

# GF-TADs

GLOBAL FRAMEWORK FOR THE  
PROGRESSIVE CONTROL OF  
TRANSBOUNDARY ANIMAL DISEASES

*Africa*



Food and Agriculture  
Organization of the  
United Nations



World Organisation  
for Animal Health  
Founded as OIE

African  
Union 

# RSC

# 12

## **African Horse Sickness: Vaccine production shortages and solutions**

- ▶ Nobalanda Mokoena (PhD)
- ▶ Onderstepoort Biological Products (OBP), South Africa

# OBP Background



OBP is one of the largest vaccine manufacturers on the African continent, possessing the facilities and expertise to produce a variety of vaccines to viral, bacterial and parasitic agents causing diseases in bovine, ovine, caprine and equine.



## **OBP Purpose:**

To provide innovative and disruptive solutions for animal health

## **Vision:**

To be the first choice in animal health solutions.



## **Mission :**

To develop, manufacture, source, and supply cost-effective innovative animal health solutions to our customers





**FVS**

**OBP**

**ARC-OVR**





## Bacterial Vaccine Products

- Actinomyces (Corynebacterium) pyogenes
- Anthrax
- Black Quarter
- Botulism
- Botulism/black quarter
- Blue Udder
- Brucella Rev 1
- **Brucella S19**
- Calf paratyphoid (live & inactivated)
- Corynebacterium Ovis
- E Coli
- Enterotoxaemia (pulpy kidney)
- Fowl Typhoid
- Gangrene Complex
- Haemophilus Coryza
- Lamb Dysentery
- Leukopast 3 (with IBR and PI)
- Leukopast
- Pasteurella Bovine
- Pasteurella Ovine
- Septicum
- Swelled Head
- Tetanus
- Vibrio (Campylobacter)

## Viral Vaccine Products

- **Rift Valley Fever – live, inactivated, Clone 13**
- **African horse sickness**
- **Bluetongue**
- **B-Phemeral**
- Chlamysure
- **Lumpyskin**
- PI and IBR (in Leukopast 3)
- Fowl Pox

## Other Products

### Frozen infective blood

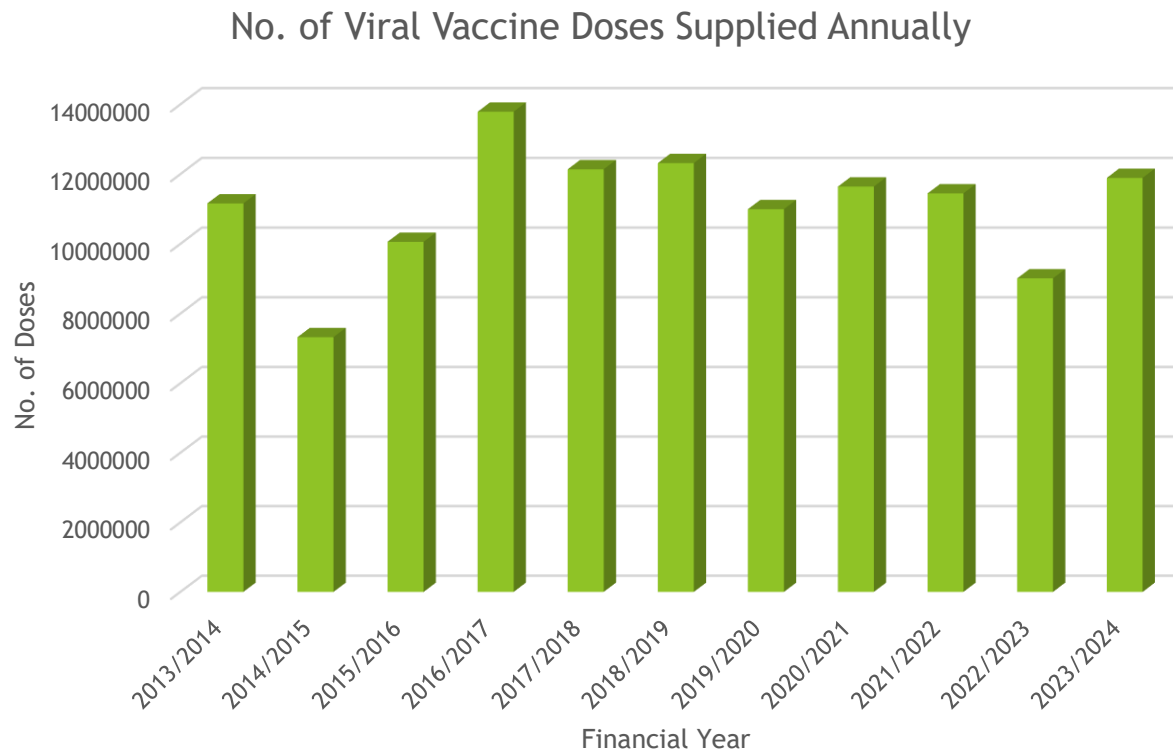
- Anaplasmosis
- Heartwater
- Redwater African / Babesiosis
- Redwater Asiatic / Babesiosis

Elephantskin

**Antiserum**

**Diagnostic Reagents** (eg dourine, rose bengal)

# Viral Vaccine Doses Supplied to Market: 2013-2024



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## African Horse Sickness Vaccine

### ► Vaccine Attributes

- Multivalent (3 and 4 serotypes per bottle) live attenuated virus vaccine
- Two doses to be administered 4 weeks apart to healthy horses
- Annual vaccinations recommended for complete protection
- Up to 5 vaccinations recommended for to ensure protection to all serotypes

### ► Concerns:

- Not DIVA compliant vaccine
- Cannot be used during outbreaks
- Meant to be used in endemic regions



- ▶ Main Market is South Africa
- ▶ Other African Countries:
  - ▶ Botswana
  - ▶ Lesotho
  - ▶ Kingdom of ESwatini
  - ▶ Namibia
  - ▶ Zambia
  - ▶ Kenya
  - ▶ Ghana
- ▶ International Markets
  - ▶ Thailand
  - ▶ Singapore

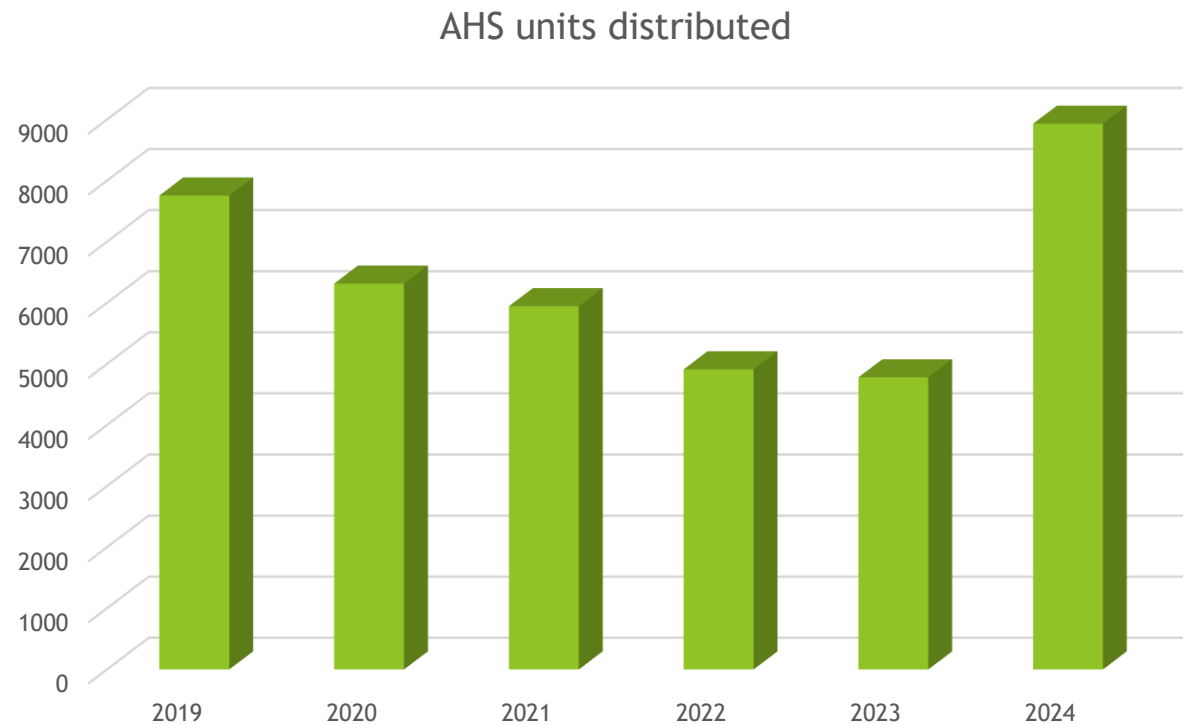




# AHS distributed since 2019

Year	Quantities	Doses
2019	7757	93 084
2020	6315	75 780
2021	5947	71 364
2022	4912	58 944
2023	4781	57 372
2024	8932	107 184

## AHS distributed since 2019



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## Challenges

- ▶ Ageing infrastructure
- ▶ Non-functional freeze dryers
- ▶ Power outages
- ▶ Inconsistent municipal water supply

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## Upgrade and Increased Production Capabilities

### CURRENT FREEZE DRYING CAPABILITY

- ▶ 1x pilot freeze dryer
- ▶ 14 000 units per batch (3 batches a week)
- ▶ 42 000 units weekly

### FUTURE CAPILLITIES

- ▶ 2 x new freeze dryers procured
- ▶ Installation initiated in March 2025 for first new dryer (62 000 units capacity)
- ▶ Second freeze dryer planned for delivery in September 2025 (32 000 units capacity)
  
- ▶ Total planned future capacity per week  
~ 94 000 units (minimum 10 million doses)





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## Alternative supplies of utilities

- ▶ Alternative energy supplies
- ▶ Alternative supply of water

# RSC Capabilities within IR&D Department

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- ▶ Automated nucleic acid extractor
- ▶ Real Time PCR thermocycler
- ▶ ELISA equipment
- ▶ Freeze-dryers



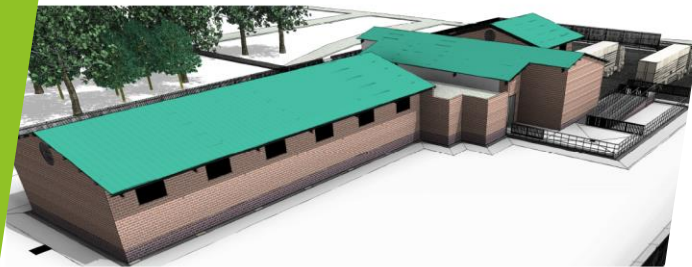
# Clinical trial facilities

## Small animal Unit

- Small animals (mice, hamsters, guinea pigs, rabbits and sometimes chickens)
- Test for both vaccines and candidate vaccines animals prior to testing on the target animals

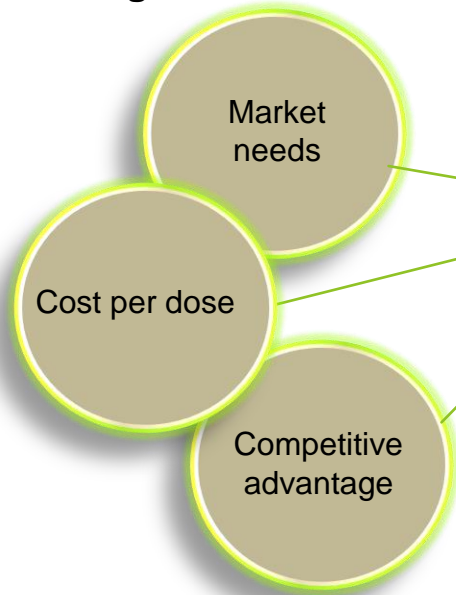
## Large Animal Unit

- Animals: sheep, goats, cattle and horses
- Test both vaccines and candidate vaccines for safety and efficacy/potency

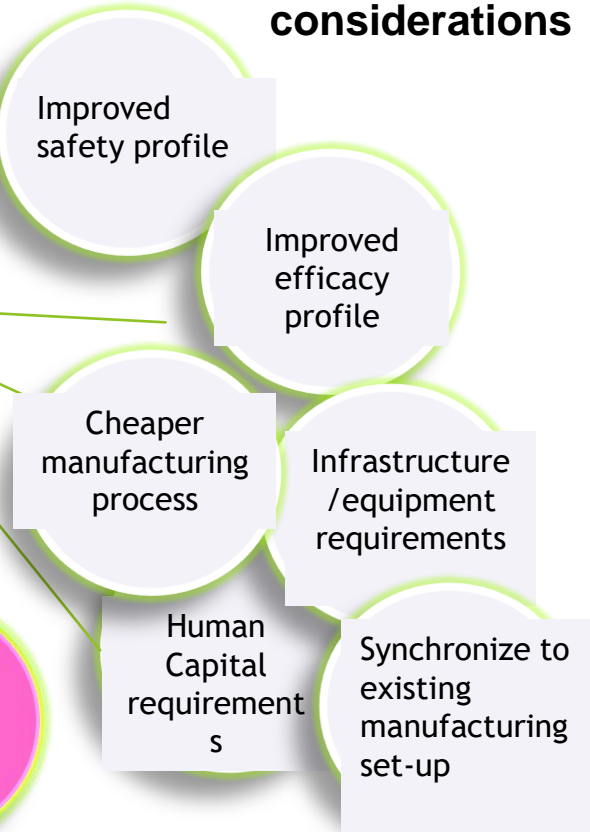


## Factors influencing manufacturer involvement in product development

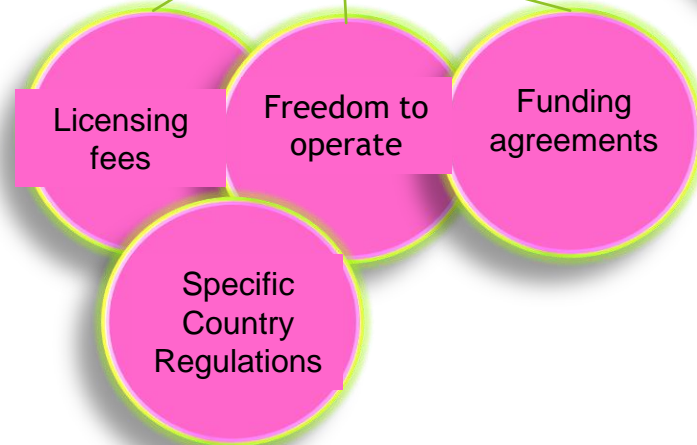
### Sales and marketing intelligence data



### Technical considerations



### Other factors





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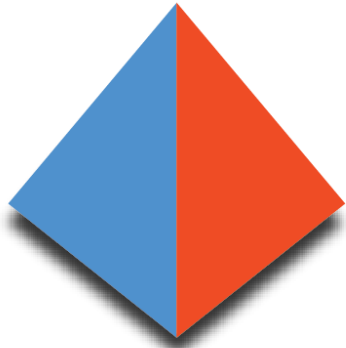
## Recommendations

- ▶ Involvement of manufacturers in early stages
- ▶ Consideration of regulatory framework



**Thank  
You**





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