

# Costs of biosecurity at farm level – a good investment

## - Danish experiences

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# What to talk about....

- DANISH Quality System
- Biosecurity measures – What to remember?
- Costs of some individual biosecurity measures



Danish Agriculture & Food Council



# Notifiable Diseases

Foot and mouth disease, FMD	Last outbreak in 1983
Swine vesicular disease, SVD	Never recorded
Classical swine fever, CSF	Last outbreak in 1933
African swine fever, ASF	Never recorded
Teschen Disease	Never recorded
Brucellosis	Last reported in 1969 (one outbreak in 1994 and 1998 – farms culled)
Bovine Tuberculosis, TB-B	Officially free 1980 (Last case reported 1994)
Avian Tuberculosis, TB-A	2017
Anthrax	1988

## diseases of some importance

- Aujeszky's disease: Eradicated in 1986  
(last outbreak in 1991)
- Cysticercosis: Eradicated in 19th century
- TGE: Never recorded
- *Trichinella spiralis*: Last reported in pigs in 1930

**PREVENTION  
IS BETTER  
THAN  
CURE**

# Surveillance



# Danish Quality System

Primary production

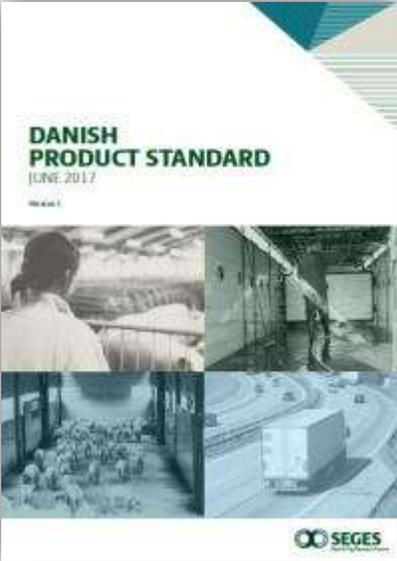
Transport

Slaughtering, cutting, deboning and sales

DANISH  
Product Standard

DANISH Transport  
Standard

Global Red Meat  
Standard



# Biosecurity

# Biosecurity

1. Protect the animals on the farm against diseases
2. Protect against diseases between farms
3. Protect the society against diseases



# Biosecurity plan

## Access to the farm

- Procedure for access to the farm
- Procedure for exit to the farm
- Procedure for exit of material
- Procedure for taking equipment out of the farm
- Procedure for washing tools
- Procedure for destruction of material



# Personnel Access

Always through official entry

12 -48 hours down time

Change clothes

Change footwear

Hand wash

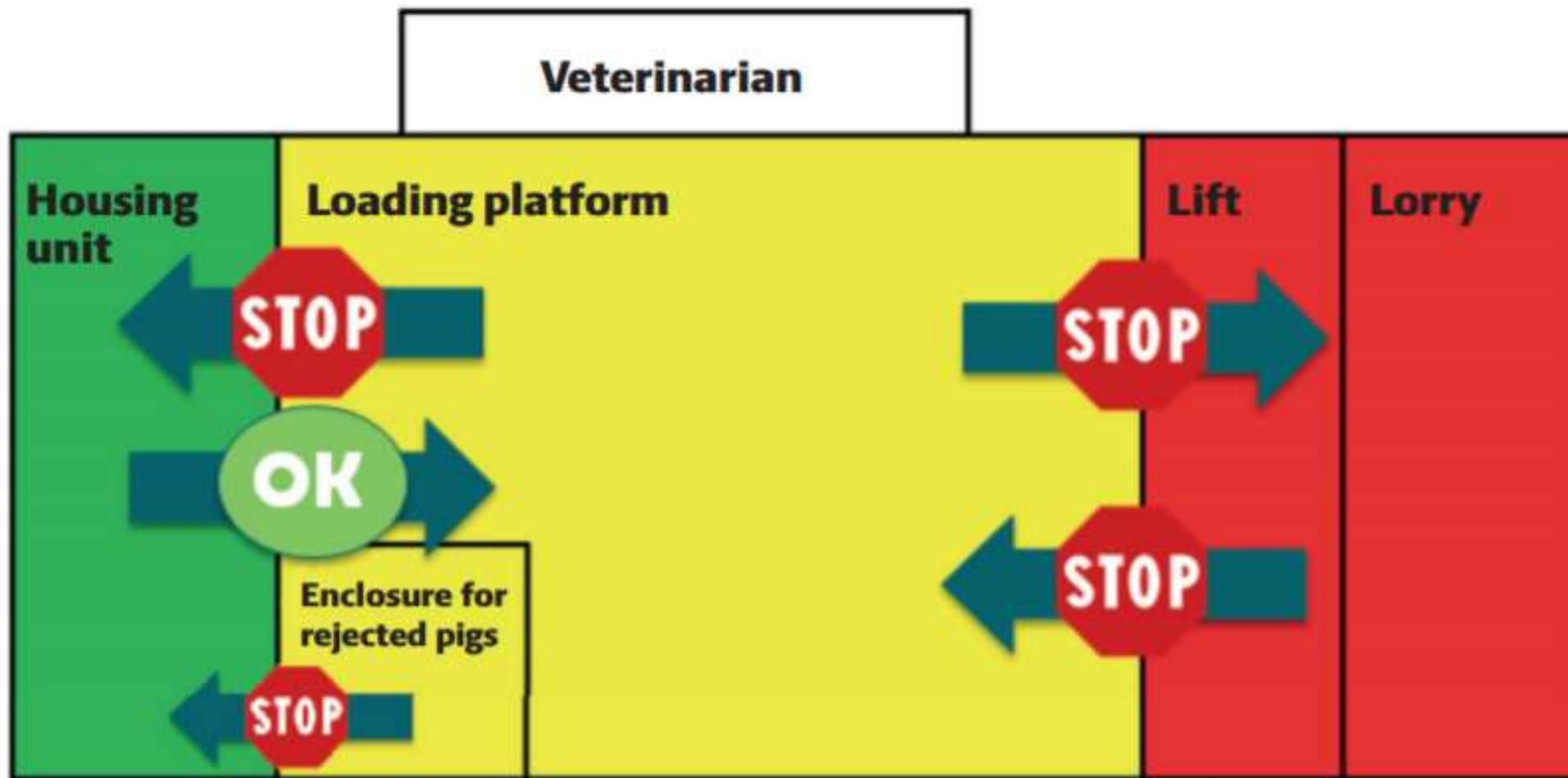
Disinfect hands





# Passive Control against rodents





# Biosecurity



# Biosecure delivery facilities required



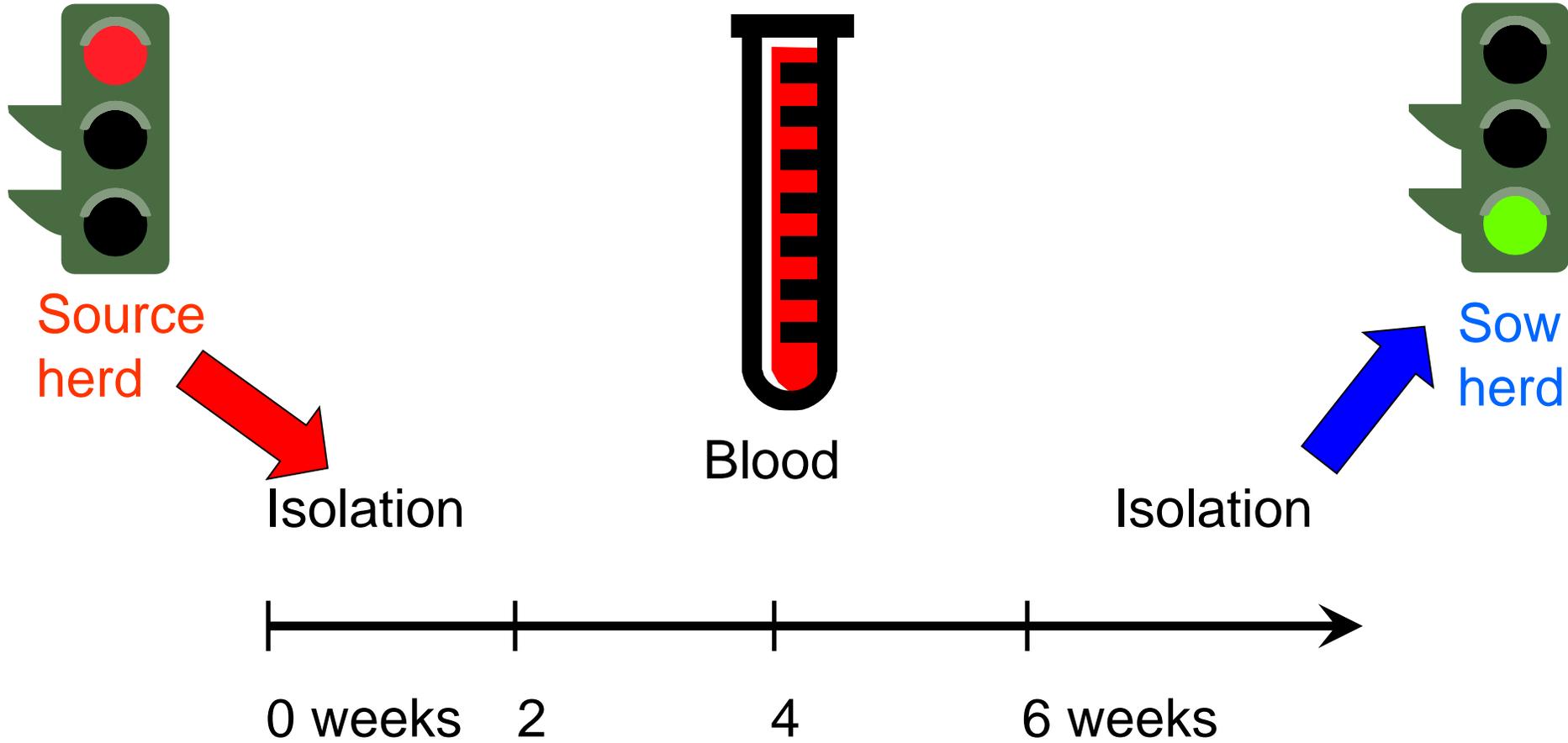
# Cleaning - Disinfection - Control



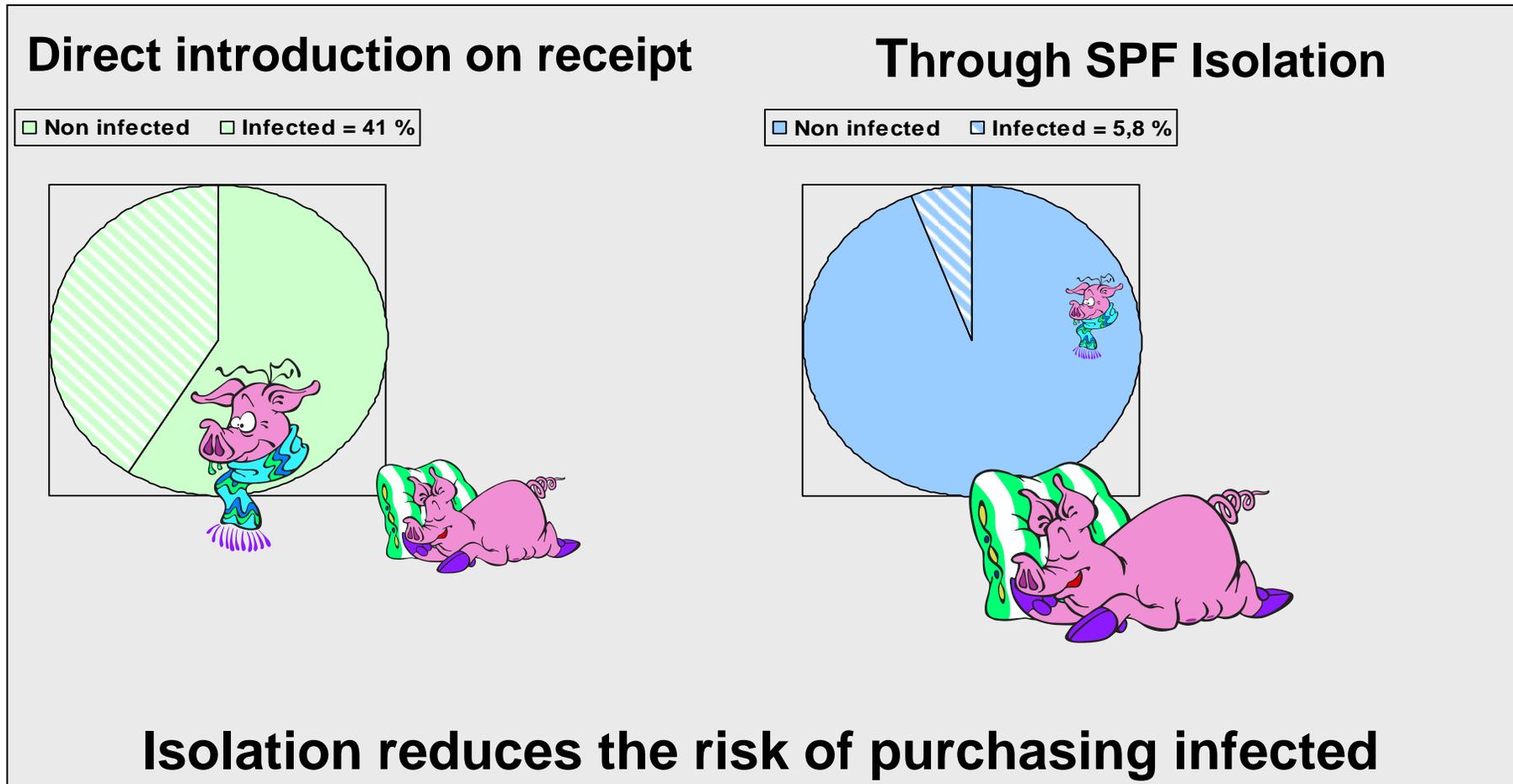
# Cleaning - Disinfection - Control



# SPF isolation of breeding stock



# SPF isolation - efficiency



**Isolation reduces the risk of purchasing infected breeding stocks by a factor 7**

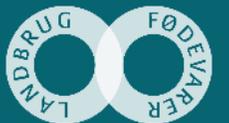
# Cooperation with veterinary authority

- In case of stand still the SPF System:
- Is informed immediately by the authorities
- Immediately imposes restrictions on sale and purchase
- Informs all SPF haulage contractors NOT to transport animals to and from the farm
- Informs on line regarding restrictions



# Danish Disease Control

Growth in Balance

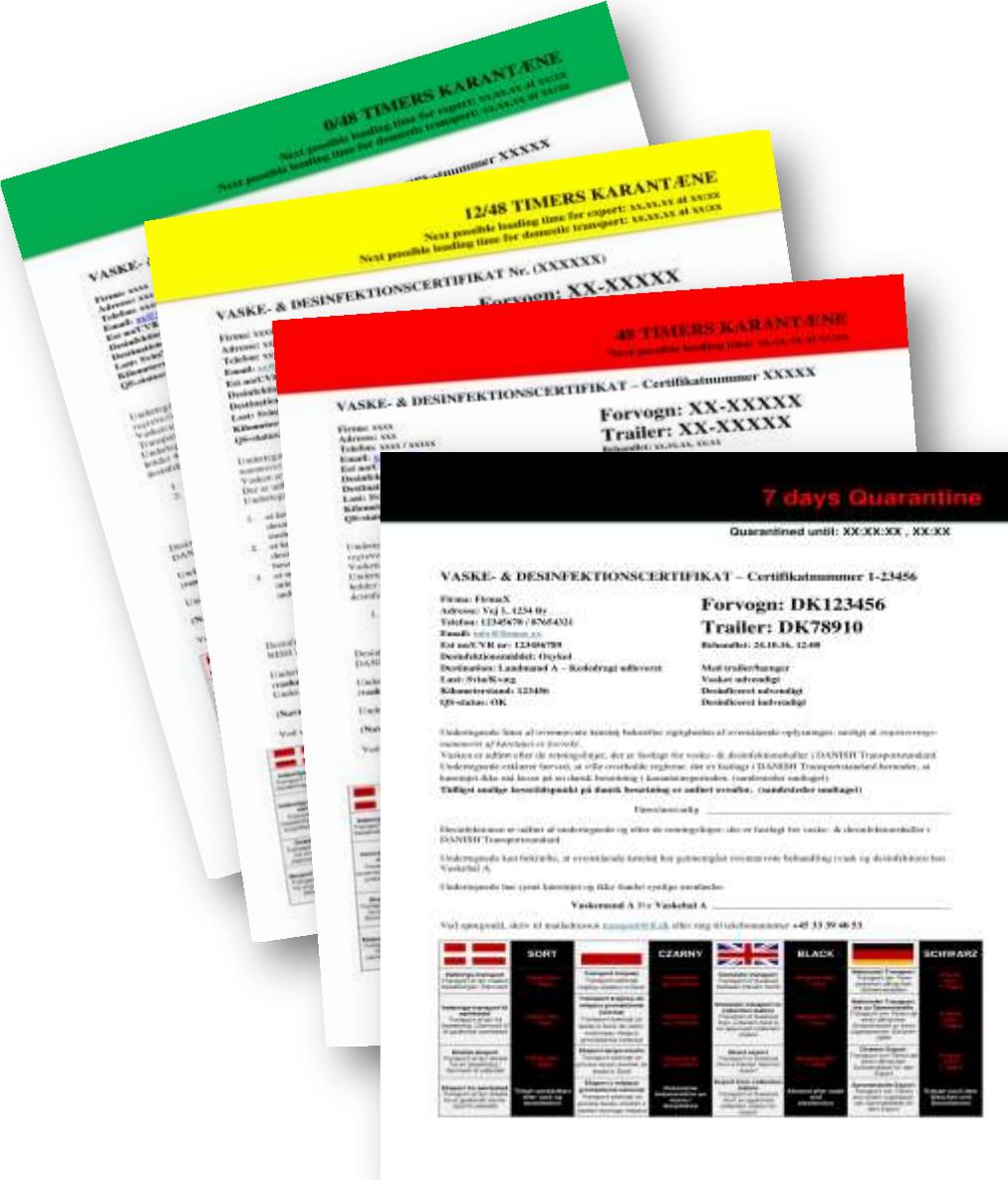


# Danish Disease Control



# Danish Disease Control

Certificate  
GPS-data

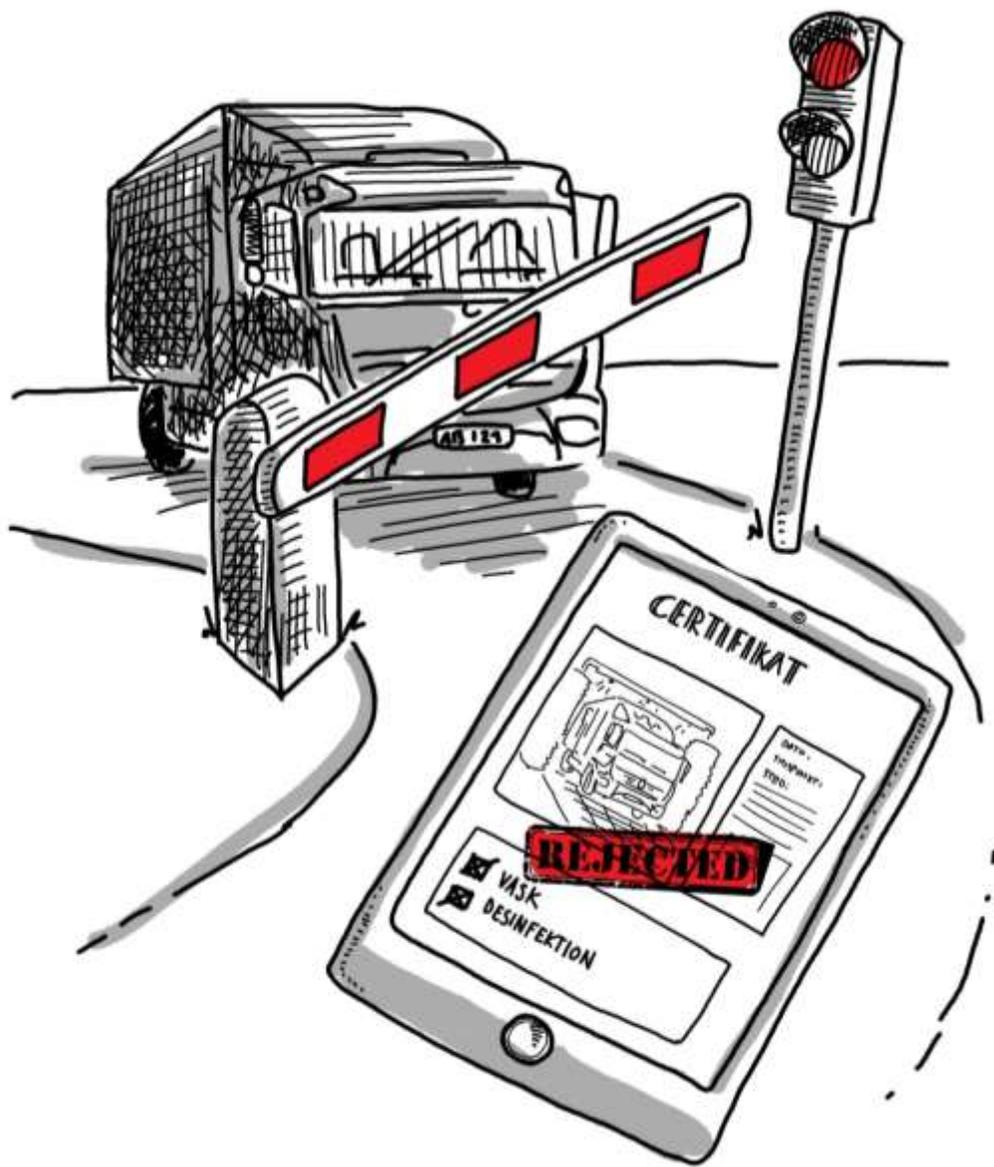




- ✓ A truck arrives by the pig producer
- ✓ Stops at the entrance
- ✓ License plate is read electronically
- ✓ Control is executed in the database



- ✓ The pig producer receives a SMS where the truck has been washed or rejected



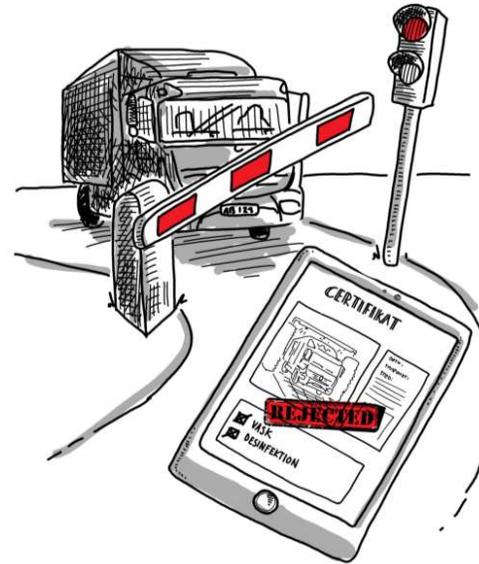
✓ A truck that makes a potentially risk of bringing infectious disease is rejected



## DIGITAL OVERVIEW

- ✓ Complete history of all transports carried out according to DANISH Transport Standard
- ✓ Available everywhere and from everyone platforms (for example Windows, iPhone and android)

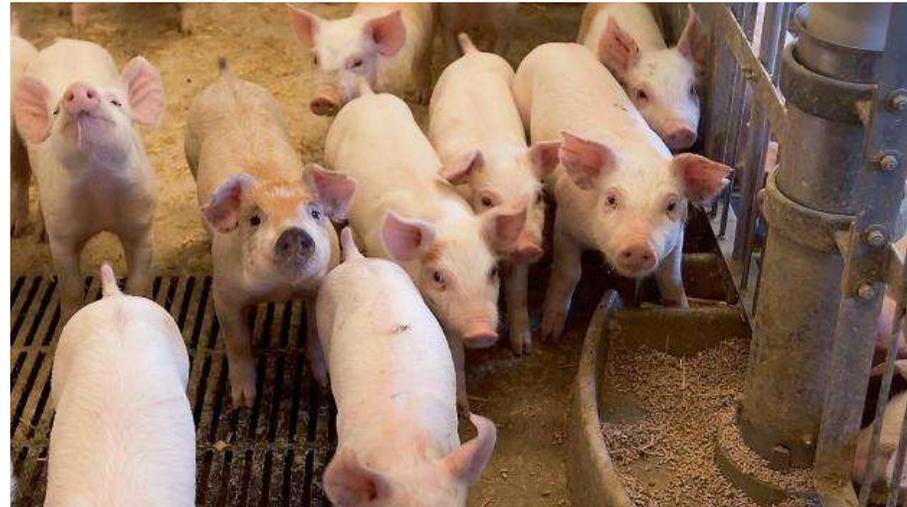
# Benefits for Danish pig producers



# Danish Disease Control

## Registration of movement of cloven-hoofed animals

- DDC would create a net profit per pig produced per year: 329 €
- Alerts, registretions and corrections: 3,7 mill €



## Summing up and final remarks

1. Biosecurity is necessary
2. Danish Disease Control
3. Biosecurity not associated with antimicrobial use nor productivity



# Questions are welcome

