# Identification of optimal time for change of surveillance strategy based on assessment of cost of error

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RESEARCH QUESTION: Should visual-only inspection (VOI) replace traditional meat inspection (TMI) of outdoor-reared pigs in Denmark?

#### Background:

- New EU Regulation allows VOI of outdoorreared pigs - but countries outside EU do not accept this
- Danish pig industry relies on market agreements
- No bovine tuberculosis (bovTB) cases since 1994 and no infection in wildlife
- Denmark (DK) mainly consist of islands and only few animals are imported annually
- Intra-species transmission not expected in pigs (dead-end hosts)

#### **Hazard:**

#### Aim:

Assess cost of error related to overlooking a positive case (see green boxes below)

#### Methodology:

Scenario tree analyses with assumed probabilities for different scenarios - see figure below

## Sensitivity (Se) of meat inspection:

 \*Se of VOI (14-24%) is lower than that of TMI (71%)

## **Expert opinion regarding** reactions on export market revealed:

- Importing countries can use bovTB as argument to close for import
- Market reaction expected, if DK looses Official TB –free (OTF) status
- No reaction from importing countries expected, if one or few positive cases occur and eradication programme is initiated and successfully implemented

## **Epidemic outbreak of TB** suspicions in winter 2016/2017:

- Untreated peat identified as source of TB like lesions in pigs found at meat inspection (due to M. avium in peat)
- Untreated peat can no longer be used in Danish SPF pig health programme
- Peat company has withdrawn untreated peat from market
- Requirement for direct transport of pigs from TB suspected herds to slaughter has been suspended
- Current discussion with veterinary authorities regarding changes in handling of pig herds with TB suspicion

Hypothetical scenario: BovTB introduced to DK due to infected wildlife, imported animals or employees

No\*

Assumed annual Prob. = 0.04

Assumed 100 infected pigs in 1 non-controlled herd

> Prob. = 0.10Prob. = 0.50

Positive case detected at meat inspection

Yes\*

Eradication programme activated

False negative result

Prob. = 0.50Prob. = 0.20

Prob. = 0.50Prob. = 0.80

No or limited consumer

reaction on DK

market

Infection has spread

only within one or few

herds when detected

No or limited reaction from sensitive third countries

## Open discussion for ISESSAH/SVEPM audience:

- What is the monetary value of surveillance for bovTB in pigs?
- Do you perceive bovTB as a threat to the export of live pigs, pork or by-products?
- How is meat inspection of outdoor pigs in your country?

Multiple herds may OTF status is be infected before lost detected

> Sensitive third countries stop import from DK

Lower price on alternative export markets

Limited consumer reaction on DK market







OTF

status is

retained







