

Transmission and control of the parasite *Ascaris suum* (large round worm) in Danish organic pig farms



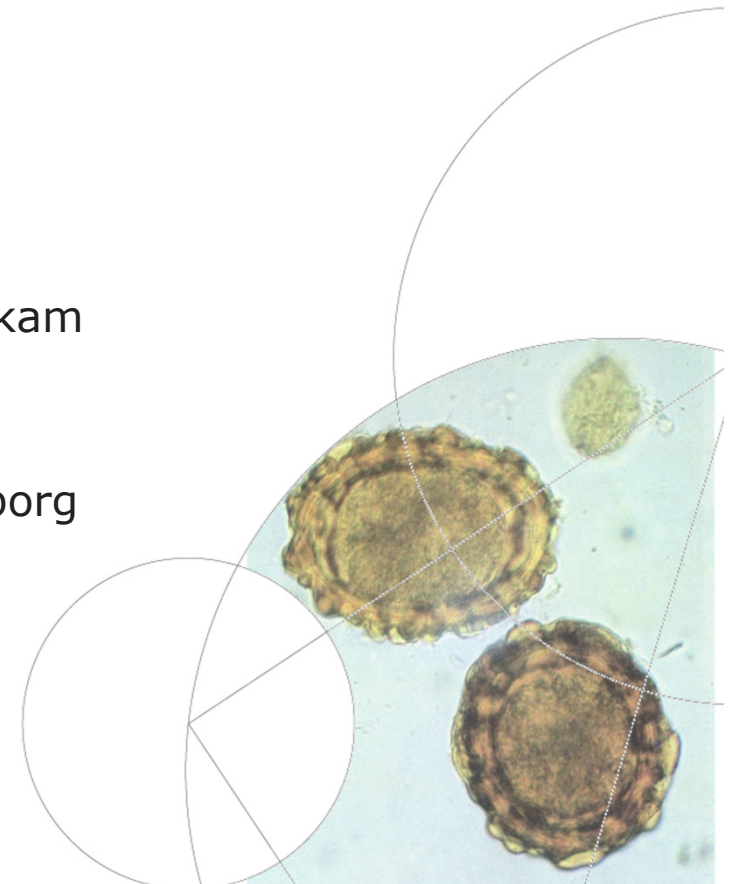
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Why bother?

- Round worms can:
 - Result in liver condemnation
 - Reduce weight gain
 - Reduce feed conversion
 - Affect body composition (piglets)
 - Reduce effect of vaccines
 - Increase the risk of secondary infections
 - Augment weaning diarrhoea???



Lifecycle



**Worm
congestion**

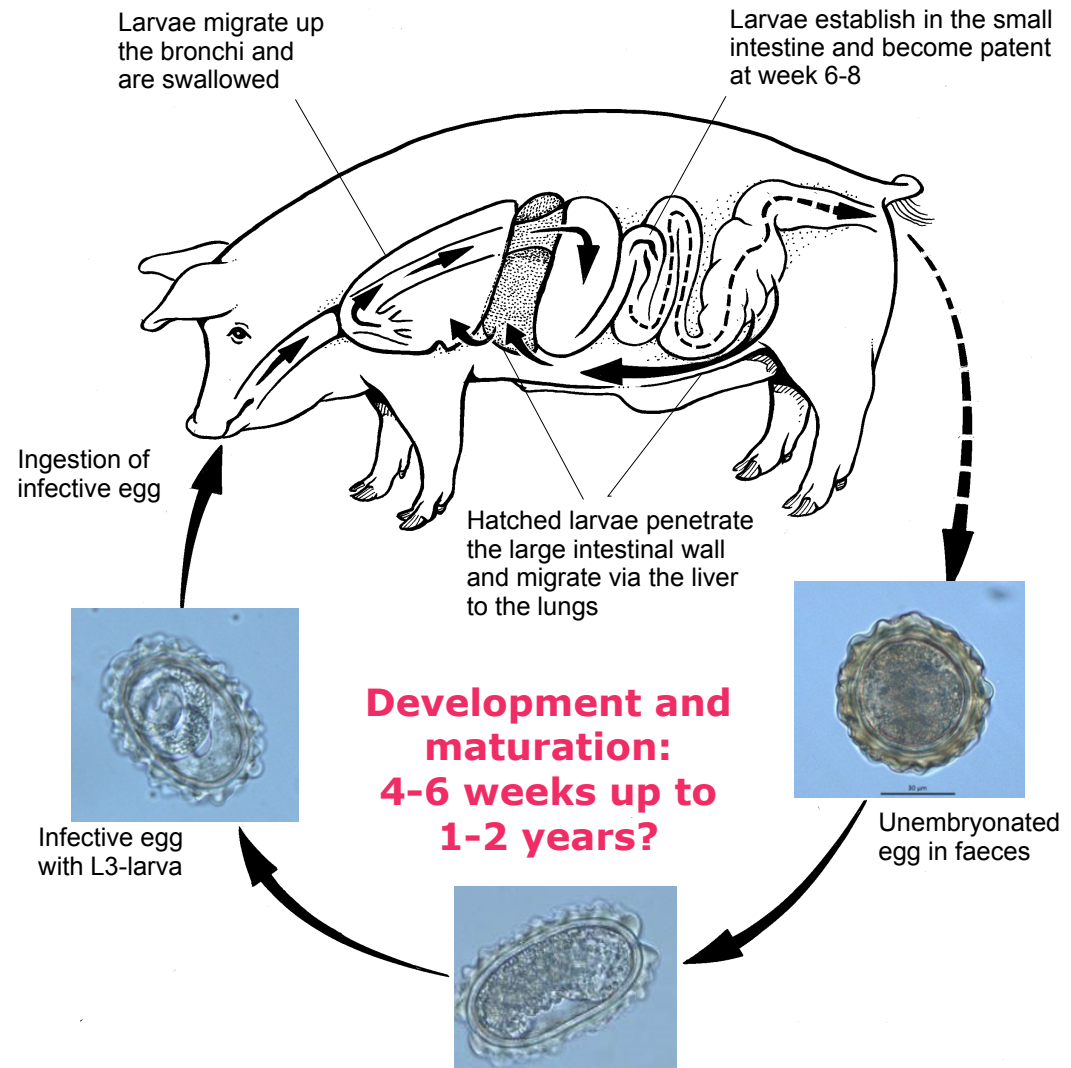
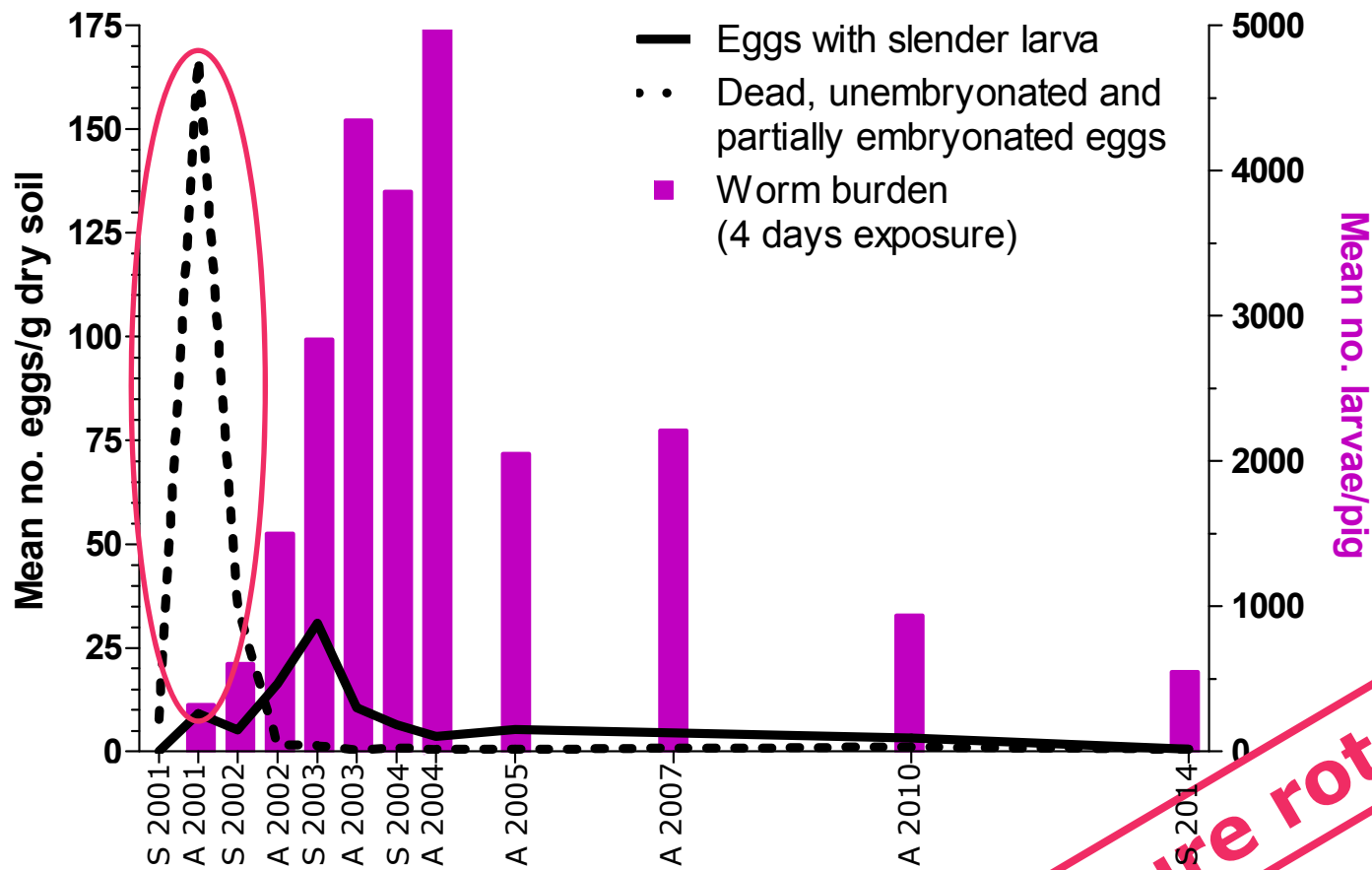


Illustration by Wm P Hamilton CMI

Egg survival and development on pasture (Field)

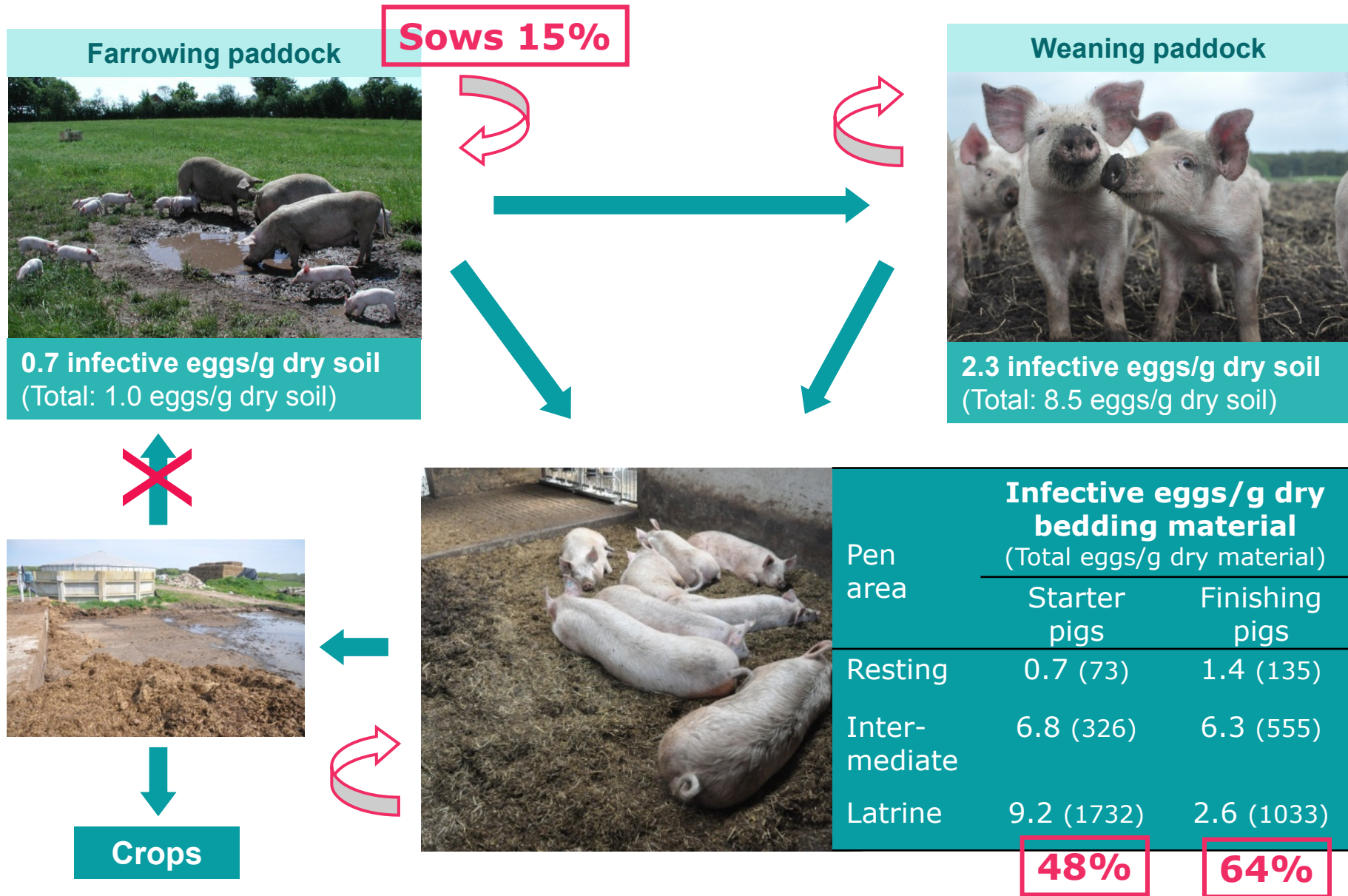
Pastures contaminated with eggs in 2001



S: Spring A: Autumn

Pasture rotation

Transmission pathways (5 farms)



Necropsy of pigs (2 farms)



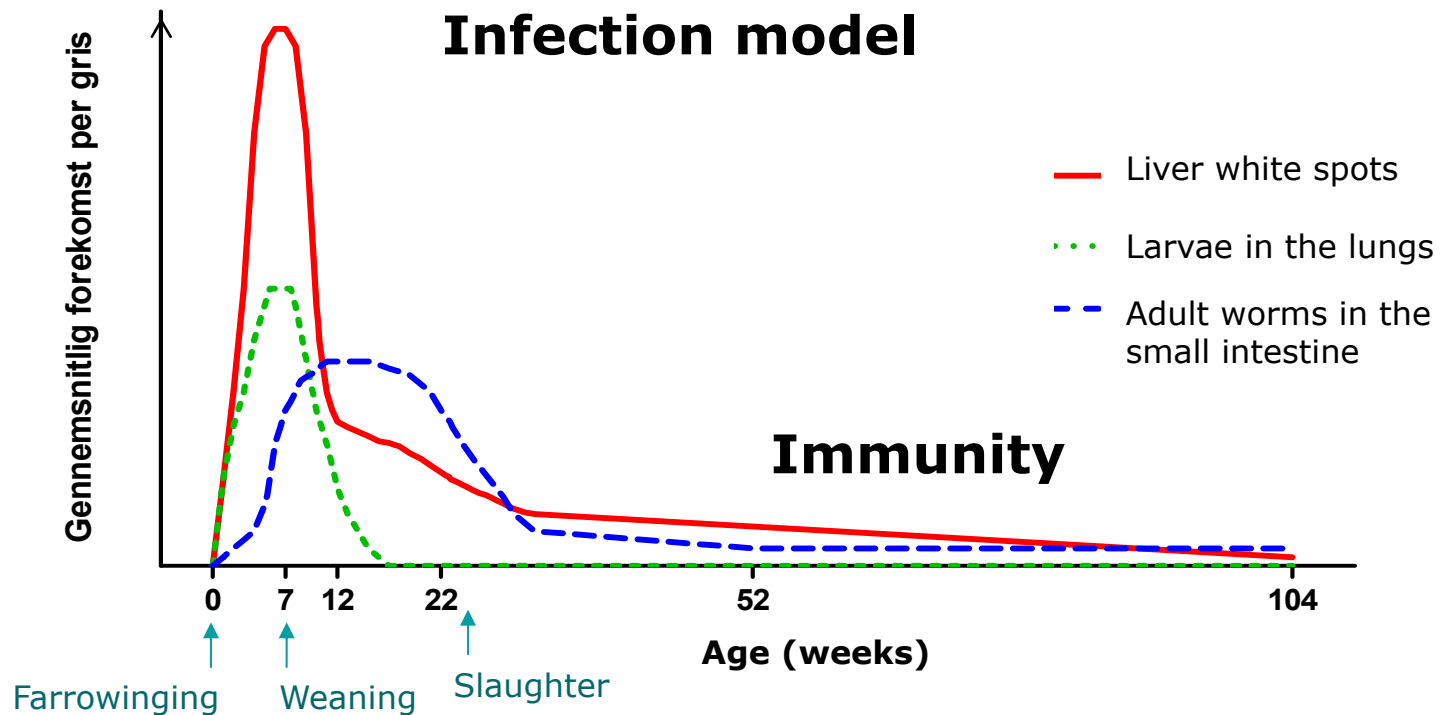
Weaning
(7-9 weeks, 2x15 pigs)



Transfer to finishing stable
(11-13 weeks, 2x15 pigs)



Slaughter
(22-24 weeks, 2x15 pigs)





**Latrine area:
100 million viable eggs**

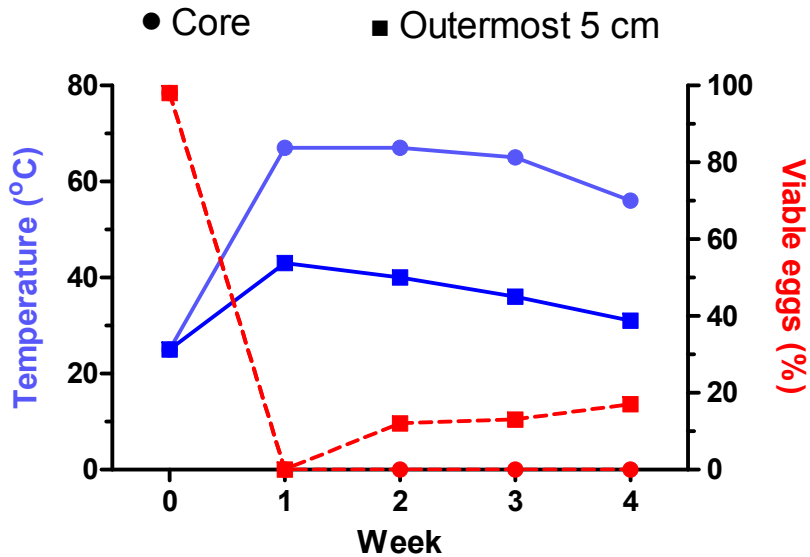
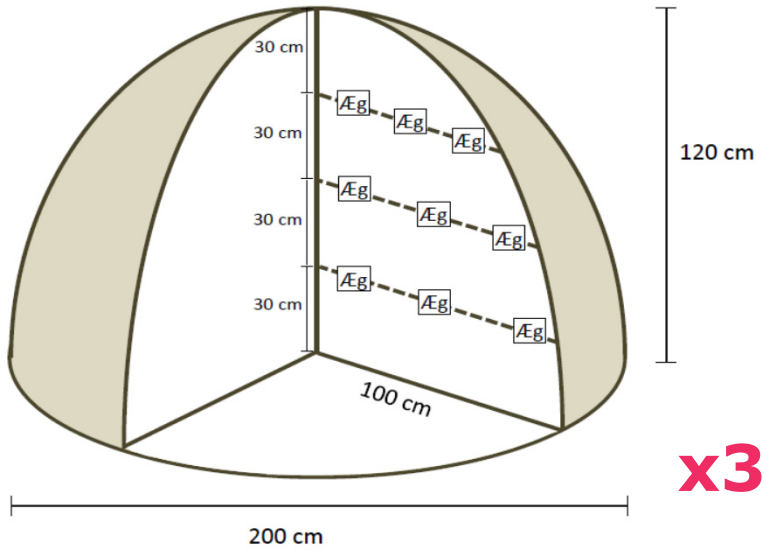
**Intermediate area:
0,2 million viable eggs**

**Deep litter →
Accumulation of eggs**

**Resting area:
1 million viable eggs**

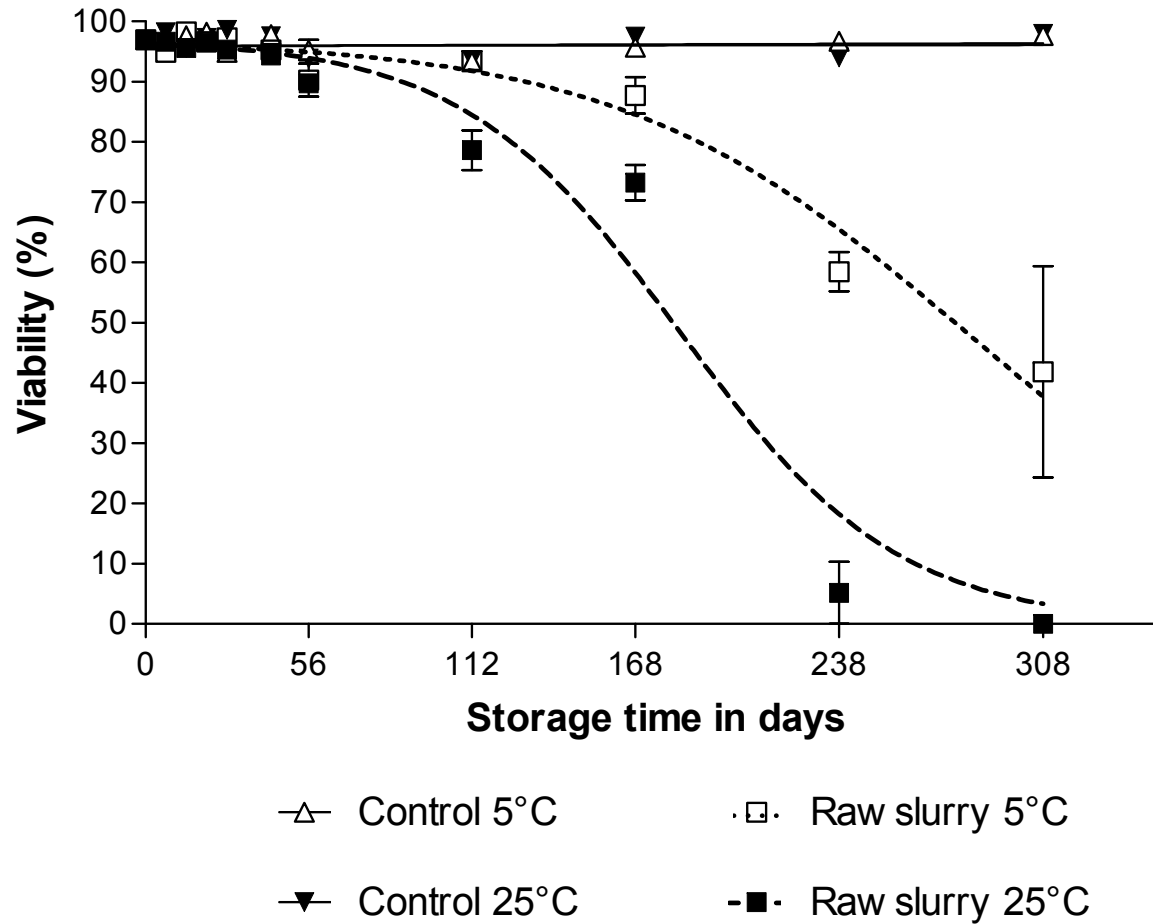
Survival of eggs in manure (Field)

Covered by a tarpaulin during the study



**Favourable mikro climate
(due to low manure
concentration)**
↓
Localized survival of eggs

Survival of eggs in slurry (Laboratory)



(Katakam et al. 2012)

Control measures

- Outdoors:
 - Pasture rotation (5 years or ideally more)
 - Pastures for weaned and finishing to be avoided?
- Indoors:
 - Thorough cleaning (removal of faeces, washing and drying out) of pens (disinfectants?)
 - Semi-open stables may increase development and survival of eggs
 - Stimulate pigs to defaecate on slatted floor areas
 - Bedding material increases overall survival of eggs but the amount is less important (shallow versus deep litter)
- Generally
 - Combined approach incl. monitoring
 - Check and treat new animals
 - Store/compost manure (only fertilize crops)
 - Strategic treatment – at weaning?



