



**CODA - CERVA**

## **SHORT LIST OF INFLUENCES ON EFFICACY OF FOOT-AND-MOUTH DISEASE VACCINES**

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# Introduction

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- What is Vaccine Efficacy ?
  - Effectiveness of the vaccine to prevent disease,
  - depending on the vaccine being potent and
  - on its proper administration
  - to animals capable to respond.

# Introduction

- What are important factors influencing the efficacy of FMD vaccination?
  - When do we measure quality
    - In-production control
    - Post production control
    - Post marketing
  
- What is the goal of the FMD vaccination?
  - Endemic region
    - Primary control
  - FMD Free with vaccination region
    - Routine & control
    - Emergency control
  - FMD Free region
    - Emergency vaccination

# In-Production

- Importance of In-production Quality Assurance:
  - Good Manufacturing Practice
    - Product source traceability
    - Purity of content
    - Safety of content
    - Concentration of content
    - Integrity of content
    - Identity of content
  - Improvements in GMP
    - Assurance of post production efficacy
  - Harmonisation of Quality Assurance
    - Better comparability

# Post –Production/ Marketing

What is the goal of the FMD vaccination?

○ FMD Endemic region

- Risk based cost effective building of immunity barrier
- Improve quality of livestock
- Access to international market
  
- Influences on vaccine efficacy?
  - Vaccine quality & suitability
  - Cold-chain quality
  - Strategic vaccination programming
  
- Assessing vaccine efficacy
  - Seroconversion
  - Virus circulation (DIVA)

# Post –Production/ Marketing

- FMD Free with vaccination region
  - Maintain immunity barrier
  - Prevention of outbreaks
  
- Influences on vaccine efficacy?
  - Routine Vaccination
    - ...
  - Emergency Vaccination
    - Suitability & speed
  
- Assessing Vaccine efficacy

| Routine vaccination             | Emergency vaccination                 |
|---------------------------------|---------------------------------------|
| Seroconversion<br>Herd immunity | Suitability<br>Seroconversion<br>DIVA |

# Post –Production/ Marketing

- FMD Free region
  - Fast immunity barrier
  - Stopping of outbreaks
  
- Influences on vaccine efficacy?
  - ...
  - Suitability & speed
  - Increased potency
  
- Assessing vaccine efficacy
  - Higher vaccine potency
  - Fast seroconversion
  - Carrier state prevention
  - DIVA

# Summary



CODA - CERVA

- Producer
  - GMP → QA
  - Batch Validation → Potency (dir./indir.)
  
- User
  - Vaccination strategy → Suitability  
Cold-chain management
  - Coverage → Herd immunity
  
- Evaluation in a Harmonized and independent way
- In perspective of vaccination policy



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