

# Experiences of managing APP-infections

## Vaccines & antimicrobials as tools to prevent and treat infections with APP

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Kolding 2 November 2012

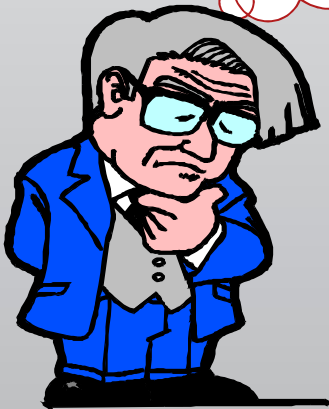


# Who is Marie Sjölund?

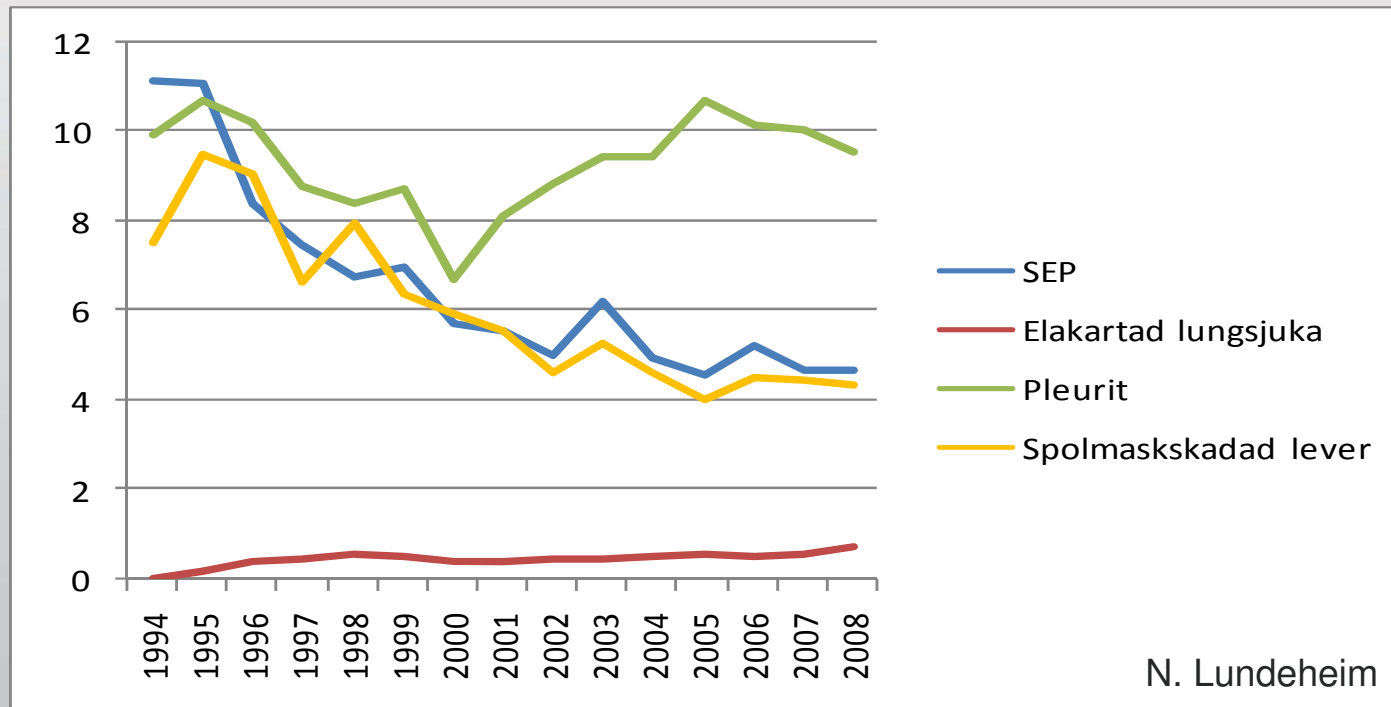
- Veterinary degree in 1998
- General practice
- University – teaching
- Swedish Animal Health Service
- National specialist degreee in porcine health & medicine
- PhD
  - *Actinobacillus pleuropneumoniae*
    - a major respiratory pathogen in pigs
- Associate National Veterinary Officer at SVA



APP – an increasing problem?



# *Actinobacillus pleuropneumoniae* over time

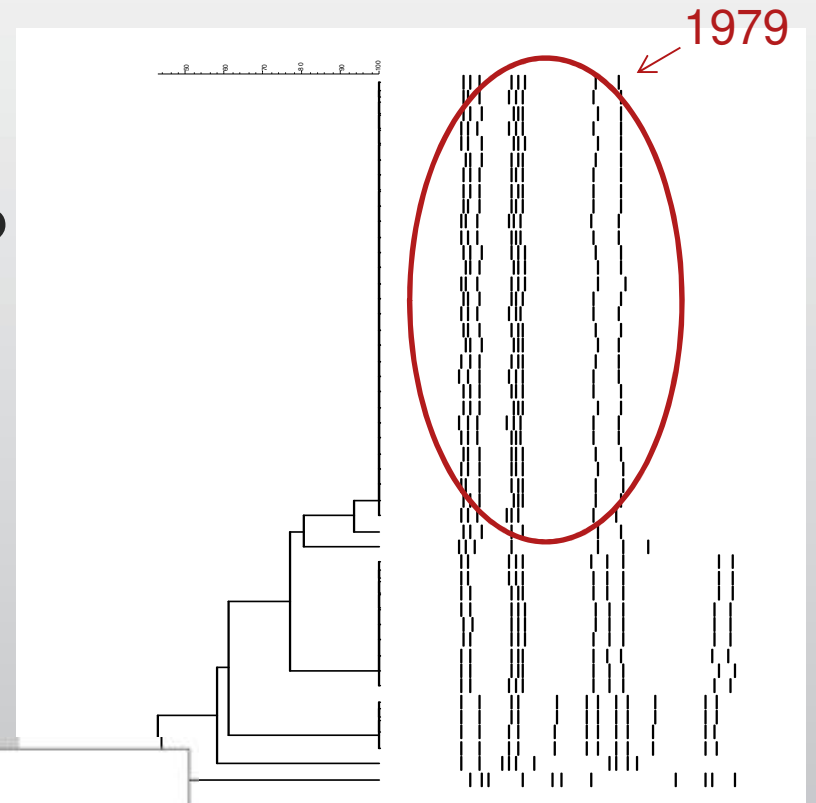


↑ Pleuritis registered at slaughter

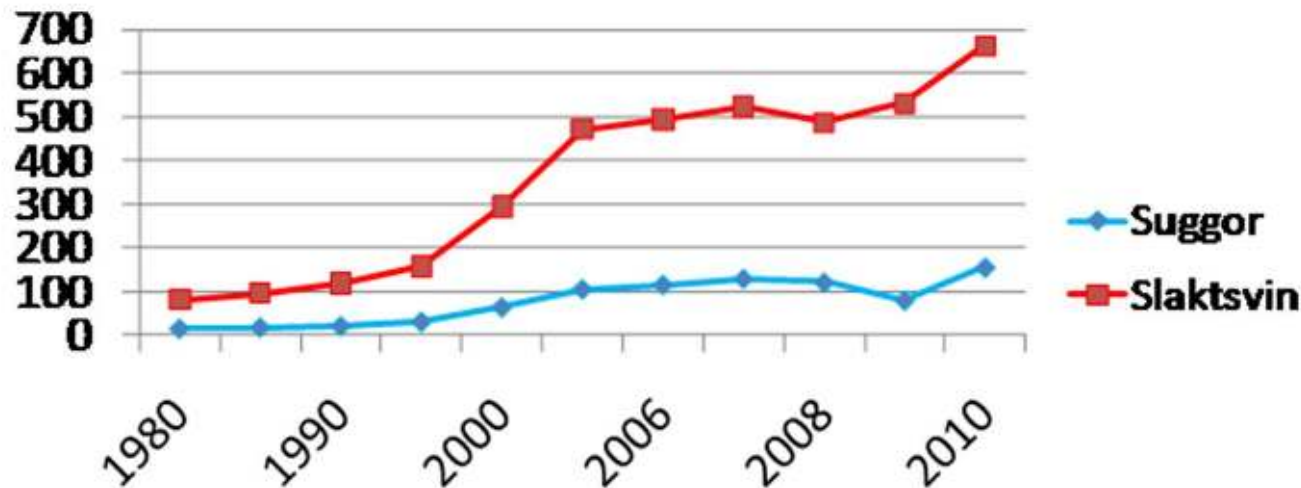
↑ Outbreaks of acute disease

# Possible causes?

- New serotypes/mutations?
- Increasing herd sizes?
- Fewer slaughter houses?
  - Prolonged transportation
  - Pigs over night?

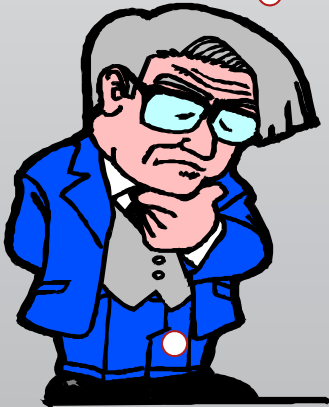


Aspán IPVS 2008



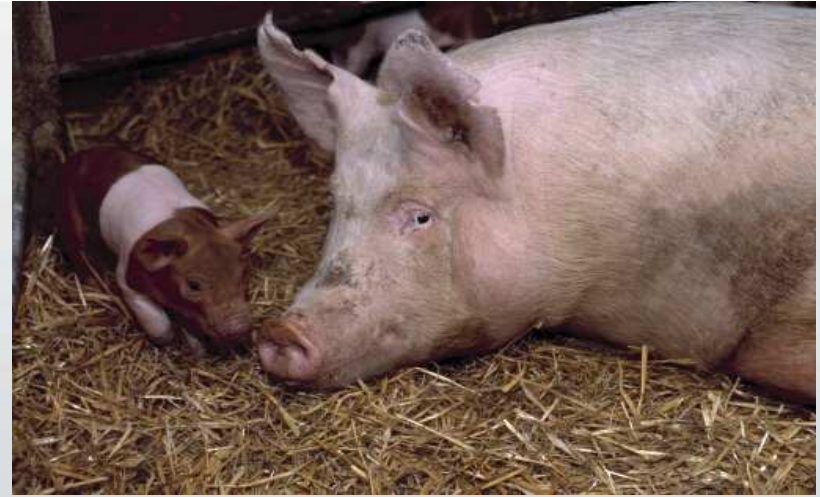
How can we deal with APP?

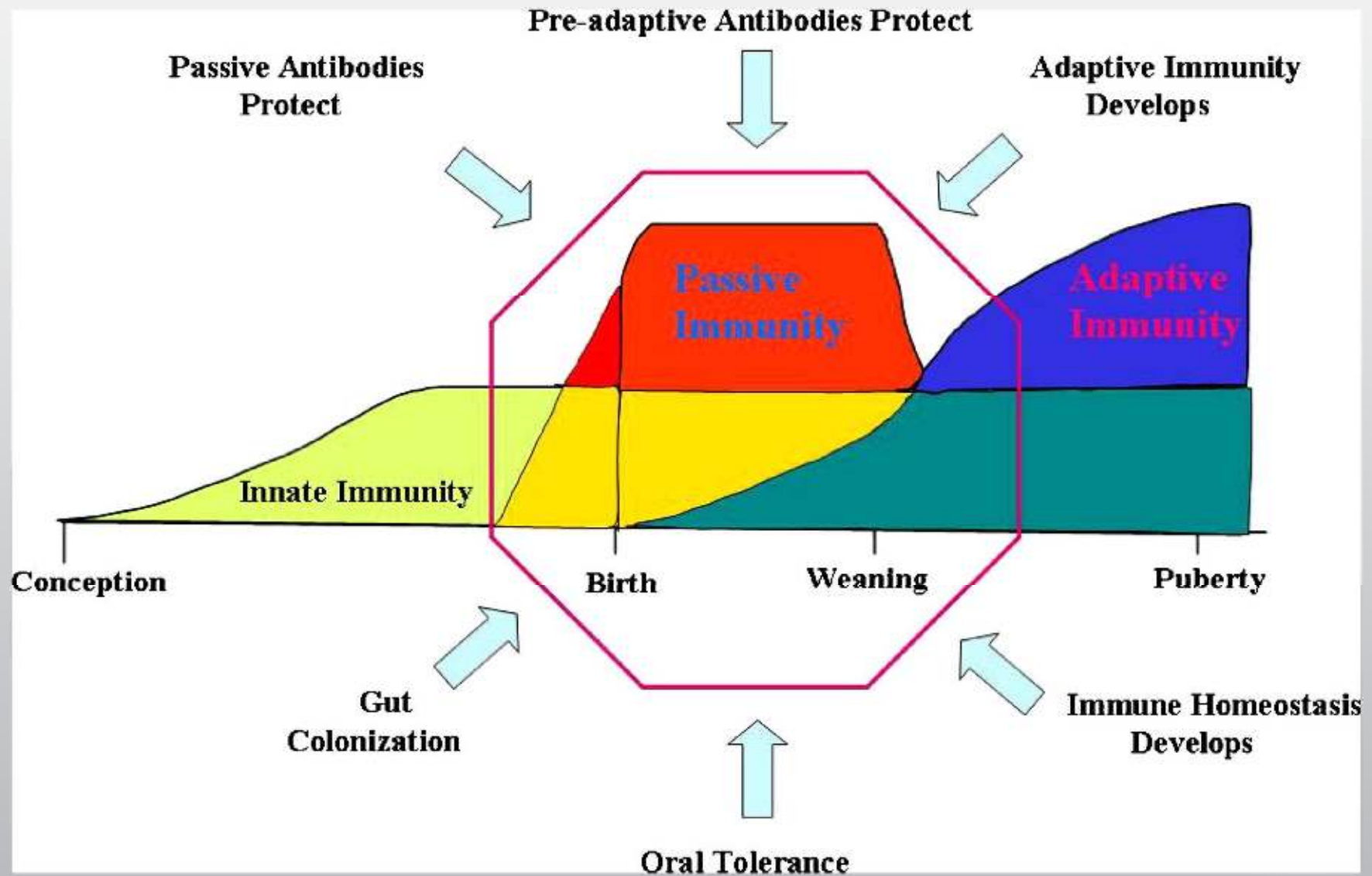
What do we need to know?



# Transmission

- Subclinical carriage
  - Tonsils – reservoir
- Long duration of colonization
- Early colonization
  - Transmission sow – piglets
    - 11 days of age!
- Protective antibodies
  - Maternal antibodies 2-12 v





Source: Butler *et al.* Dev Comp Immunol 2009



# Transmission & development of immunity – a field study

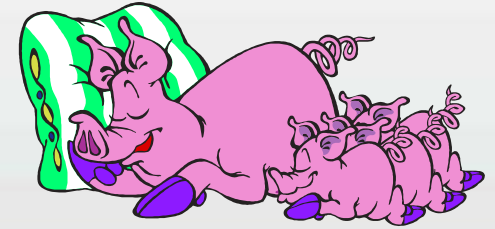


Dry-sow unit

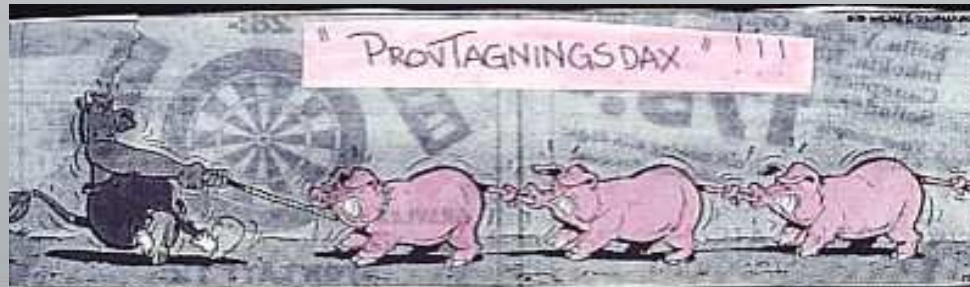
## Endemically infected herd

- 200 sows
- Farrowings every 14th day
  - 18 sows per group
  - All-in/all-out
- Weaning at 6½ weeks
- Moved to grower unit - 9 wks.
  - Continuous production
  - 4 age categories
- Moved to fattening unit at 16 weeks
  - Continuous production
  - 5 age categories
- Slaughter at 25 weeks

# Sampling

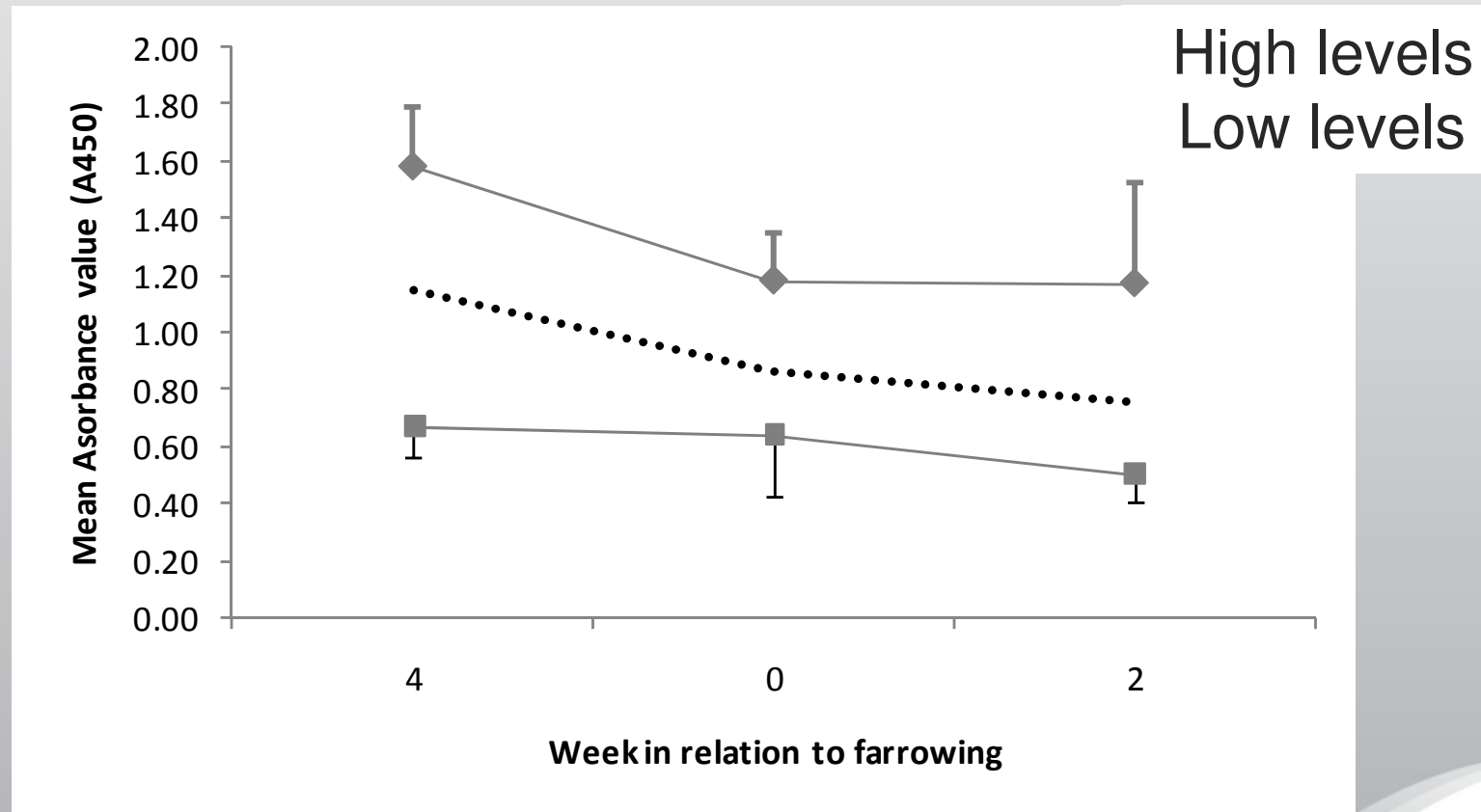


- Blood samples - a group of sows 5 wks. prior to farrowing
- Sows allotted to groups according to antibody levels to *APP*
  - High (n=3) vs Low (n=5)
- Blood sampling at farrowing & 2 weeks later
- Milk samples at farrowing & following 2 consecutive days
- 6 piglets/sow followed from birth to slaughter
  - Blood sampling & weighing



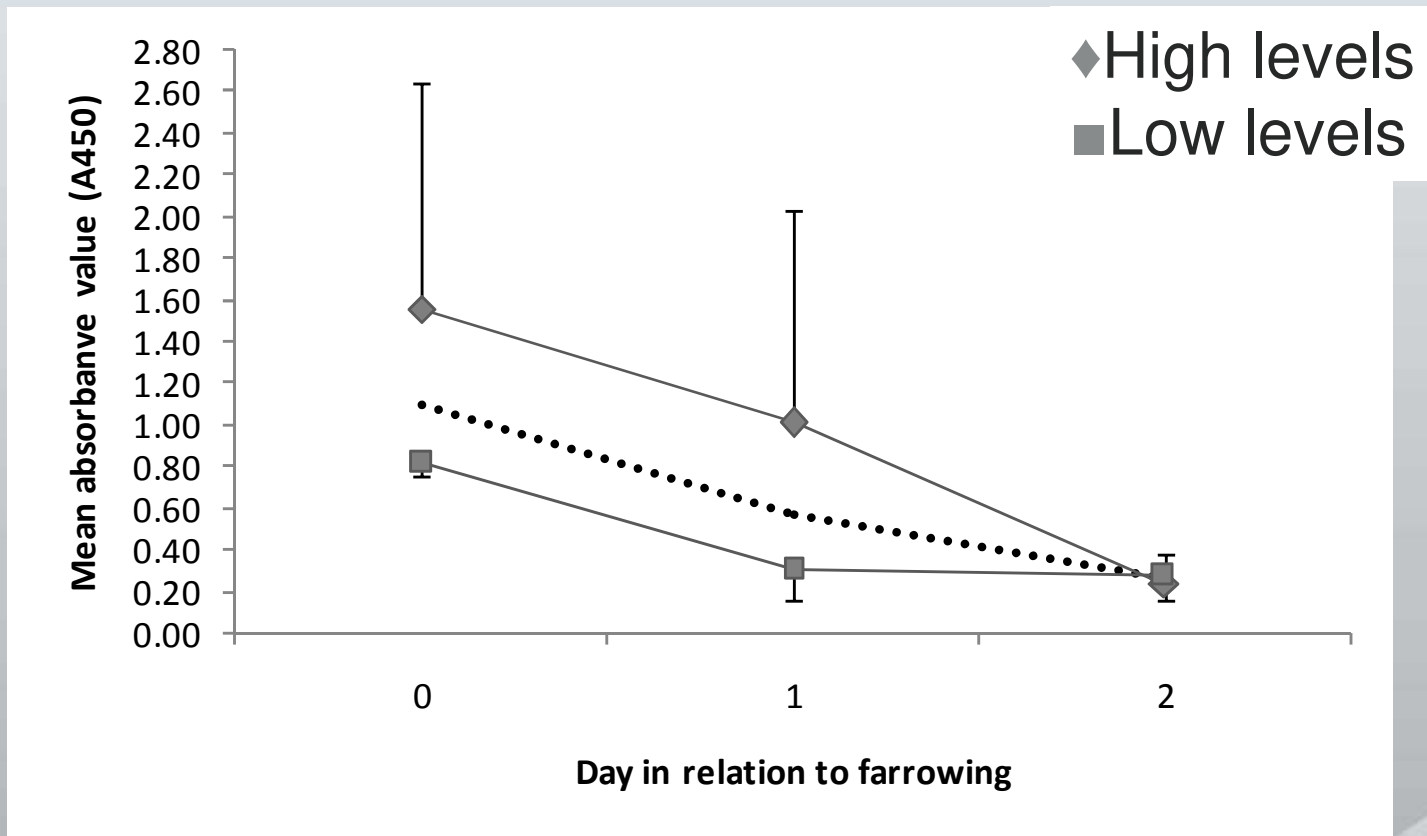
# Results - sows

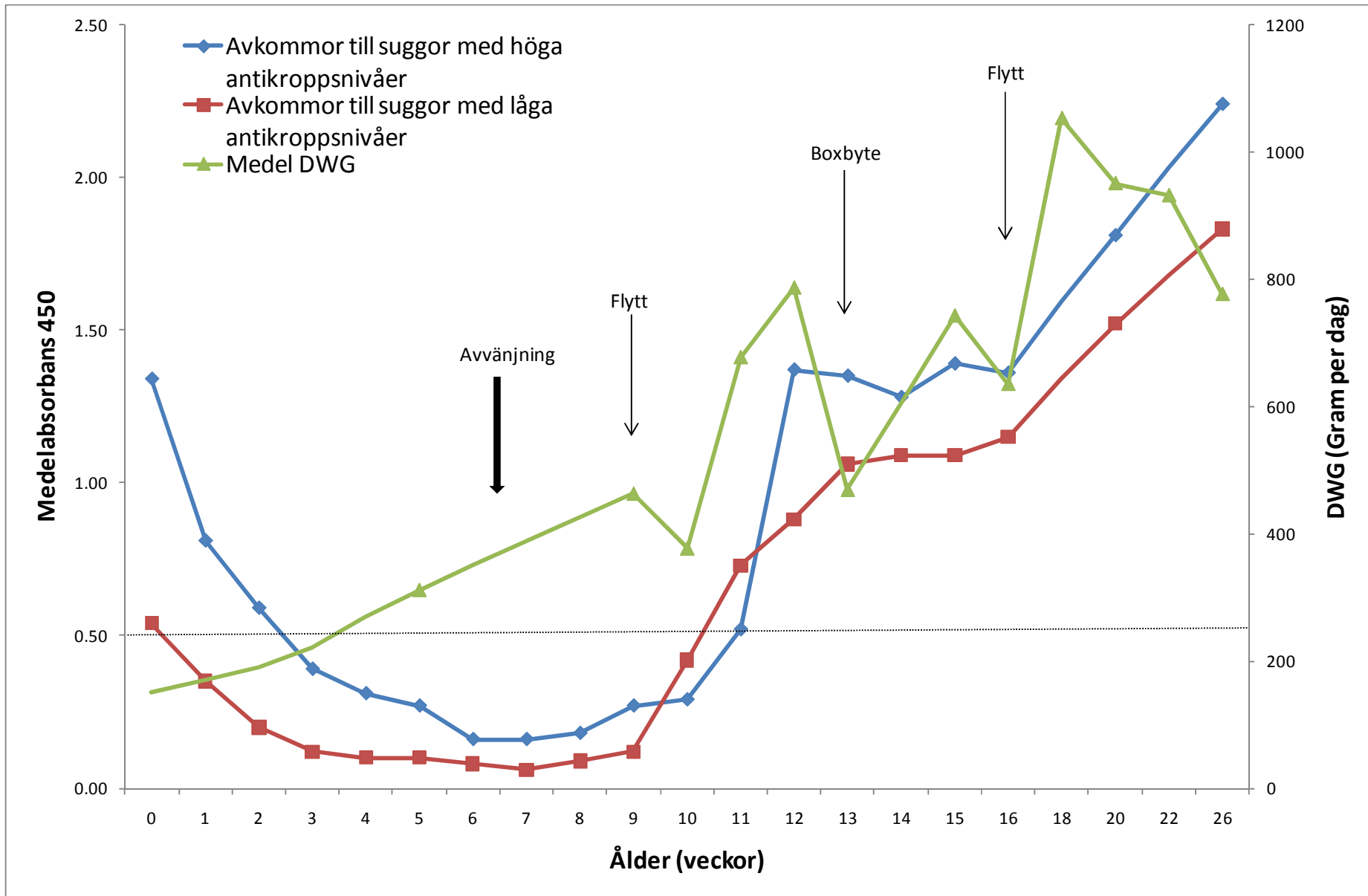
## Serum antibody levels



# Results - sows

## Antibody levels in milk





DWG & serum antibodies in the offspring of sows with high or low levels of antibody levels



# Conclusions

- Relationship between:
  - Serum antibody levels in sows
  - Antibody levels in milk
  - Serum antibody levels in offspring
- Could vaccinations of sows prolong the protective period of piglets?



How can APP be prevented?

Vaccinations?

