

**Good biosecurity leads to improved performance**



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# Introduction

- Critical Frontline Defence

Prevents introduction and limits the spread of pathogens and diseases within the herd.

- Benefits of Good Biosecurity:

- Reduces disease problems
- Improves herd health
- Enhances productivity and profitability

## Health Status on Irish Pig Farms

### Serology



<b>PRRSv (Blue Ear)</b> Porcine reproductive and respiratory syndrome virus	<b>50%</b>
<b>M.hyo</b> <i>Mycoplasma hyopneumoniae</i>	<b>71%</b>
<b>IAV (Flu)</b> Influenza A virus	<b>79%</b>
<b>APP</b> <i>Actinobacillus pleuropneumoniae</i>	<b>98%</b>

% of farms positive  
Farms vaccinating: IAV 39%, PRRSv 43%, M.hyo 73%, APP 9%

### Slaughterhouse Checks



<b>12% Pleurisy</b> Inflammation of the membranes surrounding the lungs	<b>7% Pericarditis</b> Inflammation of the sac surrounding the heart
<b>13% Pneumonia</b> Inflammation of the lung	<b>29% Milk Spots</b> Sign of the migration of parasites through the liver

Average % per farm

### Relationship between disease and performance



PRRSv+	↓ <b>31g</b>	Average Daily Gain
M.hyo+	↓ <b>86g</b>	Average Daily Intake
+10% Pleurisy	↓ <b>20g</b>	Average Daily Gain
+10% Pleurisy	↑ <b>0.3%</b>	Weaner Mortality
+5% Pericarditis	↑ <b>0.4%</b>	Weaner Mortality
+10% Milk Spots	↓ <b>11g</b>	Average Daily Intake

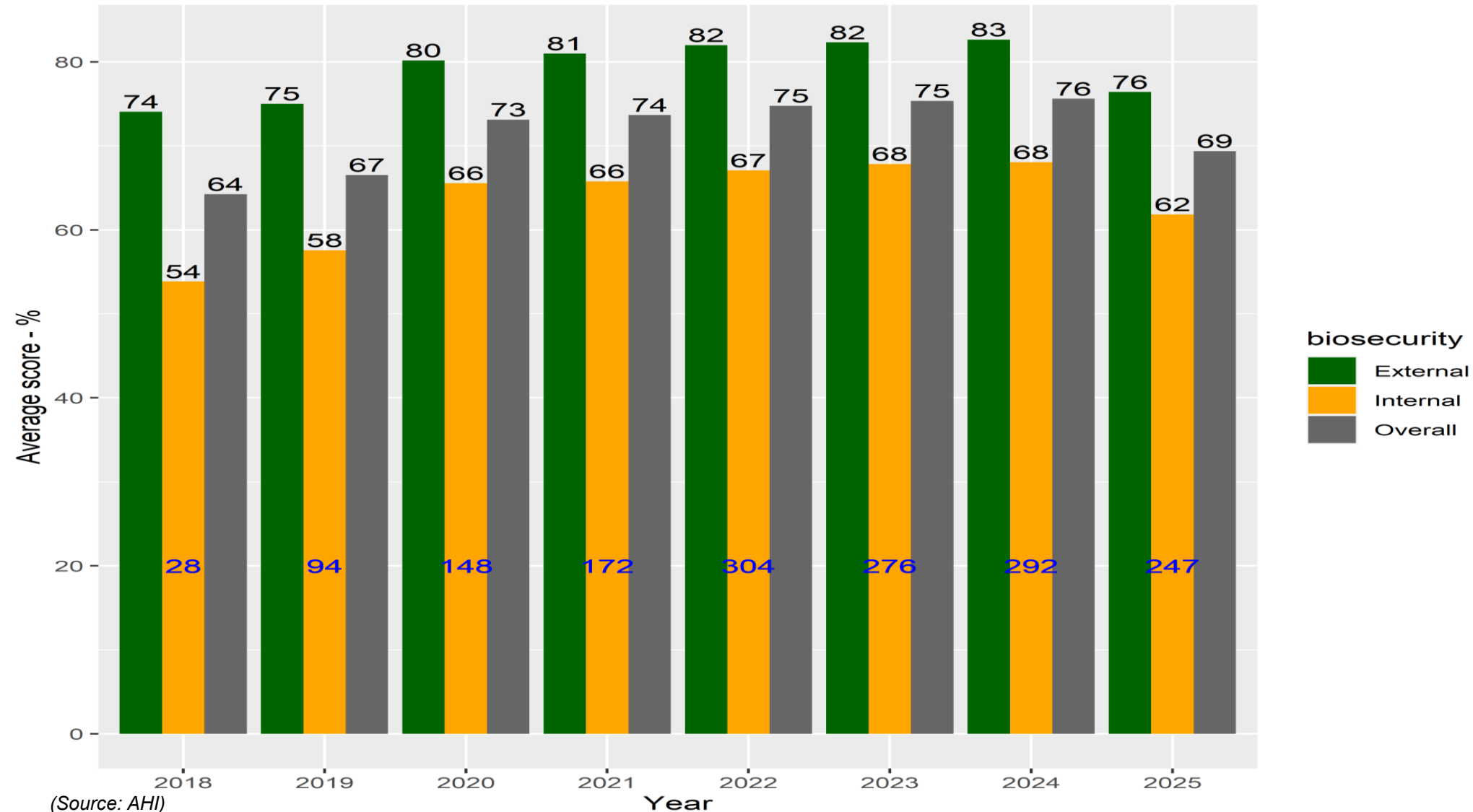
# What's involved?

- Continuous Improvement:
  - Regular biosecurity assessments are vital.
  - Collaborate with PVP's.
  - External and Internal aspects
- Internal biosecurity measures shown to ↑ **pig growth**, ↓ **mortality** (Laanen, et al. 2013) and ↓ **antibiotic usage** (Postma, et al. 2017)
- Staff Involvement: Every team member must understand and follow healthcare protocols to maintain high biosecurity standards.



# Biosecurity assessments

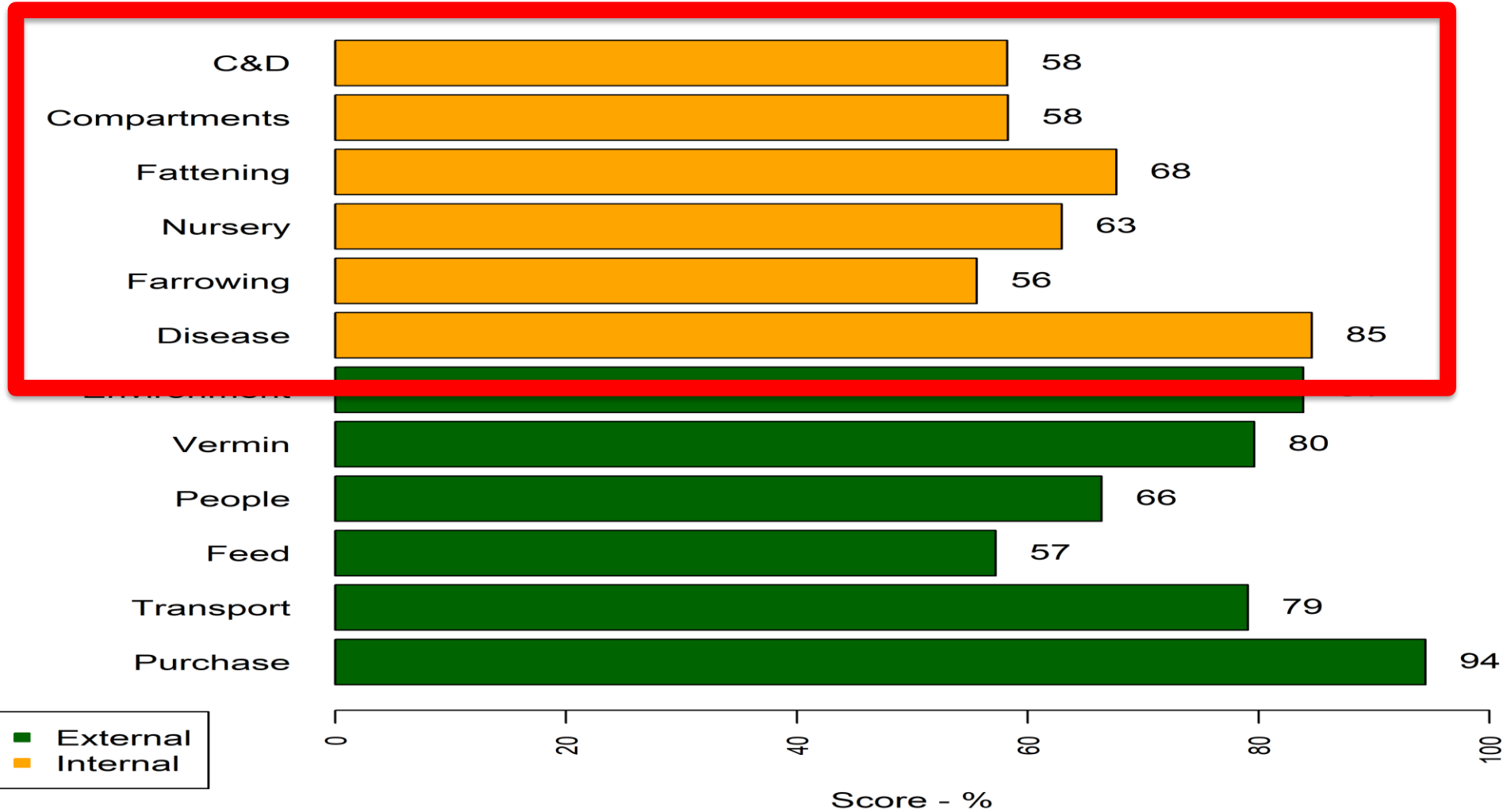
Average biosecurity scores over the years



(Source: AHI)

# Biosecurity assessments

## Biosecurity



(Source: AHI)

# Cleaning and disinfection...

## Optimal sanitisation routine for farrowing accommodation



Pre-soak pens with water overnight ( $\leq 18$ hr)



Chlorocresol-based disinfectant (Interkokask®)

Dry 6 days, blow heater 1st 24 hr



Detergent (Blast Off - Carboxylic acid) - 20 min  
Power wash  
Dry overnight with blow heater



Sows: washed & disinfected (Virkon® S – potassium sulfate) pre-entry to farrowing crates

## Sub-optimal sanitisation routine for farrowing accommodation



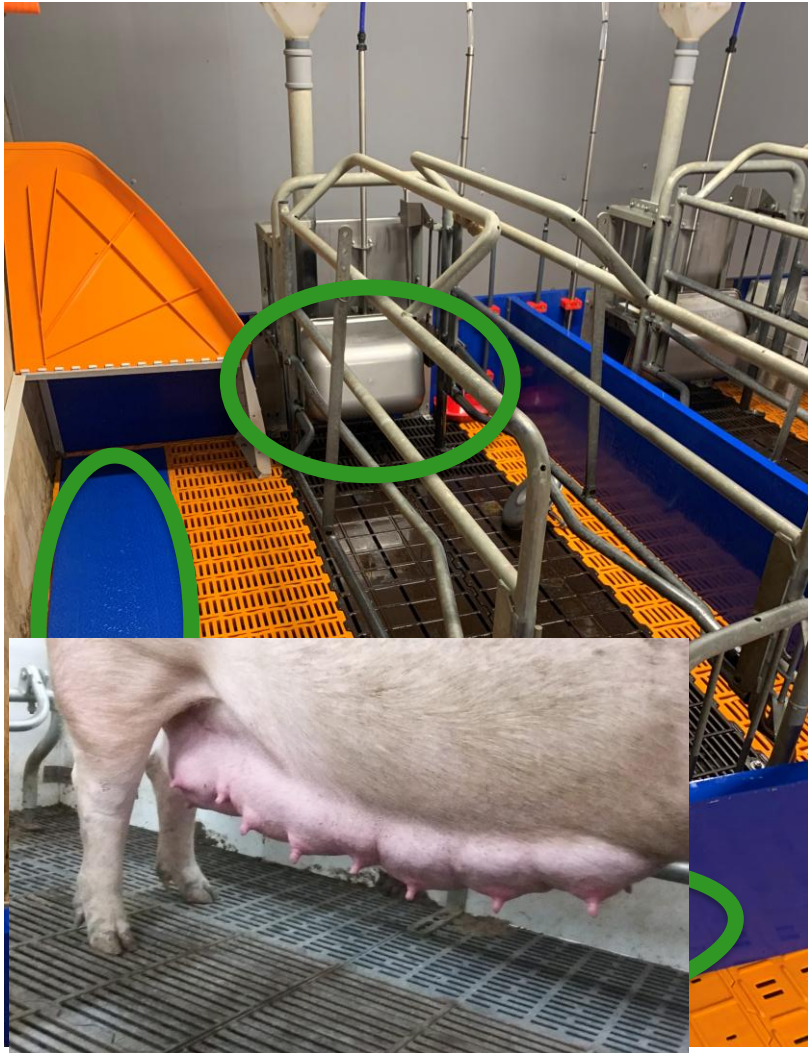
Washing pens with water

Dry overnight ( $\leq 18$  hr)



# Cleaning and disinfection...

## Areas swabbed



Sow feeder

Piglet lying area

Floor area behind the sow

Wall behind the sow

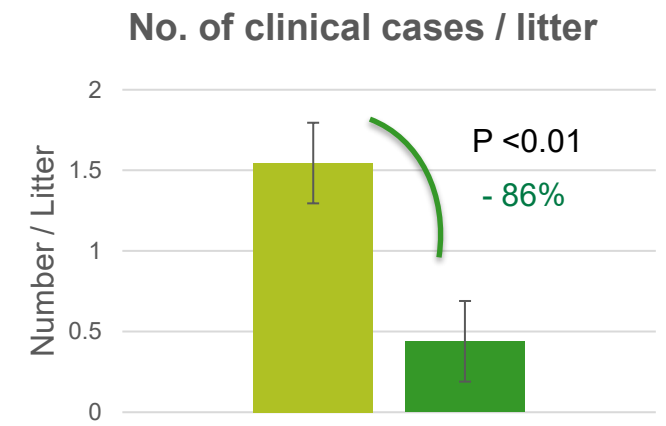
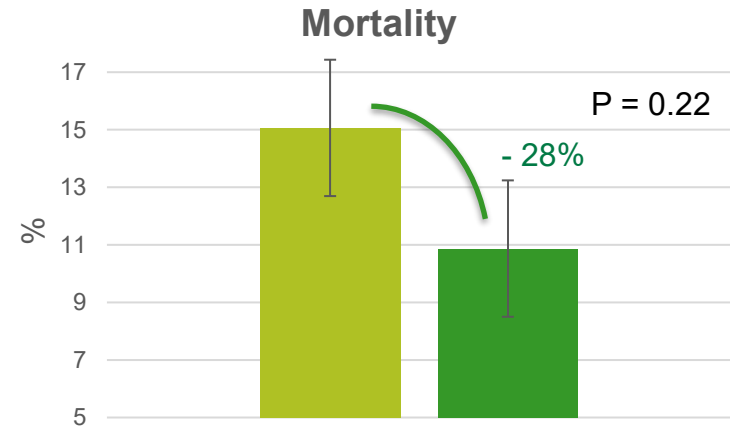
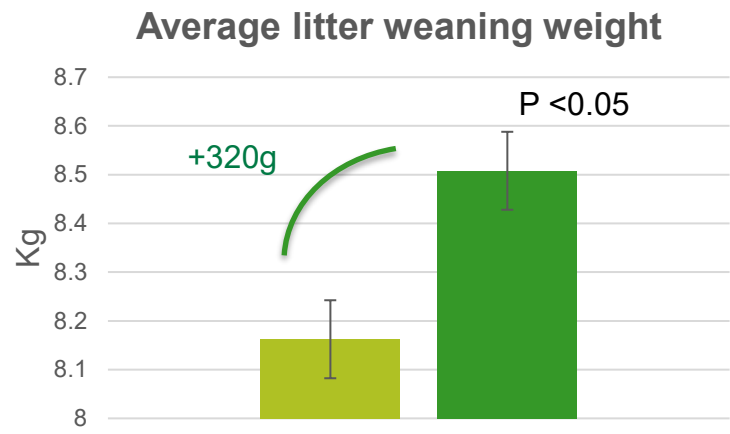
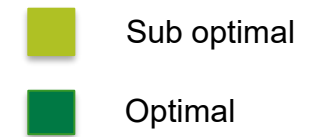
Piglet drinker

Sow's udder

## Swabbing of pens

- 1) Before washing (pens containing organic matter)
  - 2) After disinfectant application (2 hrs)
  - 3) 24 h after disinfectant application
  - 4) 72 h after disinfectant application
  - 5) After drying / as sows enter farrowing crates
- 
- Piglet performance and health parameters

# Pre-weaning pig growth performance and therapeutic treatments



(Halpin et al., 2024)

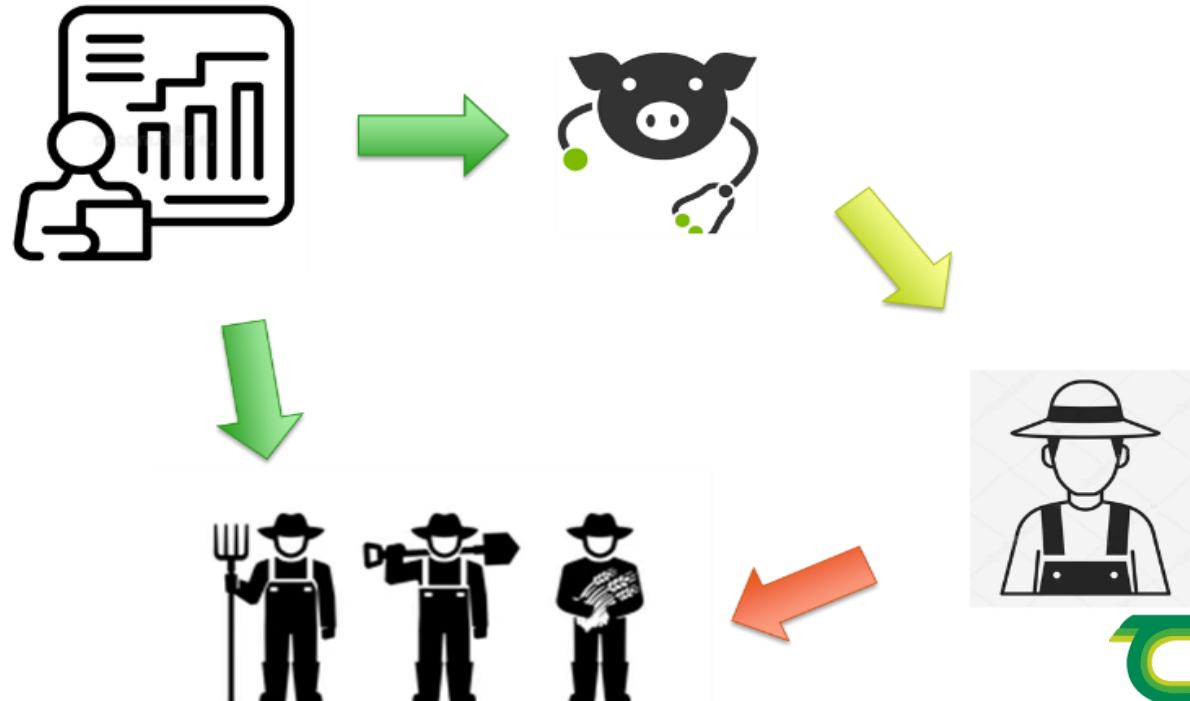




4 farms each with 8 replicates

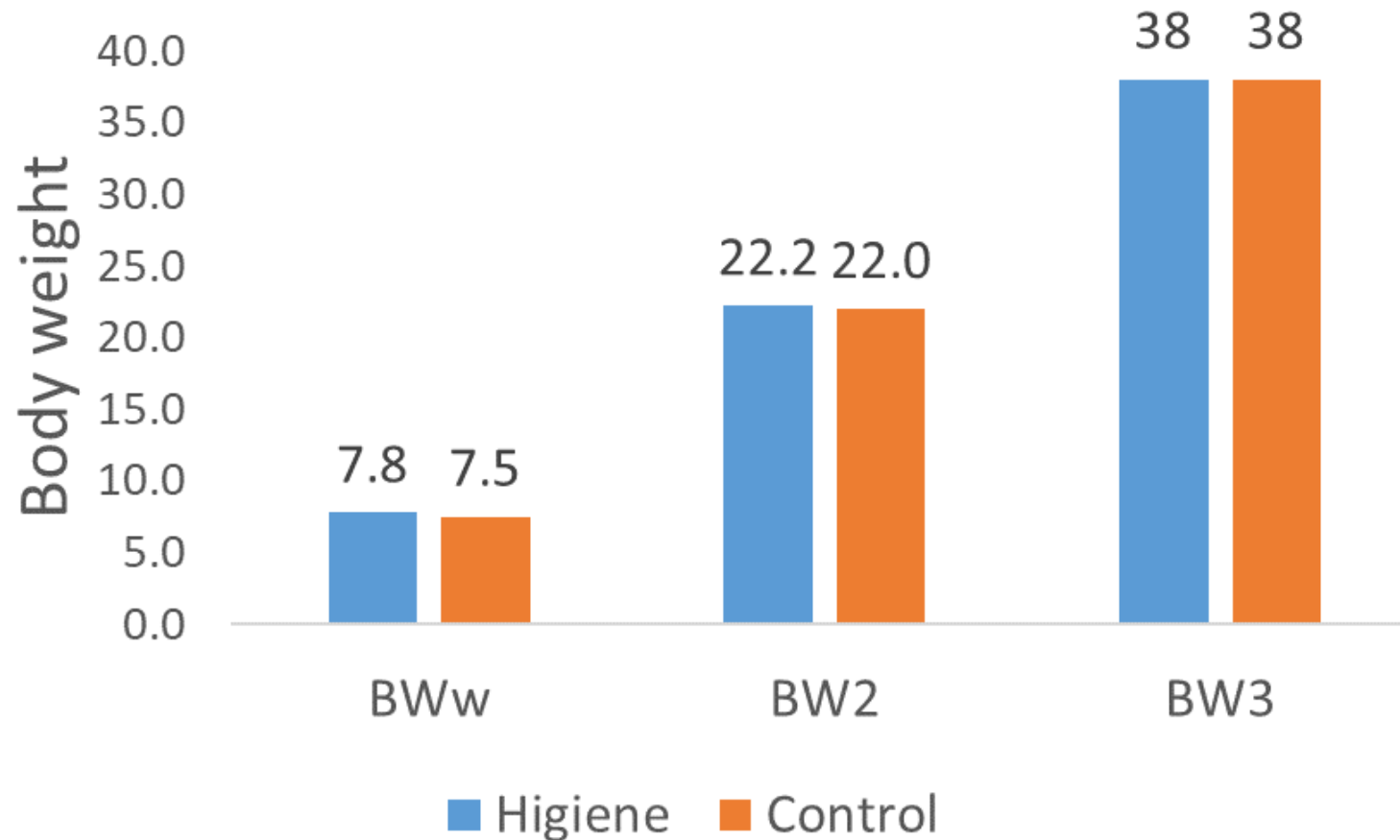
1. Optimal protocol (but not washing sows)
2. Control group as per normal management on the farm

## Information chain



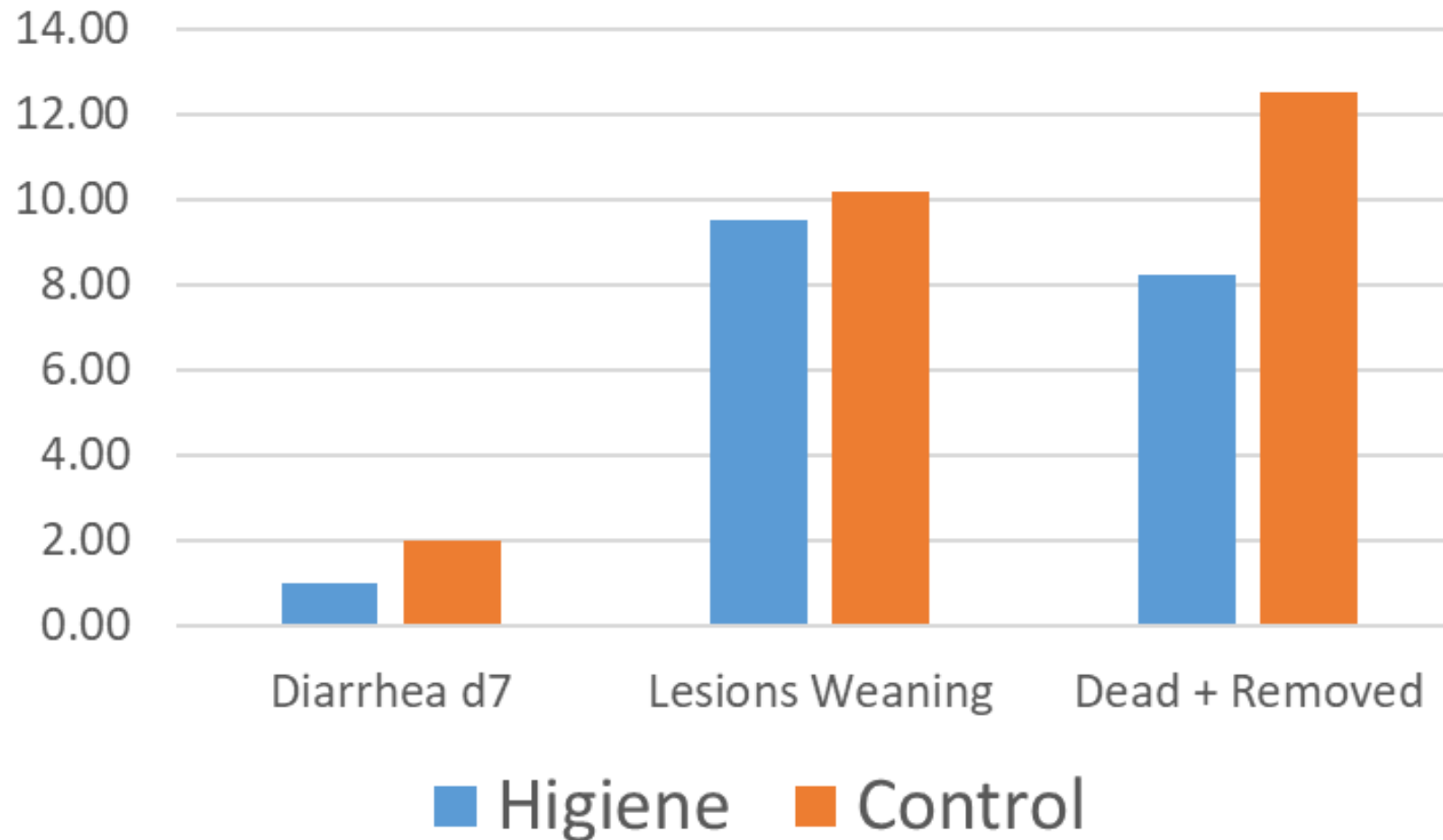
# Cleaning and disinfection...

## Weight of the pigs at weaning and later



# Cleaning and disinfection...

## Diarrhoea, lesions, delayed or casualty pigs









# Disease Management...

## Working order

- Young, healthy stock
- Older, healthy pigs
- Sick pigs

## Sick animal protocol

- Isolate fast
- Minimise contact
- Disinfect thoroughly
- Contain and monitor
- Keep records



# Disease Management...Fallen Stock

- **Location:** Keep bins away from livestock areas to prevent cross-contamination.
- **Surface:** Place bins on a concrete or impermeable base to stop waste seeping into the ground.
- **Protection:** Use secure lids or enclosures to block access by birds, rodents, and insects.
- **Hygiene:** Ensure bins are easy to clean and disinfect after every use to prevent disease spread.





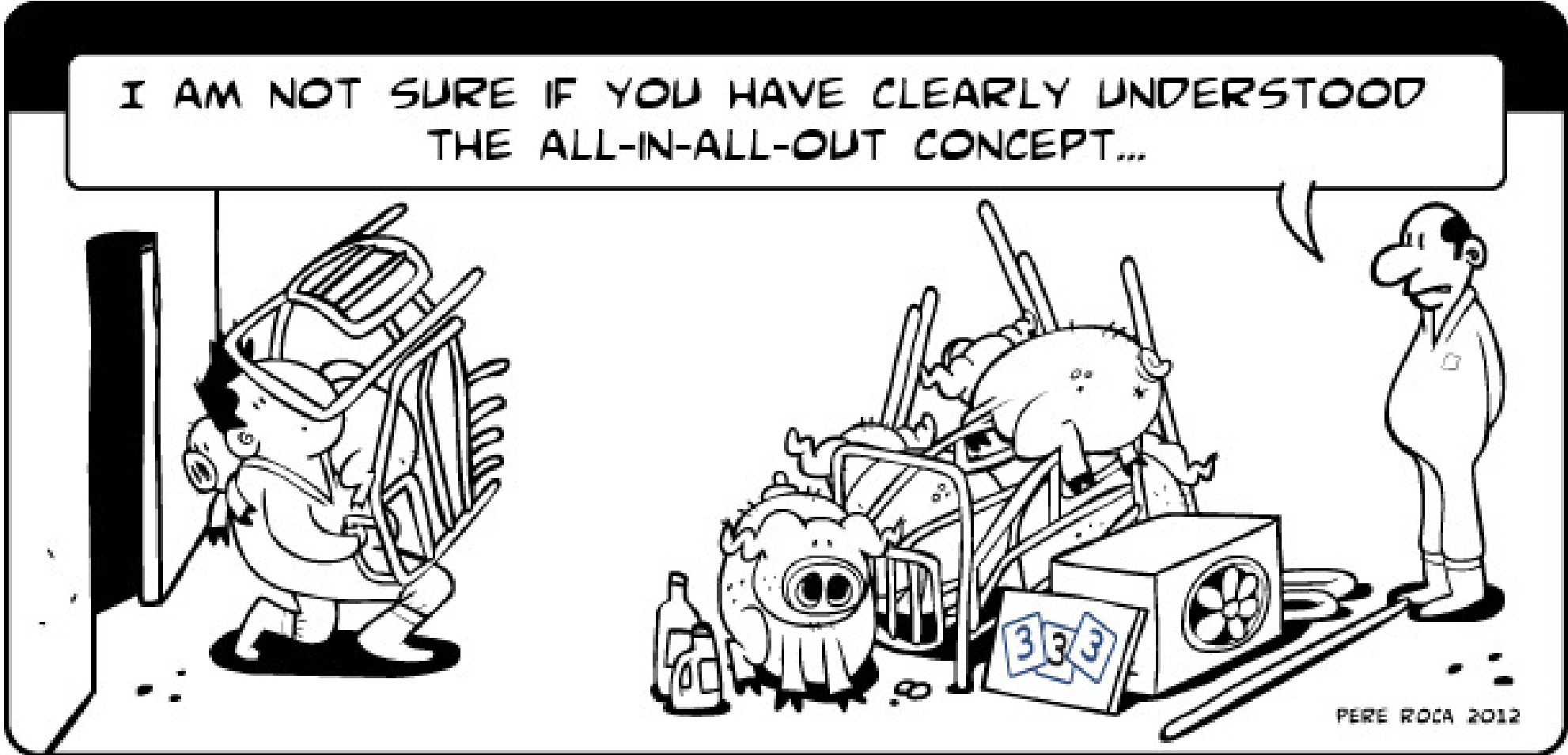




# All-in all-out

- Houses should be operated on an all-in all-out basis.
  - Empty the room
  - Clean the room
  - Disinfect the room
  - DRY!!!
  - Bring in the next batch of pigs
  - Empty the room
  - Clean the room
  - Disinfect the room
  - DRY!!!
  - Bring in the next batch of pigs...
  - **And a few small pigs from the previous batch**

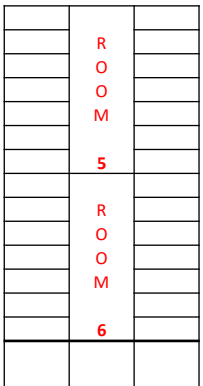
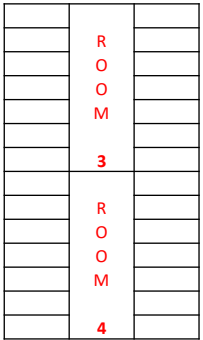
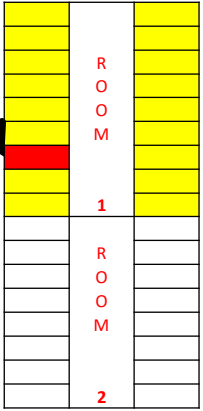
# All-in all-out





Big pigs weaned early  
from next farrowing  
(21d old)

WEEK 5



It took 8  
weeks to  
clear first  
stage!

# Loading Bay

- Separate lairage from main pig housing to avoid cross-contamination
- Must be kept **clean**, have **limited access**, and **no crossover of people**





# Loading Bay

- Separate lairage from main pig housing to avoid cross-contamination
- Must be kept **clean**, have **limited access**, and **no crossover of people**





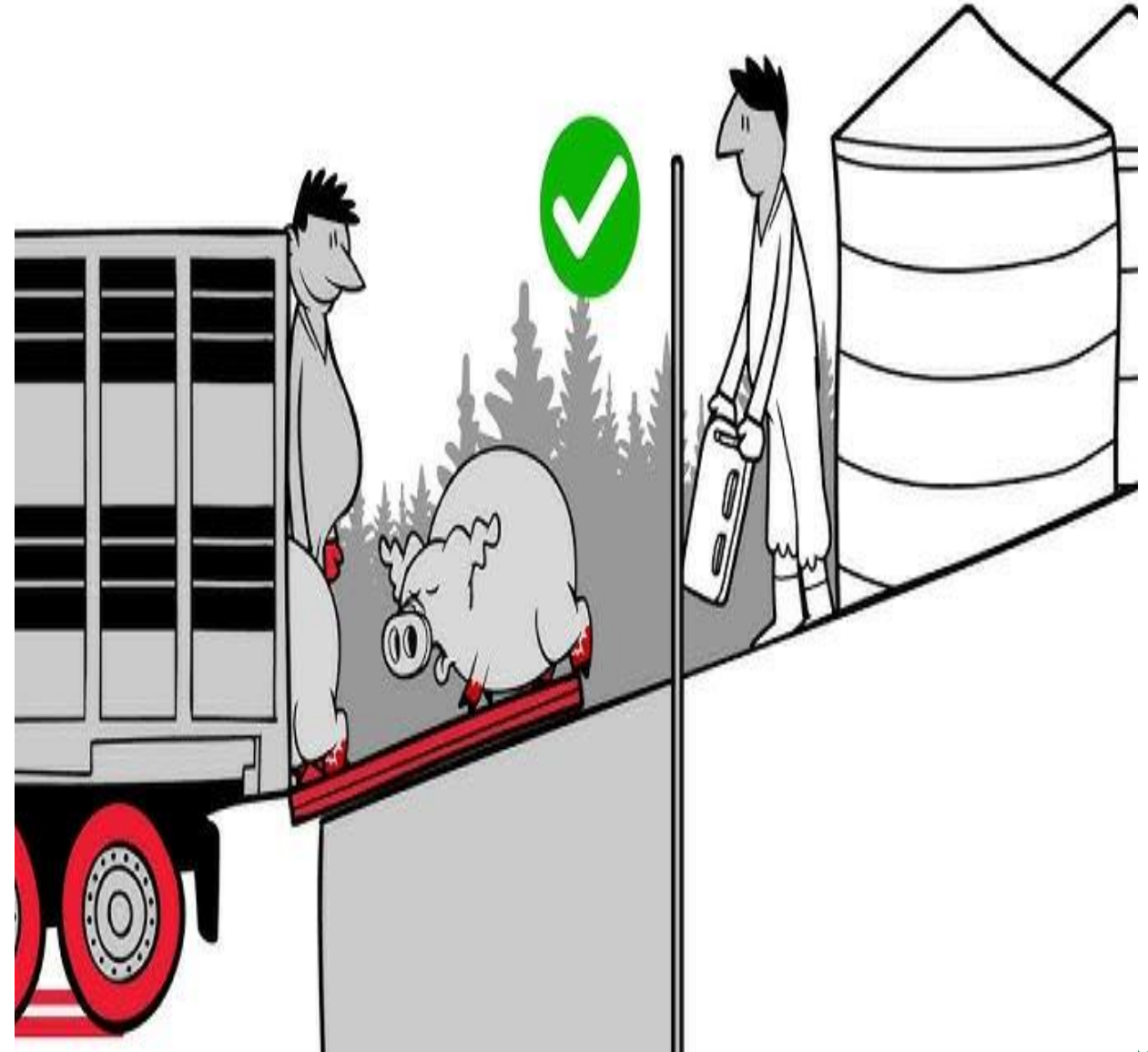
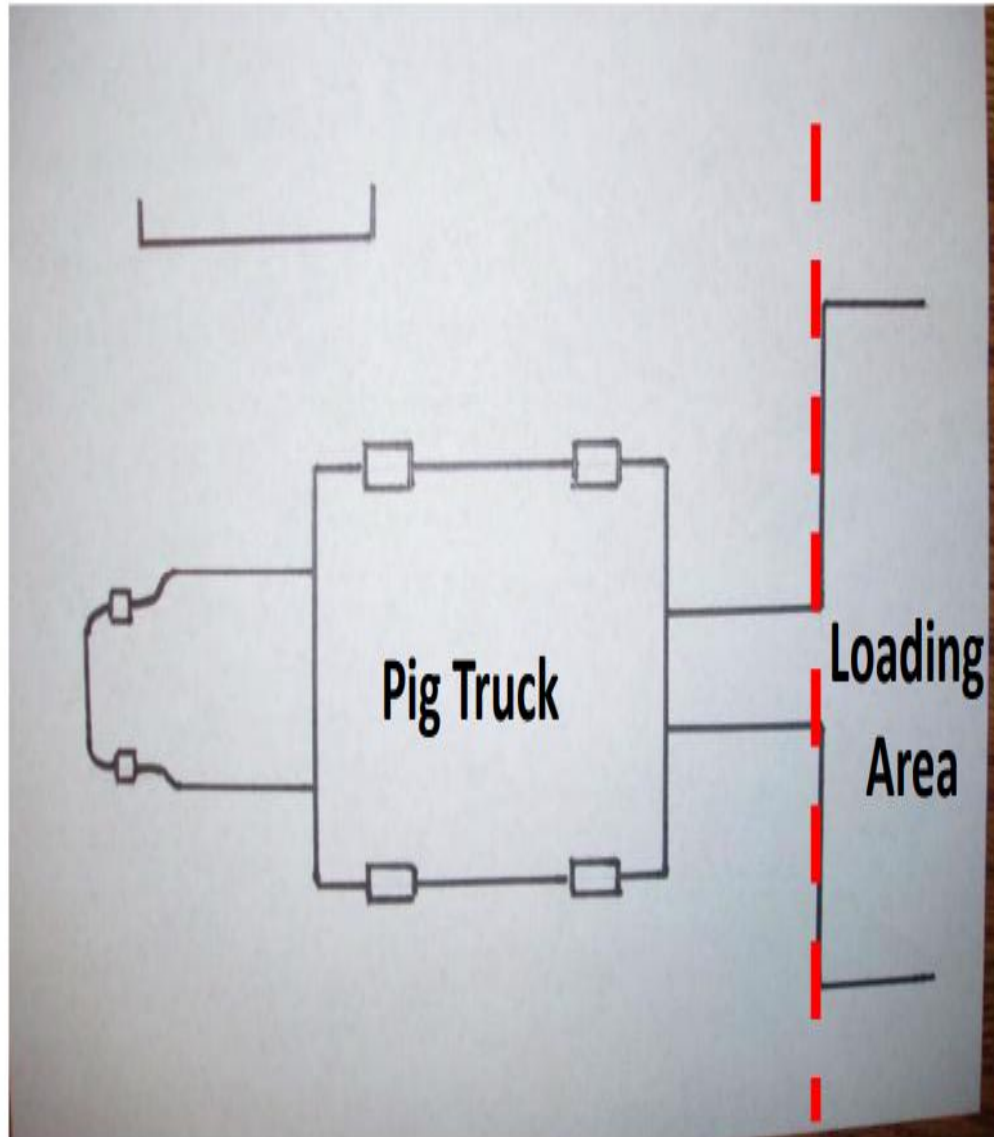








# Point of no return!



# Working Lines, Equipment etc...





# Working Lines, Equipment etc...



# Working Lines, Equipment etc...





# Working Lines, Equipment etc...





# Working Lines, Equipment etc...





# Conclusion



- Internal biosecurity measures shown to ↑ pig growth, ↓ mortality (Laanen, et al. 2013) and ↓ antibiotic usage (Postma, et al. 2017)
- A little more time and cost yields dramatic improvements in
  - disease prevention,
  - animal health, and
  - overall farm productivity
- These small improvements, when applied consistently, lead to big results over time.

# Thank you



# Any questions?