



Current Rift Valley Fever Vaccines Available

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Onderstepoort area

- Veterinary Faculty:
 - Veterinary Training
- ARC-Onderstepoort Veterinary Institute
 - Services: Diagnostics, production (FMD)
 - Research
- OBP:
 - Vaccines & other biologicals production



Rift Valley Fever Vaccine

- Current commercial vaccines
- Production methods
- Advantage & Disadvantage
- Challenges
- Recommendations



RVF Vaccines currently available

Vaccine	Strain	Country
Inactivated (OBP/VSVRI)	Pathogenic field strain	S.A
LIVE attenuated (OBP & KEVEVAPI)	Smithburn	S.A Kenya



RVF-Inactivated vaccine

History of vaccine strain

- Pathogenic Strain
- 6/mice
- 2/cells

Upstream process

- BHK cells
- Infection (seeding)
- Determine titre

Down stream process

- Inactivation process
- In process testing
- Formulation
- Bottling
- QC



ADVANTAGE OF INACT. RVF

- Safe in pregnant animals**
- Can be used in outbreaks situations**

DISADVANTAGE INACT RVF

- Short duration of immunity**
- Need more than one inoculation**
- Safety on handling the production seed material (human)**
- Poor colostral immunity**
- Need more antigen & longer production lead time**



RVF-LIVE

History of strain

- Smithburn Isolated(1930-1944)
- Mouse brain/eggs/
- Mouse-cells

Upstream process

- BHK CELLS
- Infection (Seeding)
- Titre determination

Formulation

- STABILIZER
- BOTTLING
- FREEZE DRYING
- QC TESTING



ADVANTAGE OF RVF LIVE

- **Highly efficacious**
- **Need only single inoculation**
- **Ease of production & cost effective**
- **Shorter production lead times**
- **Able to produce large quantities**

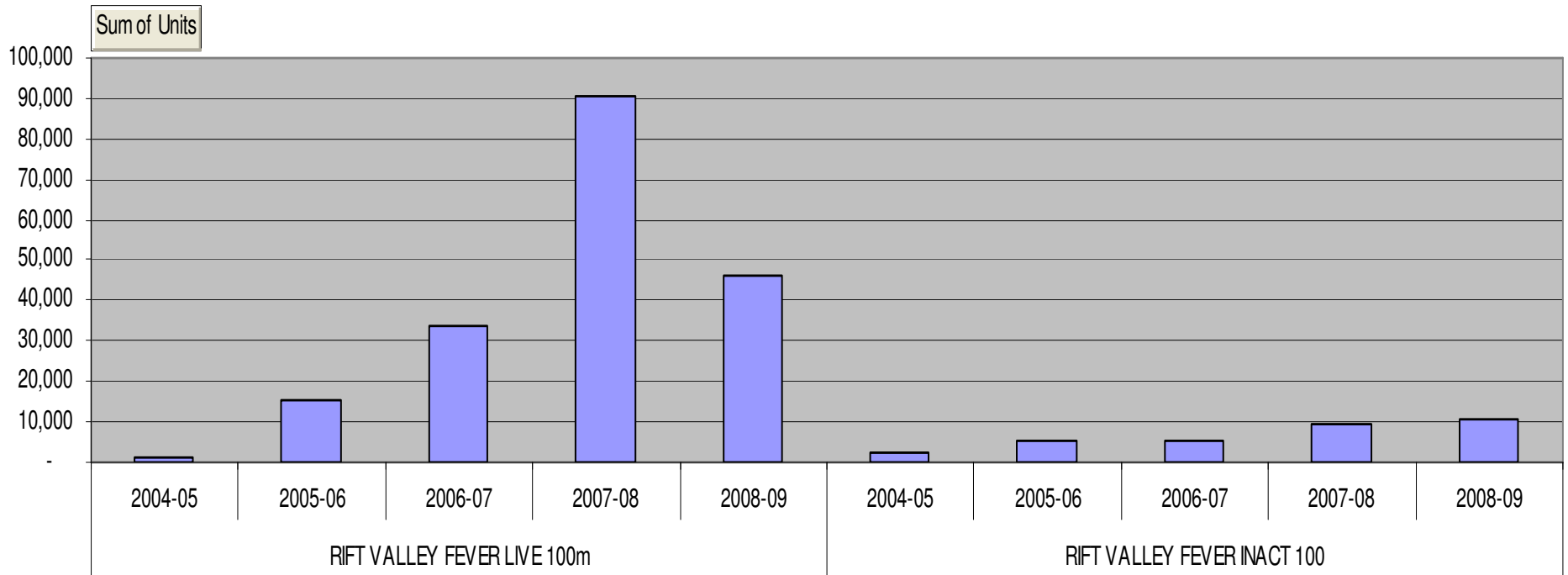
DISADVANTAGE RVF LIVE

- **Teratogenic for foetus/Abortions**
- **Not advisable to use during Outbreaks**
- **It cannot be used during high production cycle**
- **Potential risk reverse to virulence**



Market (All) ▼

VOLUME PER PRODUCT



1 unit=100 doses

Drop Series Fields Here

■ Total

Product ▼ Year ▼

1 unit=50 doses



Quantities per region(
2005-2009 January)\

Doses-d

Middle East
4 'm d (live)

N. East Africa
Djibouti
Somalia
Sudan
8'm doses(live)
34000 d (inac)

East Africa
Kenya
Tanzania
Uganda 2,7'm d (live)

SADC
3,1 'm inact
< 1 m doses (live)



Africa

- International Boundary
- Road
- River
- ★ National Capital
- City or Town

0 400 1000 KM
0 400 1000 Miles

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Challenges

- Concerns on using live vaccines during outbreaks.
- We need a product that will be safe to use during production cycle.
- Supply products during period of need
- Product that is safe to handle, ease of application and cost effective for farmers.
- Able to produce in large quantities at shortest lead time.



Recommendations on the current problems

- We need a common regional approach on vaccination strategy.
- Common understanding on which vaccine between live (High risk areas) or inactivated (low risk areas) will be feasible for the current problem.



Thank you...

