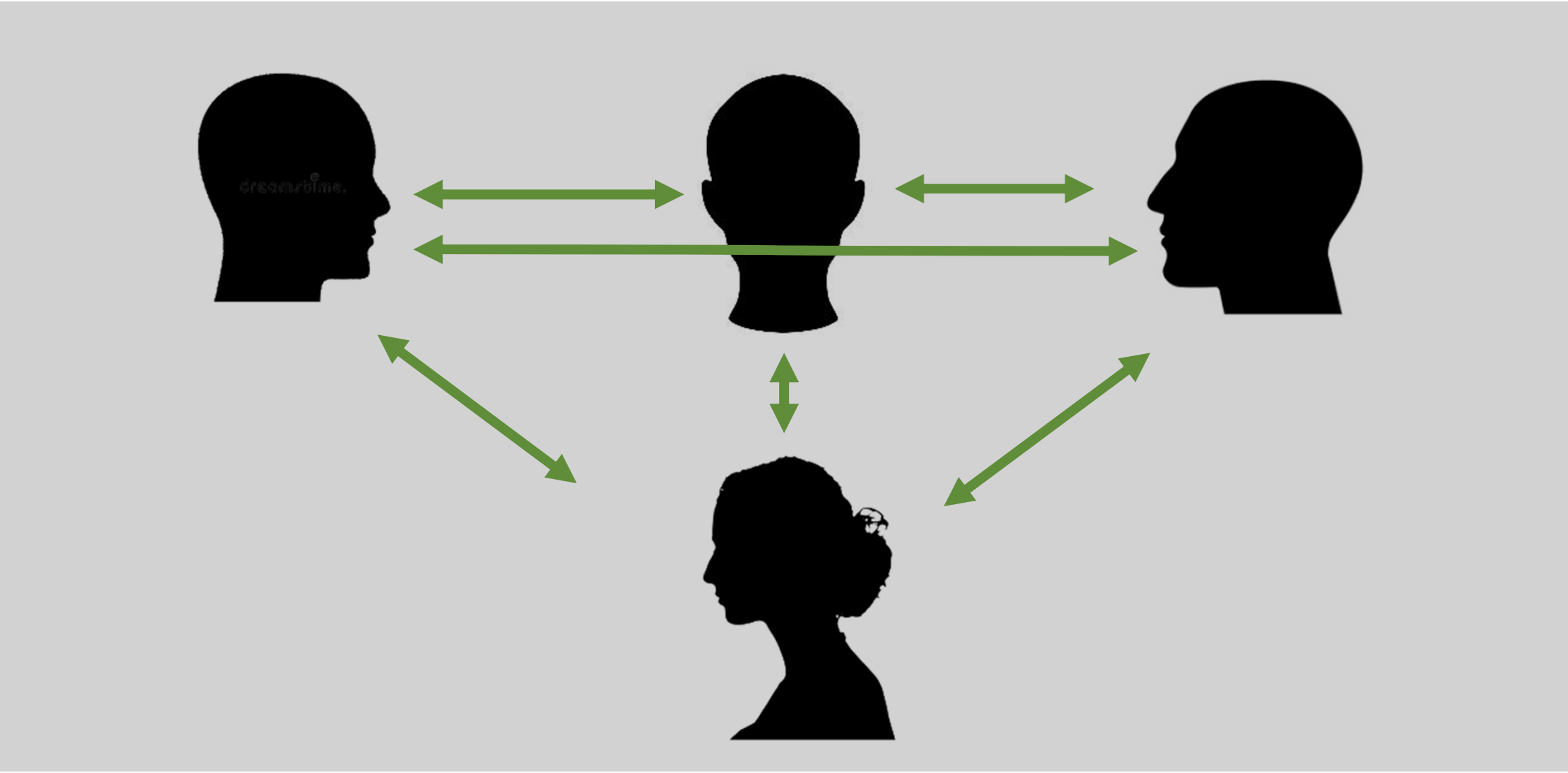

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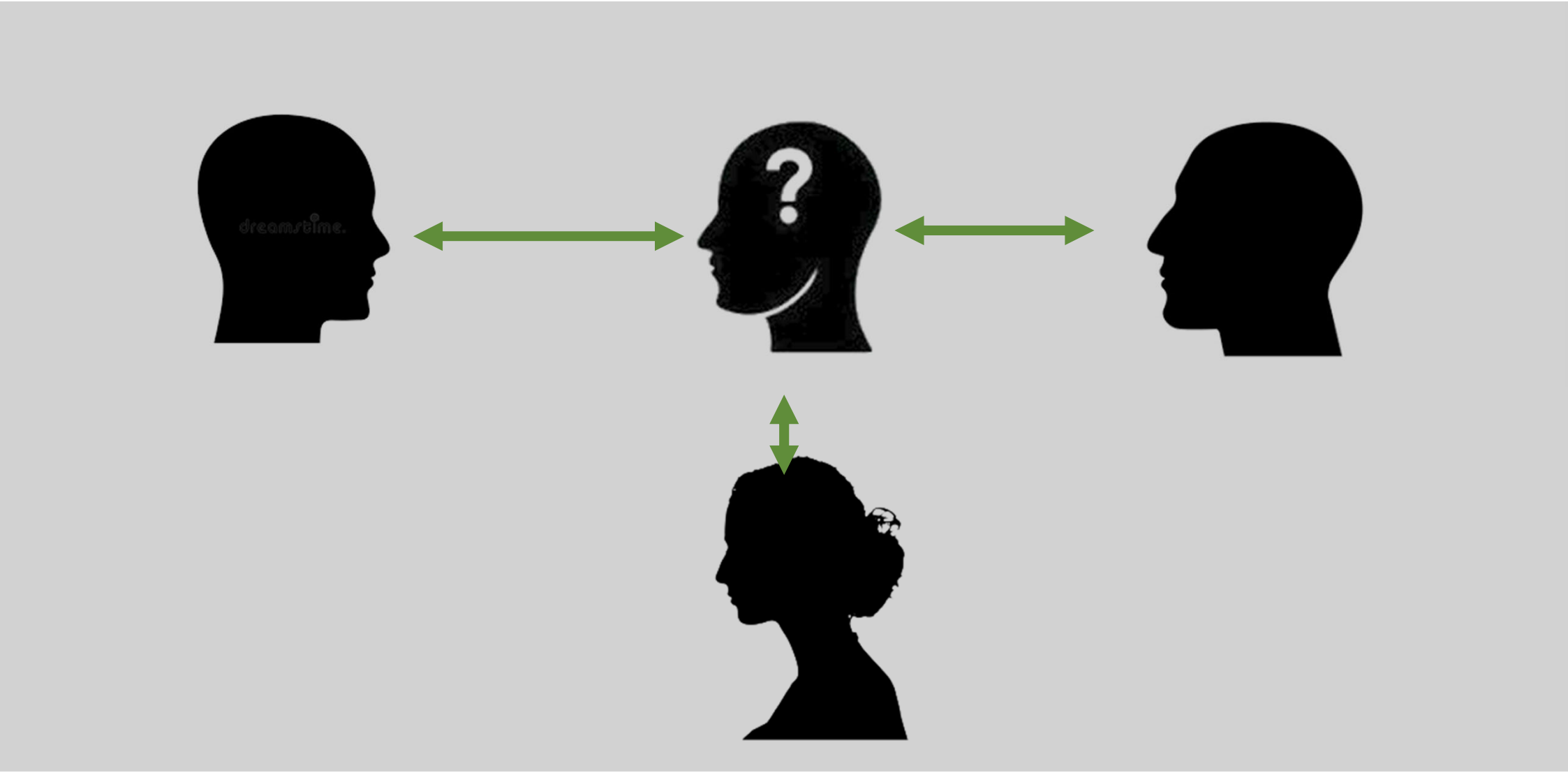
HEALTHY ANIMALS FOR PROSPEROUS FARMS



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HEALTHY ANIMALS FOR PROSPEROUS FARMS

METHOD

- Follow up program
- I am a prescribing veterinarian, visiting every 6-7 week
- Team: veterinarian-, production-, feed advisor

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

METHOD

- Two physical meetings
- Two digital meetings
- Each meeting after quarterly follow up
- Phone consulting when necessary

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METHOD

- Before every meeting the team analyze health- and economic data

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

WE SELL KNOWLEDGE AND COACHING SO:

1. Management Routines
2. Management Routines
3. Management Routines

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

CHECKLIST

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HEALTHY ANIMALS FOR PROSPEROUS FARMS

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SMALL CHANGES MAKE A LOT OF MONEY

- Economic follow up is a major factor and incentive for the farmer

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ECONOMIC EFFECTS, PIGLETS AND GROWING PIGS FROM 2020-2021

Marginal value per piglet, 52,99 EUR

Weaned piglets	Piglets per sow and year	EUR per sow and year	Number of sows	EUR in total
0,7	1,31	79,53	252	20 041

Age at 30 kg, days		EUR per sow and year	Number of sows	EUR in total
- 6,0		38,71	252	9 756

Total 29 797 EUR

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METHOD

- After every meeting the team has a meeting on their own
- Report written and sent to the producer and staff

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TAKEHOMEMESSAGES

- **Know your limits** – cooperate more
- **Conflicting advice** – slower progress in health- and economic results
- **Good communication** – between veterinarian, advicers, owner and staff is the key for success

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TAKEHOMEMESSAGE

NOMANISANISLAND

John Donne 1572-1631

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PIGPRODUCTION LIKEASWEDE

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VETERINARIANS HAVETHEKNOWLEDGE – USEIT!

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“Swine veterinarians today focus more on preventive medicine and improving overall herd health rather than responding after disease occurs”

Diseases of Swine 11th ed 2019

REALLY?
HOW?

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A LOT OF HARD LESSONS FOR PIGS AND PIG PRODUCERS SINCE 1986

- What has been the biggest changes in Sweden since the ban on growth promotors in 1986?

- *Age segregated batch wise production*
- *All-in-all-out, with improved biosecurity and hygien*

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- Veterinarians have moved from using drugs to giving advice
- Focusing on true prevention through management changes and vaccinations rather than quick fixes

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- Specialised and larger farms with high competence in the working staff. “Full time pig-producers”
- Focusing on the whole production chain from the farrowing pen to market weight

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- High level of integration on farm or between farms
- Loose housed pigs in all parts of production, including sows

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INCREASING THE WEANING AGE – INCREASED YIELD PER SOW AND A MUCH MORE ROBUST WEANER PIG

Differences between weaning at 4 weeks compared to 5 weeks

Weaning at:	4 weeks	5 weeks	Difference
Number of sow spaces	1,000	880	-120
Number of farrowing pens	240	240	0
Total born	16.3	16.7	0.4
Litter/sow/year	2.36	2.26	-0.1
Percentage of farrowing sows	87	89	2
Weaning age (days)	26	33	7
Delivery weight (at 12 weeks)	**25**	**30**	**5**
Package price piglet feed	39	36	-3
Annual yield/sow €	**347**	**373**	**26**

Modified from Teer Haar R. (2020)

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DISEASE IS COSTLY – ECONOMICALLY, ENVIROMENTALLY & FOR ANIMAL WELFARE

Economic impact of endemic infectious diseases to pig production

Disease	Reduction in ADG	Cost/sow/year	Reference
Swine dysentery		250 €	a
PRRS		224 €	b
PMWS		100 €	b
Sarcoptic mange	4,5-12%		c
M. Hyopneumonie	2-8%		c

Modified from Teer Haar R. (2020)

a) Ehlorsson, C.J. and Wallgren, P. (2018) Cost-benefit of eradication swine dysentery in a farrow-to-finish herd. Proc. ECPHM 10: 334 (HHM-075).

b) Wallgren, P. (2011) Economical impact of diseases on pig production with special focus on emerging diseases. Proc. Int. symp. Emerging and re-emerging Dis. 6: 340.

c) Zimmerman, J.J., et al., Diseases of Swine. 2019.

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DISEASE IS COSTLY – ECONOMICALLY, ENVIROMENTALLY & FOR ANIMAL WELFARE

- Improving health is the number one thing to reduce the carbon foot-print of pig production
- Increasing ADG and feed efficacy
- Also, reducing need for antibiotics
- Reducing workload
- Increasing profitability

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ANOTHER WAY TO SEE IT
THE RIGHT TO BE HEALTHY

- Healthy pigs do not suffer from infections
- Therefore they grow well
- The CO_2-mark will be low
- They do not need antibiotics

HEALTHYPIGSARE
CLIMATESMART

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THIS IS NO NEWS TO ANYONE

Google Scholar PubMed.gov

- Numerous scientific reports have been published
- Our veterinary clinical experience tells us this
- The quality of the piglets produced, not the number of pigs should be prioritized
- Veterinarians and advisors must get in the driver seat in consulting farmers and their staff

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QUANTITY < QUALITY

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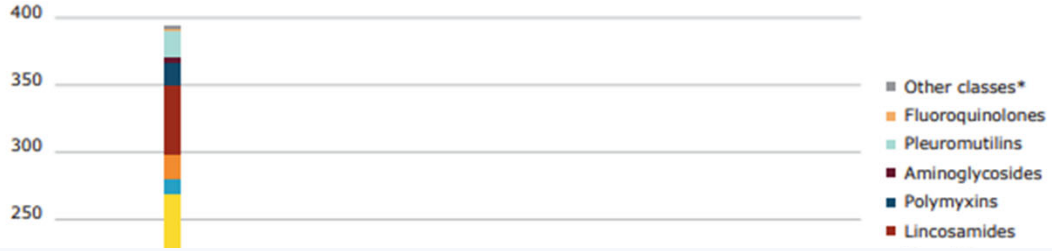
QUANTITY < QUALITY

Figure 2. Sales for food-producing animals, in mg/PCU, of the various antimicrobial classes, for 31 European countries, in 2020[1]



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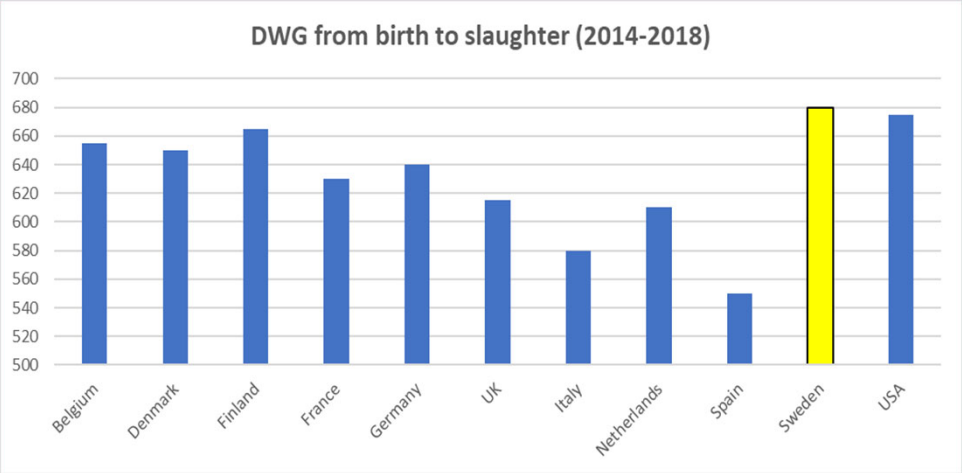

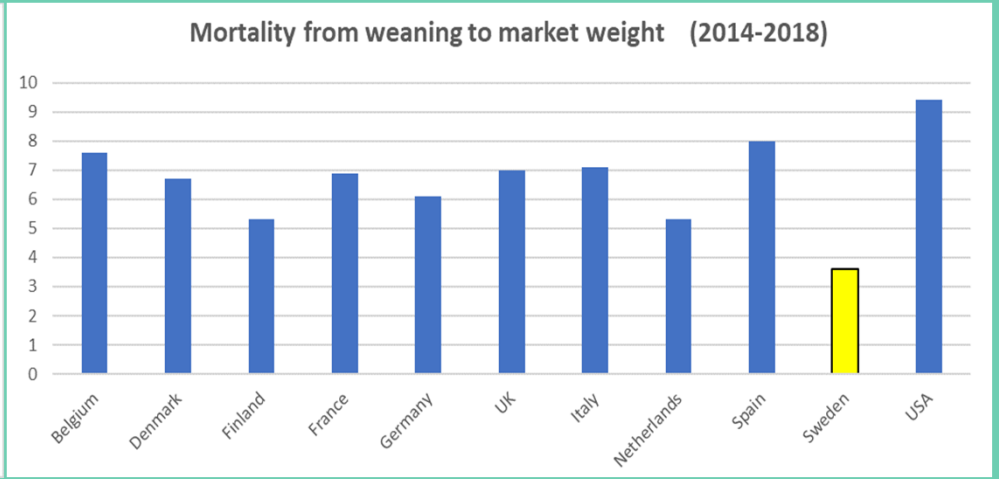

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GENERAL CONCLUSIONS

- There is no conflict between welfare and productivity!
- Instead, welfare is a request for good productivity!
- Conditions above the minimum may even be profitable!
- Happy pigs produce well because they are comfortable

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TAKEAWAYS

- **Cooperation** between farmers, staff, veterinarians and advisors is the key for successful pig production
- **Loose housing, increased space allowance** and access to **rooting material** improve animal welfare
- **Age segregated, batch-wise production** from birth to market weight with a limited mixing of pigs reduces disease transmission
- **Increased weaning age** creates more robust weaners better prepared for optimal performance as finishers
- **Strive for individual treatments** over group treatments

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THANKSFORLISTENING

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