



# Best practice

## Combating antimicrobial resistance – Time for joint action

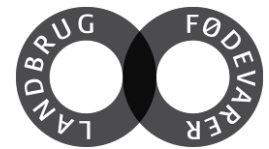
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Centre



Dw 136440

# Questions



- What is the impact of reduced use of antibiotics on the Danish position in the pork market?

No impact

- Has the reduced use of antibiotics had any influence on productivity and economics?

Minor impact

- What is the effect of the yellow card and the Danish pig producers' considerations?

Great effect

Focus on top 15 %

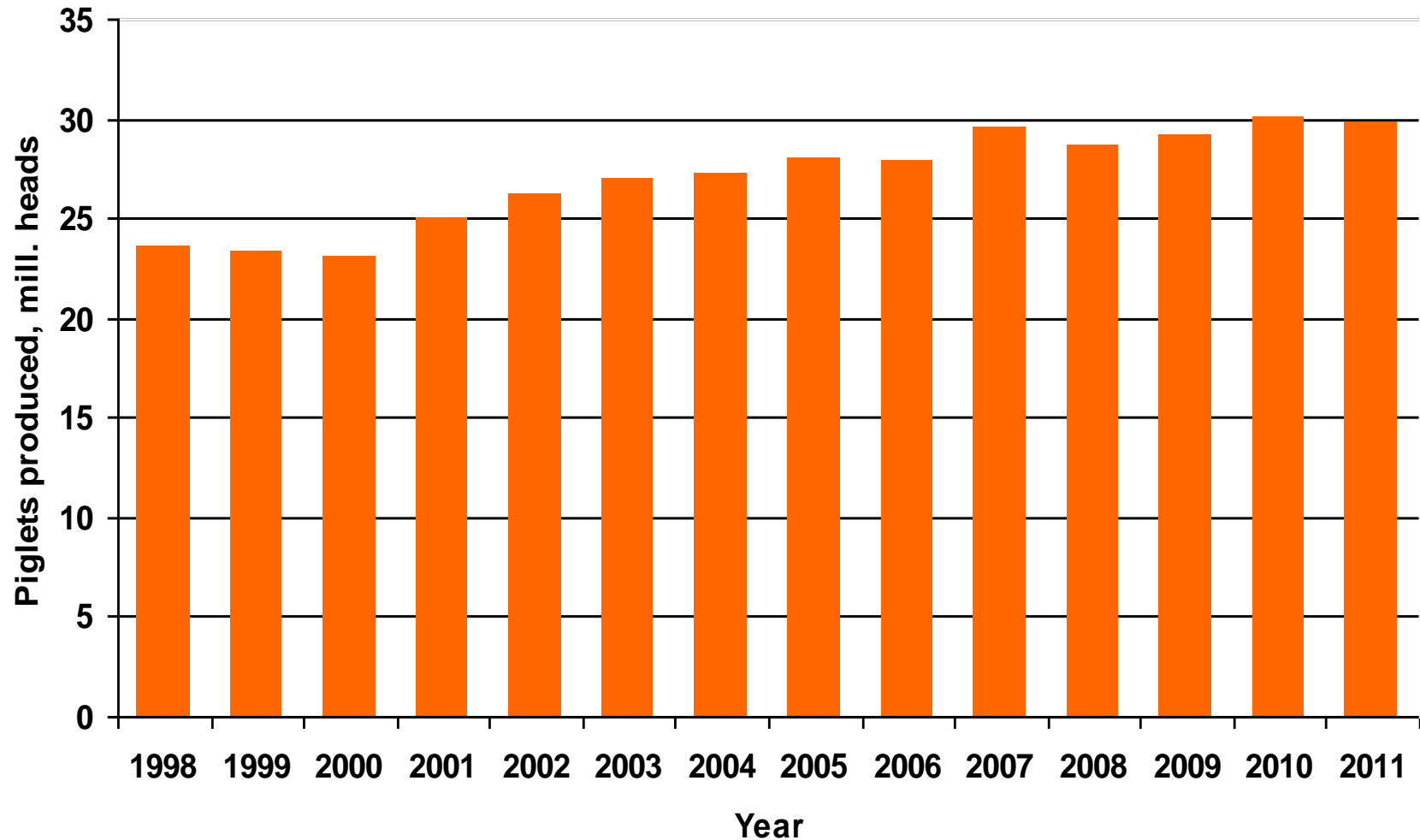
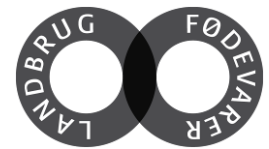
- Why did the Danish pig producers voluntarily stop the use of cephalosporins?

Show responsibility

To be invited here today

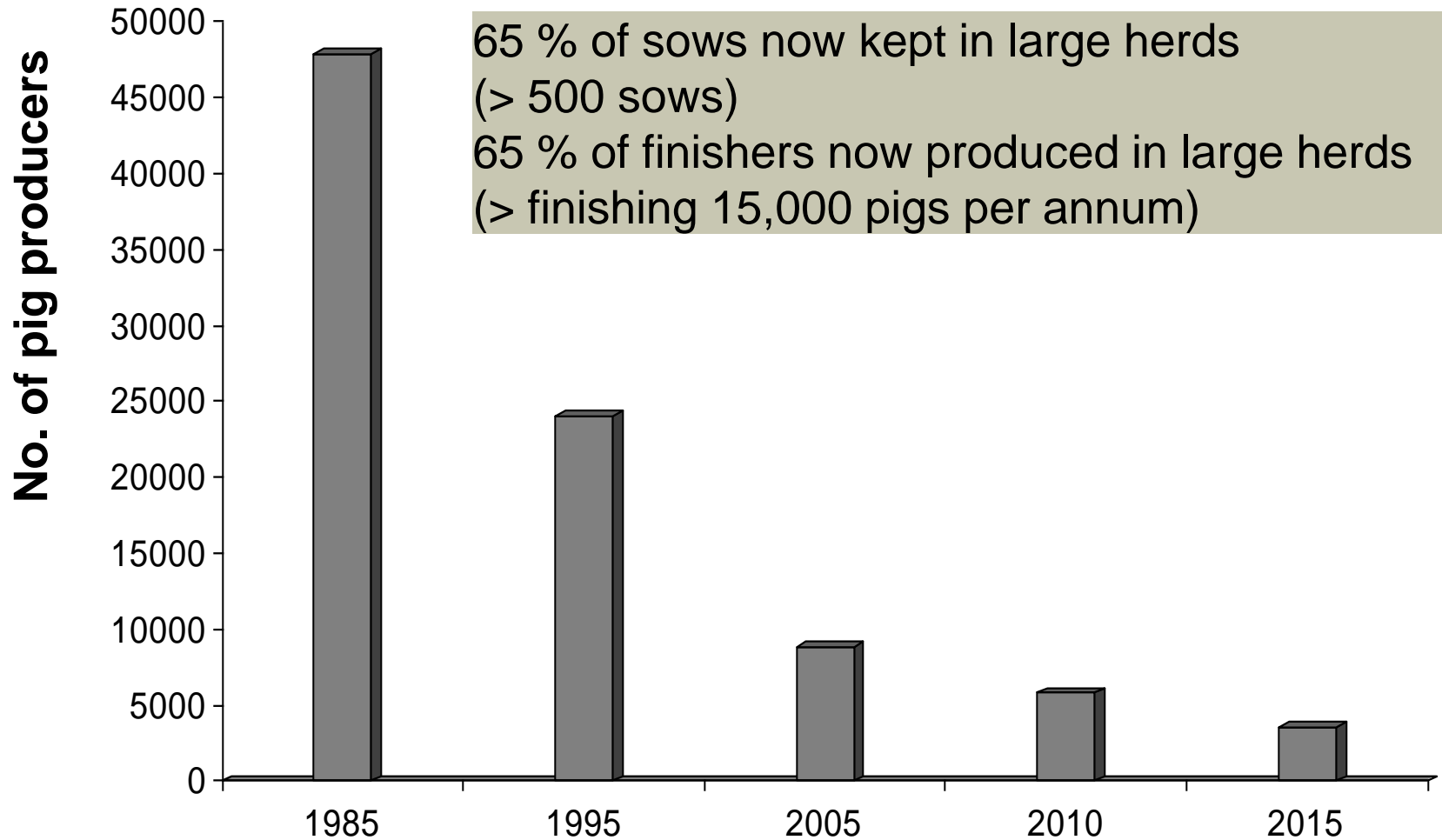
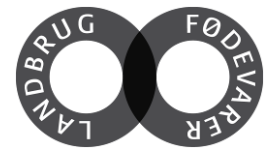
# Produced weaners in DK 1998-2011

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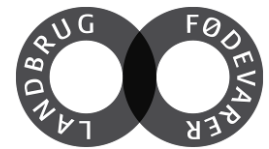


# Pig producers in Denmark

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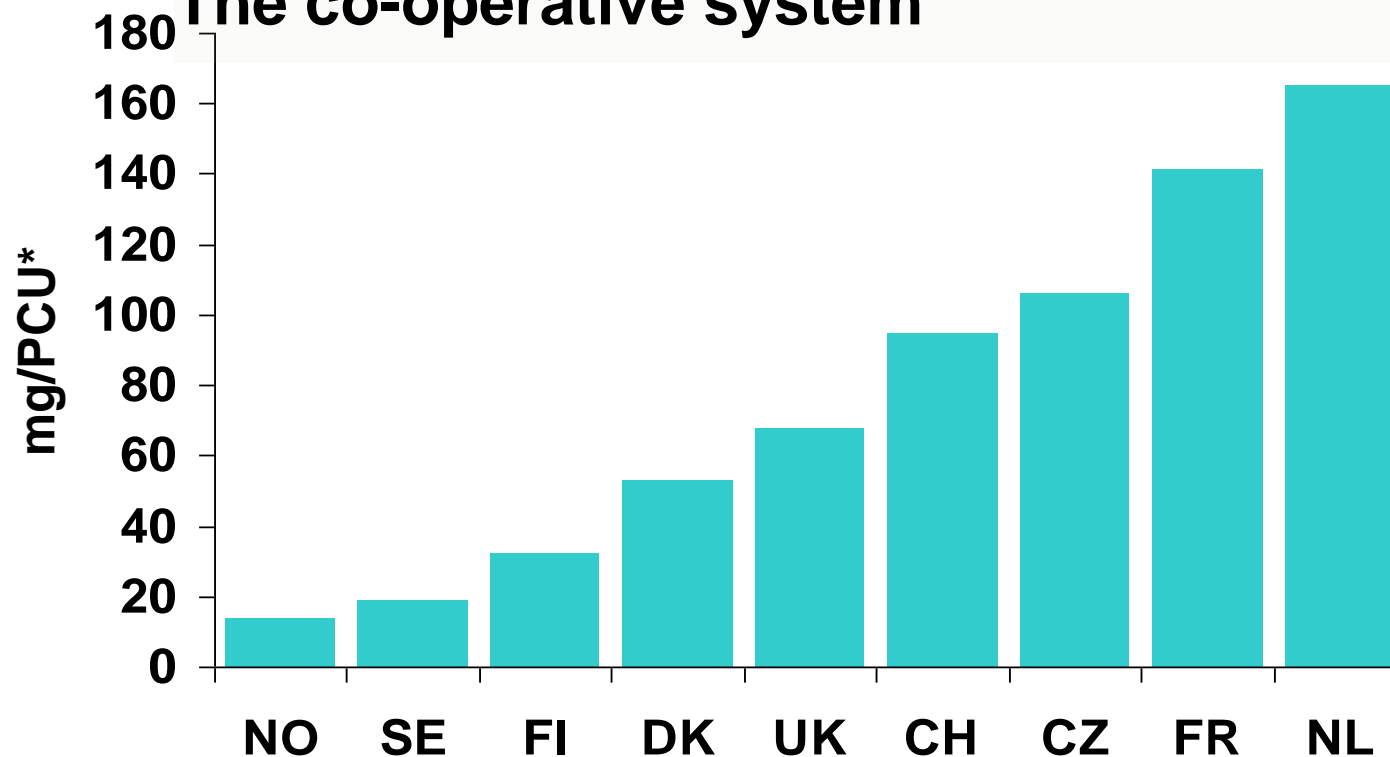
# Consumption of antibiotics in 2009



The unique Danish SPF health management system

High level of management

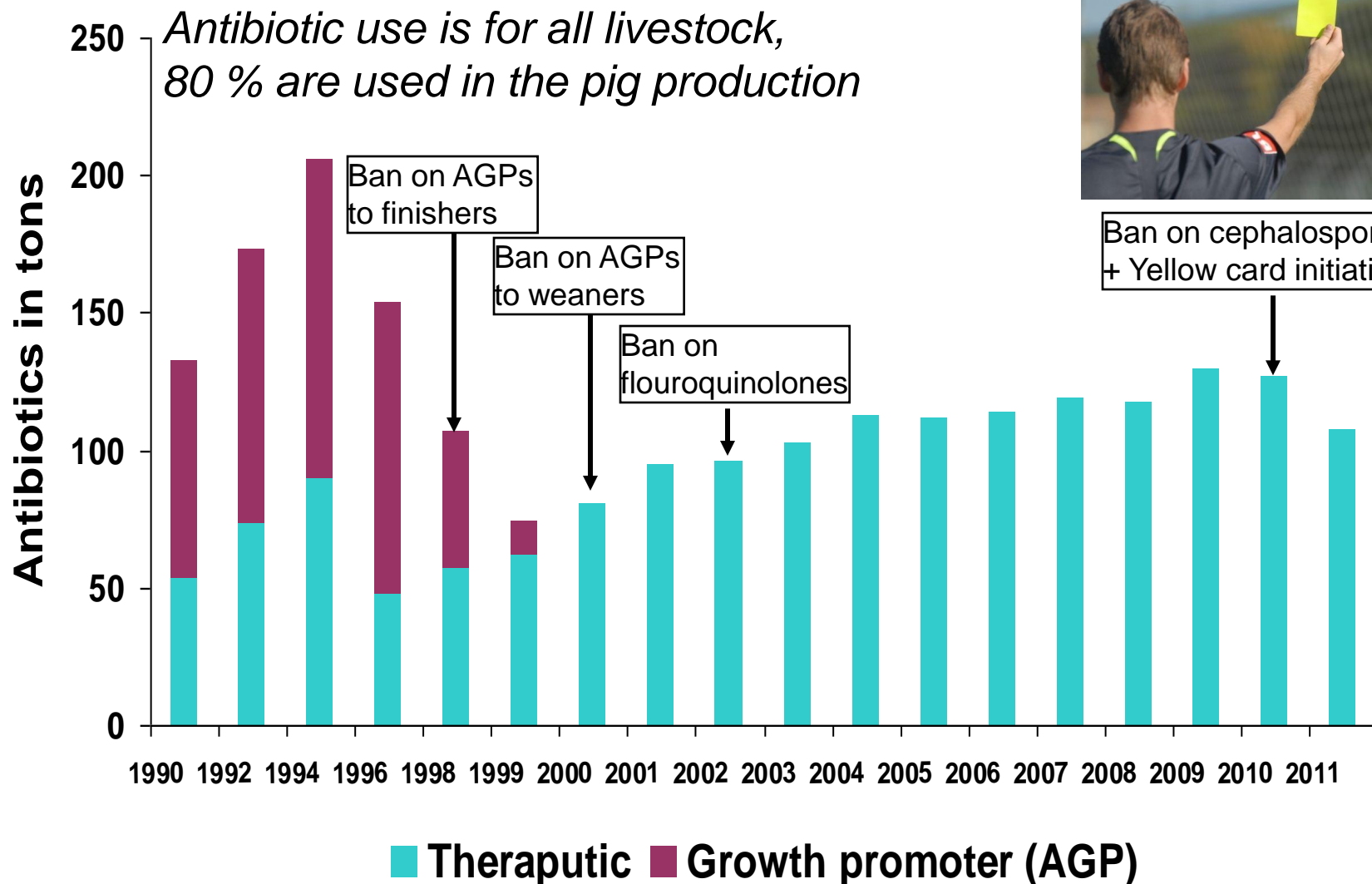
The co-operative system



\*PCU population correction unit (Grave et al 2010)

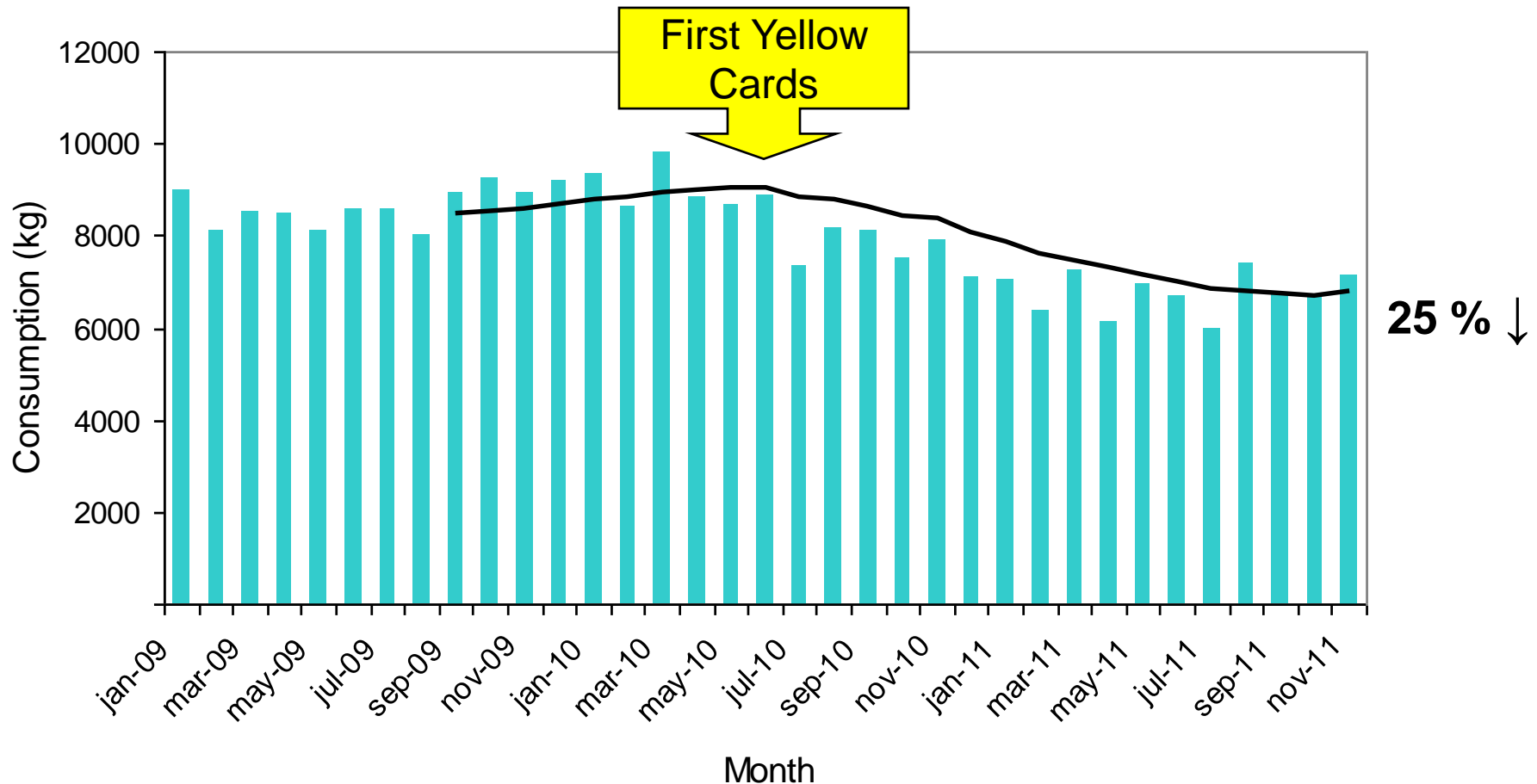
EMA, 2011

# Consumption for livestock, Denmark



Ban on cephalosporins + Yellow card initiative

# Consumption of antibiotics in the Danish pig production



From 2010 to 2011: an **increase** in production of **810,000 pigs**



# Antibiotics - Danish Industry Position

- The use of antibiotics has halved since 1995 and is low compared to other countries
- Vets may prescribe but not sell antibiotics
- Use of antibiotics critically important for human medicine are not permitted (e.g cephalosporins, fluoroquinolones)
- Advertising of veterinary medicines is not permitted to farmers
- VETSTAT database - recording detailed use of medicine, has enabled authorities to identify 'higher than average' users ('Yellow Card')
- Antibiotic residues are virtually non-existent in Danish pig meat
- DANMAP survey has tracked development of 'antibiotic resistance' in livestock, food and human population since 1995



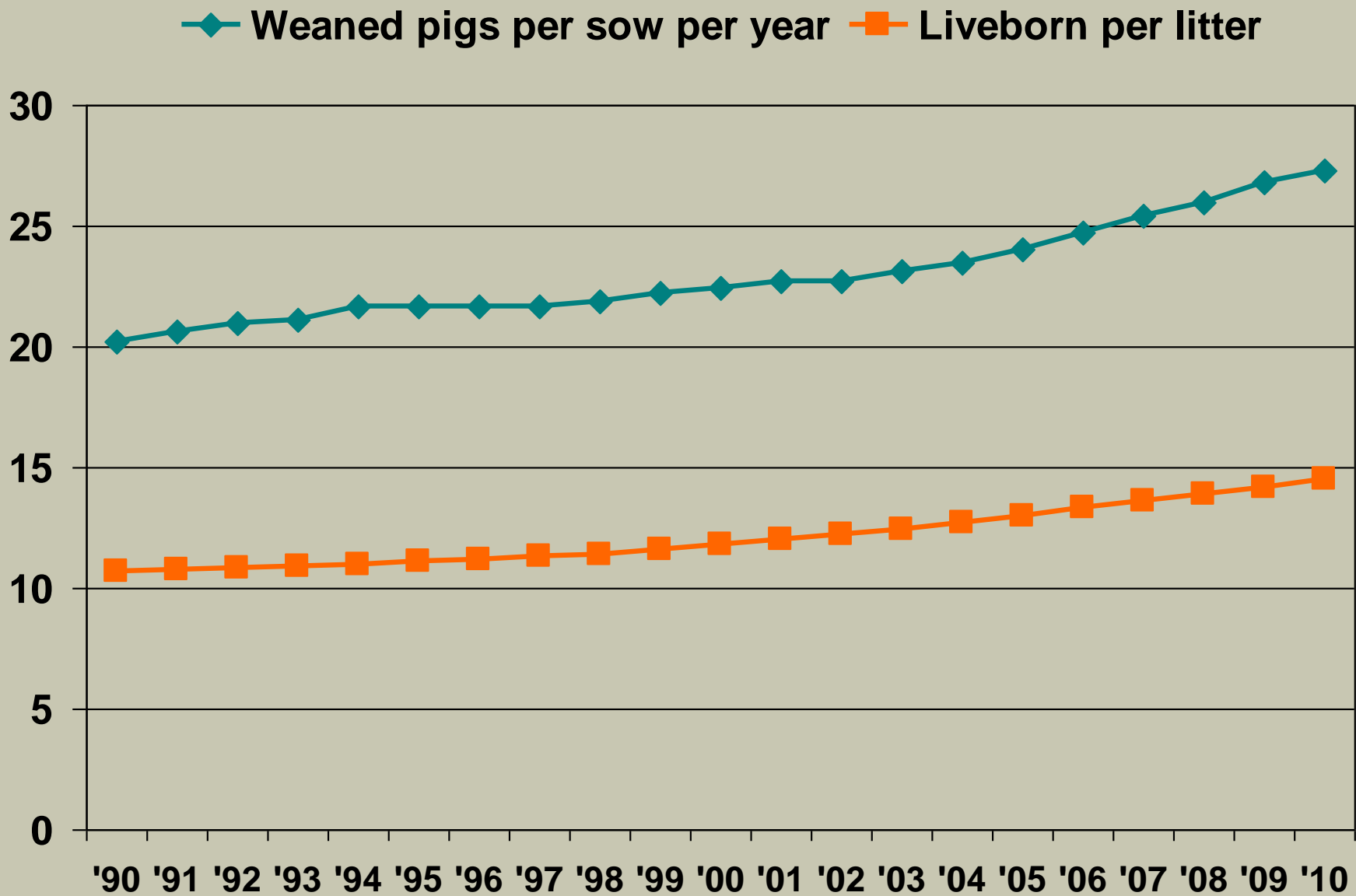


# Market response

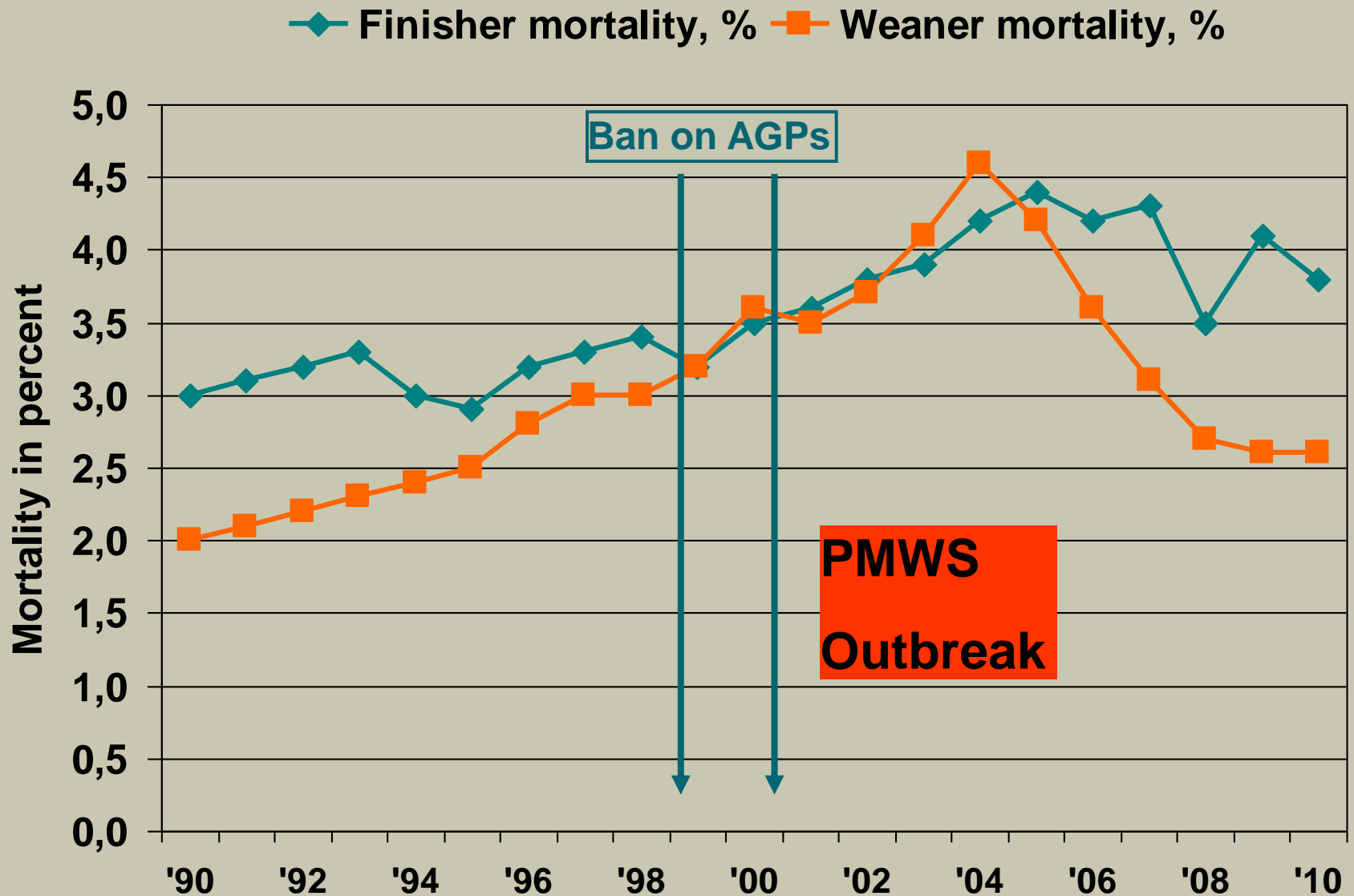
- Retailers and consumers are not willing to pay extra for the Danish effort to reduce the use of antibiotics
- However, food safety is a crucial factor to obtain market access
- I wonder why:
  - In Denmark organic consumers (milk/pork) are willing to pay extra - and one of the highlight criteria is prolonged withdrawal period on antibiotics
- Answer:
  - Organic consumer shopping is based on feelings
  - Conventional consumer shopping is based on price and trust in the standards of food safety



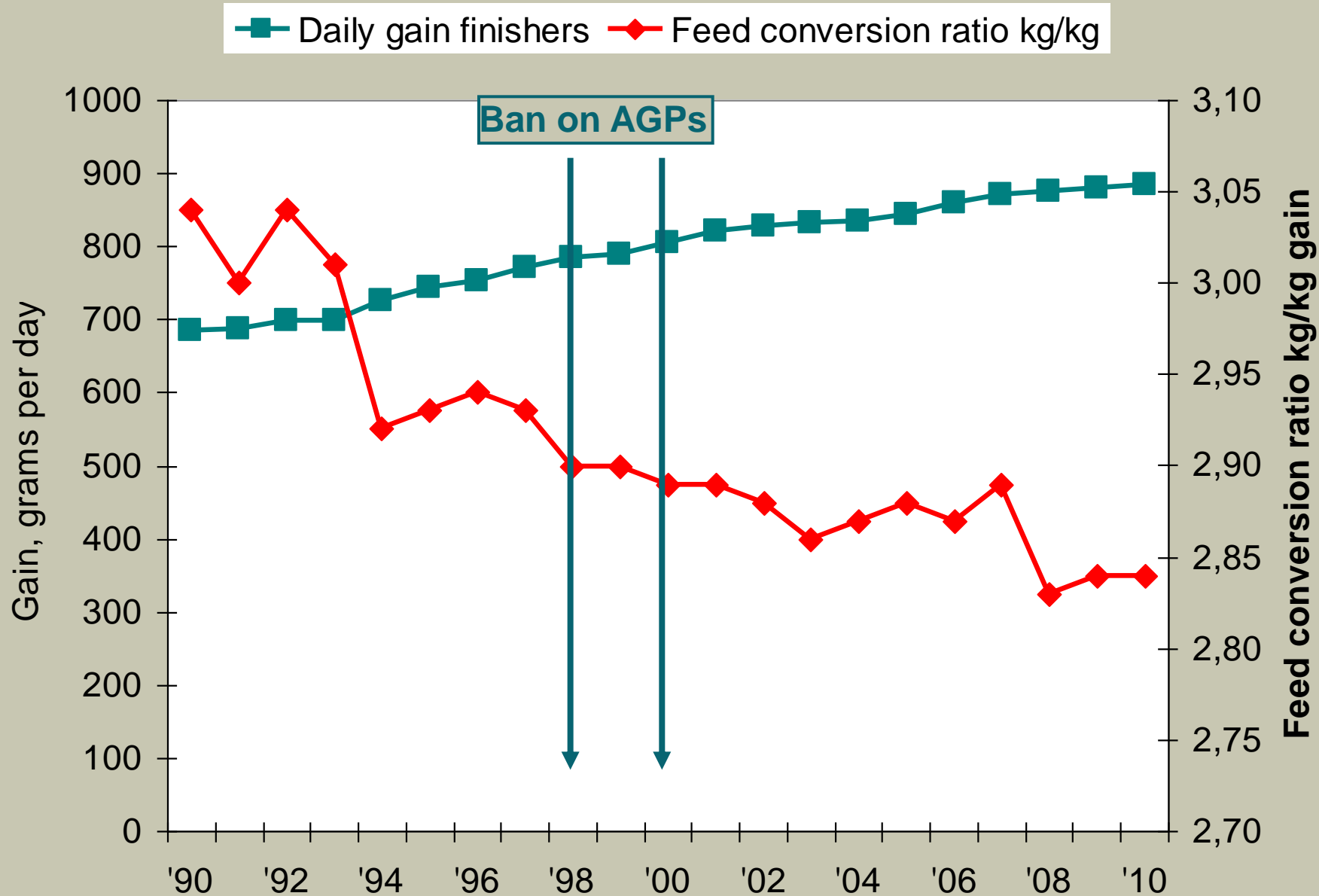
# Productivity



# Productivity



# Productivity



# Reduction in antibiotics – effect on productivity

## Ban of antibiotic growth promoters (2000)

- A minor reduction in productivity of weaners (higher mortality for one year)

## Yellow card (2010)

Reports from the field:

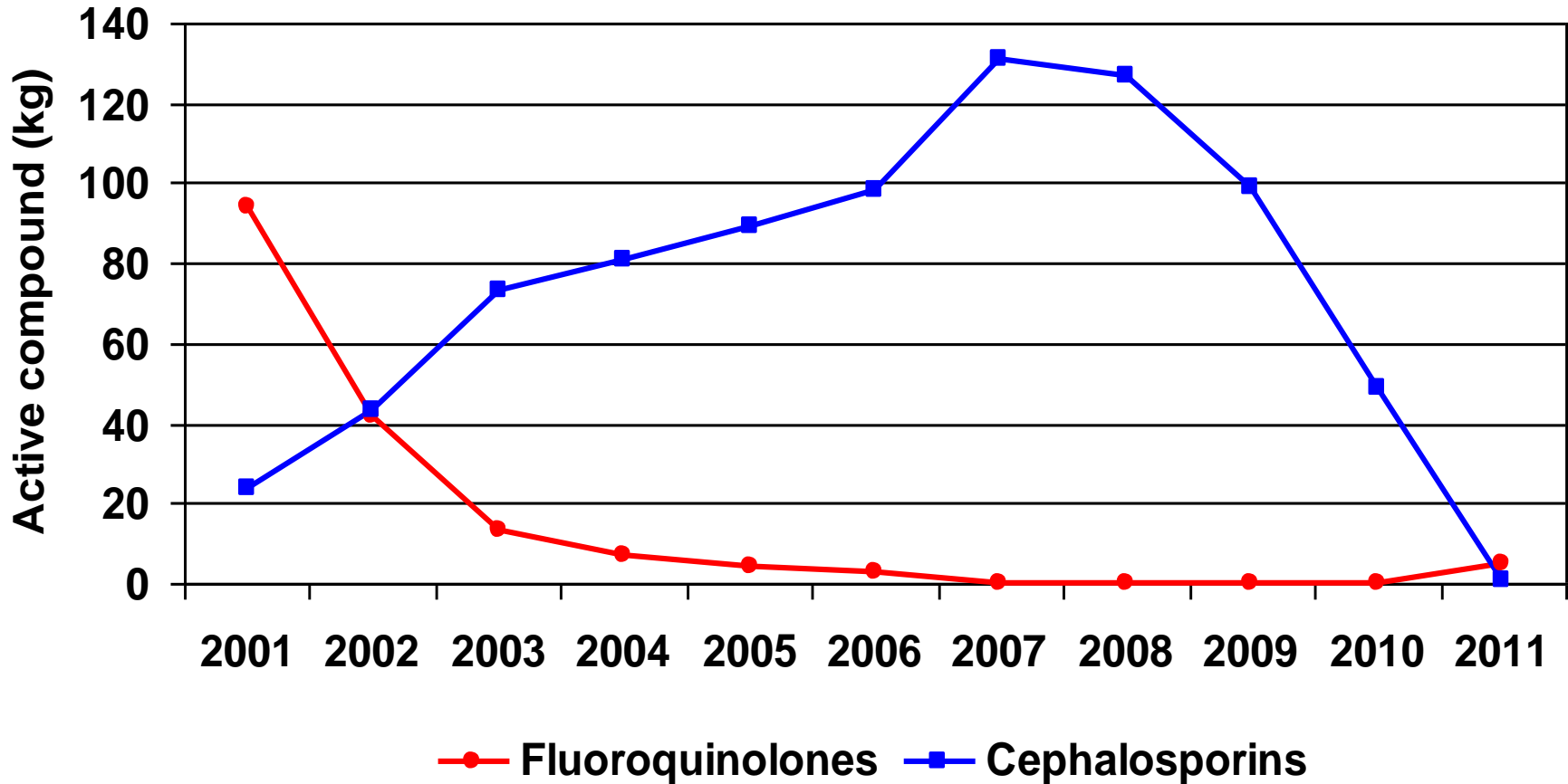
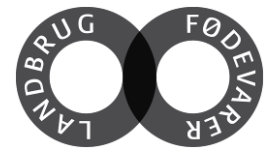
- Increased use of vaccines
- A minor reduction in productivity in some herds
- Animal welfare ?



**But no new serious disease outbreak since summer 2010**

# Use of cephalosporins and fluoroquinolones for pigs

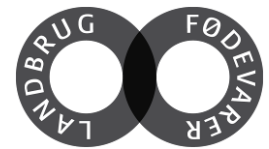
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*DANMAP, Vetstat*



# Fluoroquinolones & cephalosporins

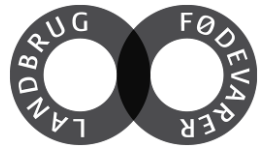


- **Fluoroquinolones banned since 2002**
  - Only allowed under certain conditions and only by the veterinarian personally
- **Cephalosporins**
  - Voluntary ban from July 2010
  - **AIM:** to reduce potential risk for resistance in human pathogens
  - Veterinarians have found alternative treatments
  - Challenges:
    - Sporadic cases where cephalosporins are the only drug of choice (eg. some E. coli)



# Producing pigs without fluoroquinolones & cephalosporins

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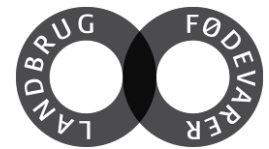


## Our success is due to several measures

- **SPF-system**
- **High level of management**
- **Immediate application of new production technology**
- **Vaccination strategies**
- **Use of other efficient antibiotics based on resistance pattern**

# Pig Research Centre (PRC) supports prudent use of antibiotics

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## PRC supports

- Prudent use of antibiotics
- The yellow card initiative

## PRC initiatives on antibiotics:

- Voluntary ban on AMG **1-6 years before** public ban (EU)
- Voluntary ban on cephalosporins (1.07.2010)
- Supports development of new antibiotics (BKG Vet Pharma)

# MRSA

- We don't have sufficient knowledge on MRSA-epidemiology eg. ways of spreading, how did it enter Denmark
- Focus on working environment and hygiene conditions in relation to pig production
- PRC and BKG Vet Pharma are testing new compounds/ ways to treat MRSA

## Our aim:

To support **sustainable pig production** in Denmark without compromising human health





Thank you for your attention