FAO/OIE GLOBAL CONFERENCE ON
FOOT AND MOUTH DISEASE CONTROL

MAINTAINING FMD FREE STATUS:
THE SOUTHERN AMERICAN EXPERIENCE

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CONTENTS

FMD in Americas (1)

- XVI Century – introduction of livestock into South America
- 1870 – introduction of FMD into Americas
- 1951 - creation of PANAFTOSA/PAHO/WHO in Rio de Janeiro/Brazil
- 1960's – launching of first FMD National Programs in South America

FMD in Americas (2)

- 1988 – launching of Hemispheric Plan for Erradication of FMD (PHEFA)
- 1998 – withdrawal of vaccination in some countries of Southern Cone
- 2001 – epidemics of FMD (> 4.300 outbreaks)
- 2002 – 136 outbreaks
- 2006 – sub-regional Control programs
- 2012 – residual endemism in few countries

Hemispheric FMD Eradication Program (PHEFA) Purposes

Increase the availability of meat and milk for the people of the Region and improve the social economic efficiency of livestock production, through:

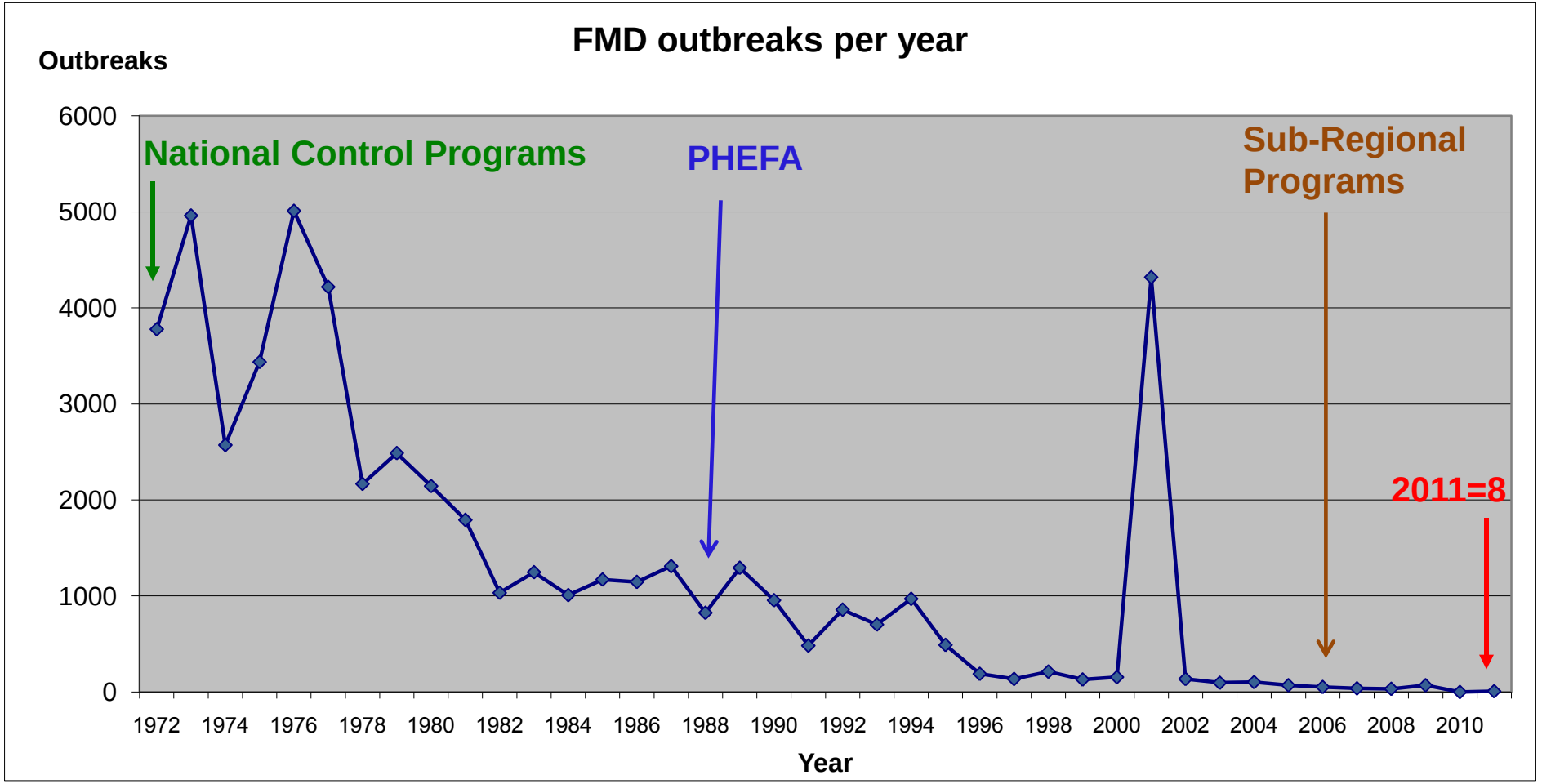
- Improving the opportunity cost of the public and private investments in animal health and in livestock
- Removing the limiting factor to technology investment (genetics, feeding, management)
- Eliminating restrictions to international and domestic trade of animal and their products

PHEFA - FUNDAMENTALS

1. Acts as the Regional political agreement which provides the strategic and technical guidance for FMD eradication
   - Action Plan 1988-2009
   - Action Plan 2011-2020
2. Knowledge of the natural history of the FMD disease, and its relation with livestock production systems and livestock movement and trade patterns (ecosystem)
3. Veterinary service delivery models incorporating producers, private veterinarians and other private sector stakeholders
4. Characterization of the risk of FMD virus in different sub-regions and ecosystems
5. Regional coordination of the technical and managerial aspects of the FMD national programs by a Reference Centre with laboratory, epidemiology and training capacities (PANAFTOSA)

Sub-regional approach of the PHEFA

Evolution of FMD Control in South America



FMD Programs - Investment 2011

- Public: 846 million US$ (64 %)
- Private: 469 million US$*(36 %)
- Field Offices: 6,483
- Workforce: 25,000 employees
- Veterinarians: 8,000
- Vaccines produced and injected: 700 million doses per year

*Venezuela and Ecuador not included

FMD situation according to OIE status in South America in 2012

FMD sanitary situation in South America 2011, 39th COSALFA*

Sanitary situations	Surface		Cattle and buffaloes herds		Total cattle and buffaloes animals	
	Km2	%	Nº	%	Nº	%
Free without vaccination	3.808.129	21,4	854.912	16,9	11.694.110	3,5
Free with vaccination	8.743.526	49,2	2.662.945	52,7	272.851.766	81,5
Buffer zone	88.190	0,5	16.869	0,3	479.199	0,1
Not free	5.124.056	28,8	1.522.726	30,1	49.557.982	14,8
Total	17.763.901	100	5.057.452	100	334.583.057	100
Total Free	12.639.845	71,2	3.534.726	69,9	285.025.075	85,2

*Venezuela data not included

FMD Programs – Main Tools (1)

- ✓ Strong Veterinary Services (PVS)
- ✓ Adequate legislation
- ✓ Mass systematic vaccination
- ✓ Export X family type production specific strategies
- ✓ Progressive zoning and border control

FMD Programs – Main Tools (2)

- ✓ Surveillance and monitoring
- ✓ Cooperation, solidarity and transparency
  - Multinational
  - Social communication
  - Public private partnership
- ✓ Capacity building

FMD Main Tools – Mass Vaccination (1)

- ✓ Region is self-sufficient on high quality oil-based vaccines
- ✓ Official quality control according OIE Guidelines
- ✓ Virus manipulation restrictions
  - limited to approved high-biosecurity plants
  - Just virus pool 7 serotypes are manipulated (A, O, C)
- ✓ Majority of vaccines is NSP-free
- ✓ Twice/year vaccination cycles and strategic regionalized vaccination also implemented

FMD Main Tools – Mass Vaccination (2)

- ✓ Delivery through public-private partnerships
- ✓ Quality control throughout vaccination chain
  - Vaccine production
  - Vaccine distribution
  - Vaccination delivery
  - Post-vaccination serological monitoring

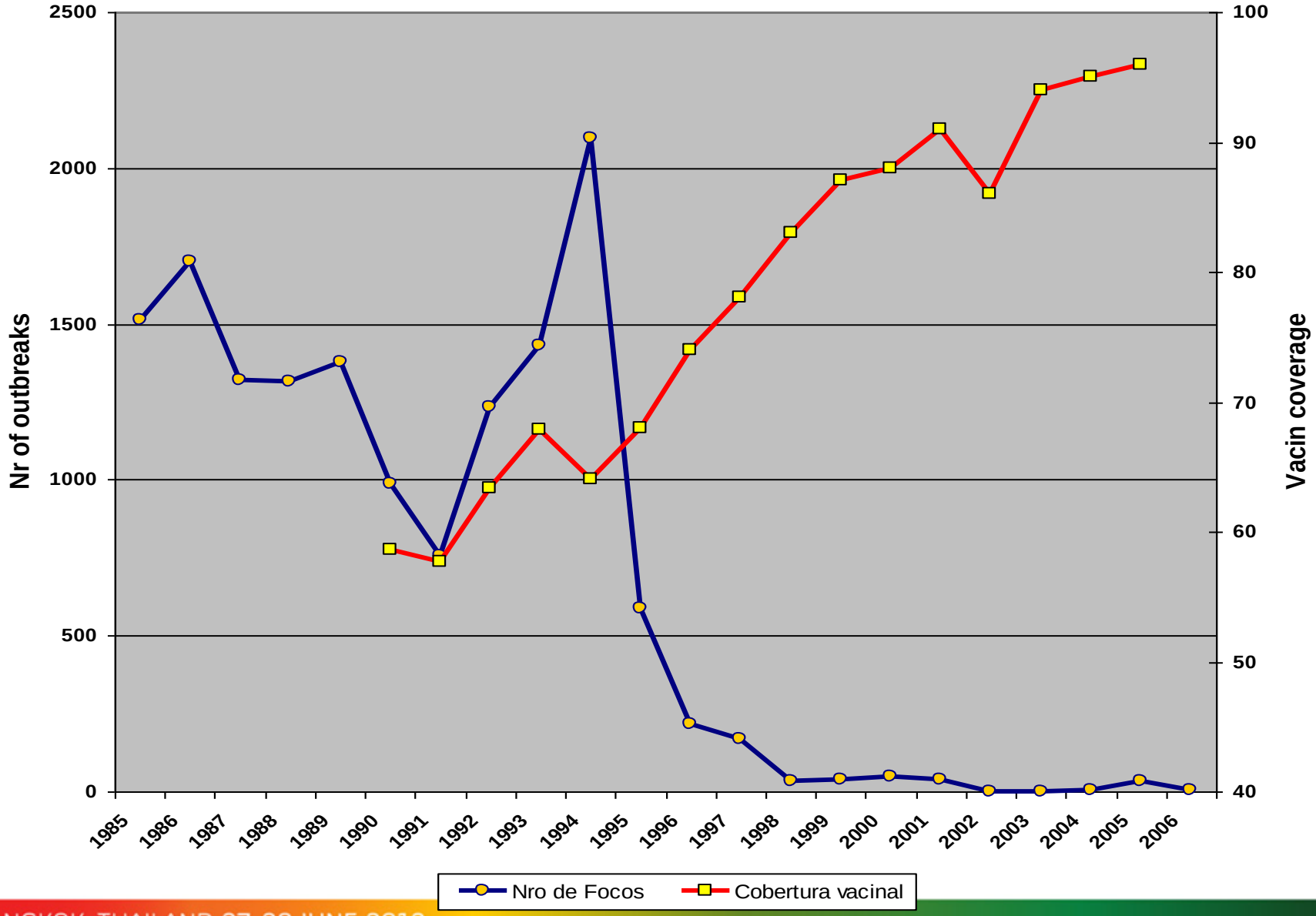
Vaccination - Technical Framework (1)

- Control and eradication strategy based on high coverage systematic vaccination programs
- Cattle and buffaloes (*B. bubalis*) are the only reservoir of the FMD virus in South America, being the only species that are under systematic vaccination
- Systematic vaccination produces herd immunity which drastically reduced viral excretion and leads to Ro<1
- Movement of cattle represents more than 95% of all movement of the FMD susceptible farm animals
- 40% of the cattle population are moved every year: 50% for slaughtering and 50% for reproduction/fattening (farm-to-farm)

Vaccination - Technical Framework (2)

- Sheep and other small ruminants have no role in the maintenance of the FMD virus circulation and are not under systematic vaccination
  - Movement of these species is mainly for slaughter (transhumance is uncommon)
  - Historically, less than 0.5% of FMD outbreaks have been proven to be epidemiologically linked to these species
- Wildlife do not act as reservoir of FMD virus
  - There is no evidence of FMD transmission among livestock and wildlife, even in free zones without vaccination.

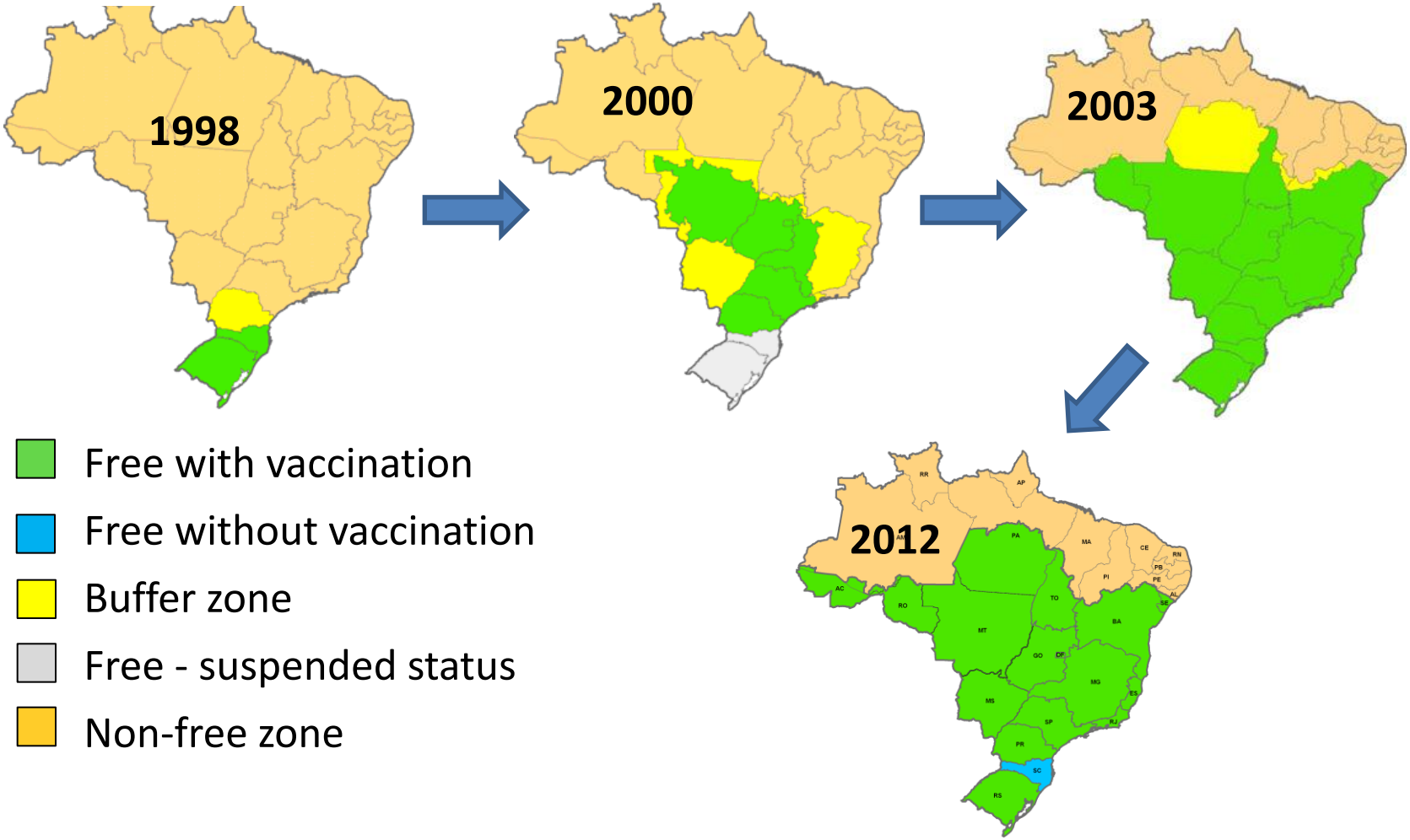
Evolution of the FMD outbreaks and vaccine coverage in Brazil



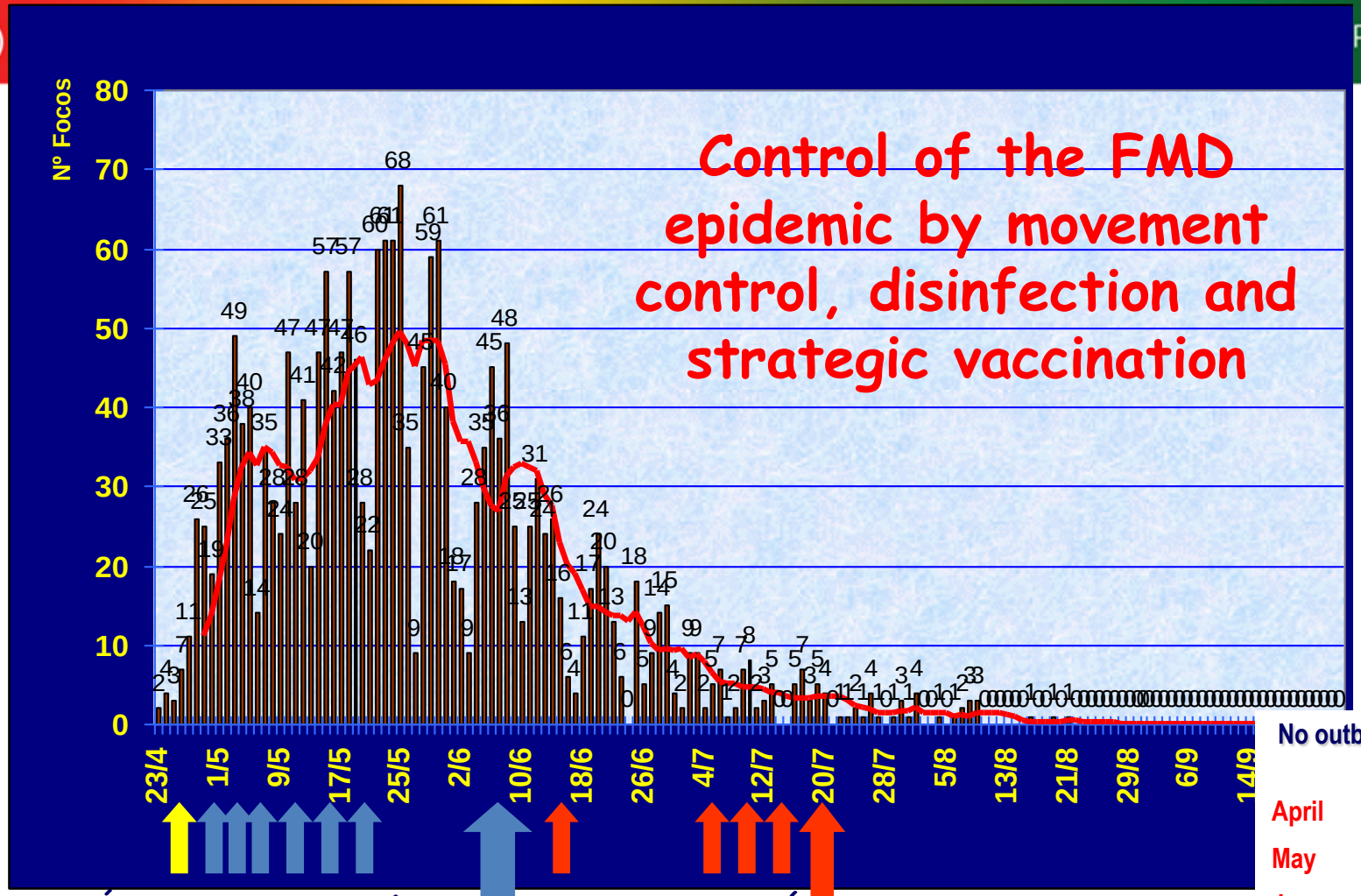
FMD Main Tools - Progressive Zoning

- ✓ Builds confidence in public and private sector
- ✓ FMD free zones stimulate the adhesion of neighbouring areas
- ✓ Reinforces cooperative work between zones
- ✓ Strongly associated with border control strategies

Progressive Zoning – the Case of Brazil



Control of the FMD epidemic by movement control, disinfection and strategic vaccination



VACUNACIÓN PERIFOCAL

VACUNACIÓN ESTRATEGICA

RE-VACUNACIÓN

VACUNACIÓN PRIMARIA COMPLETA

REVACUNACIÓN COMPLETA

23/4 — 120 DÍAS — 21/08

No outbreaks by month in 2001	
April	97
May	1277
June	563
July	102
August	18
September	0
October	0
November	0
December	0
TOTAL	2057

Fuente: Dr. F. Muzio DGSG MAGP, Uruguay

High Surveillance Zone - 2007

FMD Tools - Surveillance and Monitoring

- Continued progressive training program developed both at national and regional level
- Self-sufficient in diagnostic capability, including two OIE Reference Laboratories
- Continental Epidemiological Surveillance System – launched in 1973, coordinated by PANAFTOSA
- Country/zone serosurveillance studies to check for virus circulation and immunity coverage
    - Decision-making tool for establishment of control strategies

Lessons Learnt (1)

1. FMD can be eradicate through vaccination
2. FMD eradication requires sustained political and technical commitment with a regional vision, requiring long terms, scientific evidence and coordinated approaches
3. Political commitment on the FMD eradication/prevention to allocate the necessary resources
4. Complementarity and coherence of actions at national and regional levels
5. Public and private sectors must be aligned toward same objectives

Lessons Learnt (2)

7. Inter-countries cooperation and solidarity an essential requirement
8. Surveillance, control and eradication strategies must follow changes of the livestock production systems
9. FMD control and eradication programs have been contributing at the development and strengthening of the Veterinary Services
10. Transparency is key to strategic planning and efficient rapid response
    - Built through mutual confidence

Thank You!