

Foot-and-Mouth Disease in South America: Eradication milestones

ituation at the

beginning of the first Plan of Action

1988-2009 of the Hemispheric

Program for the Eradication of

Foot-and-Mouth Disease (PHEFA)

achievement

Suspension of FMD free status

Situation at the end of the PHEFA Plan of Action 1988-2009 and at the beginning of the PHEFA Plan of Action 2011-2020

he Foot-and-Mouth Disease (FMD) is still one of the main diseases affecting the livestock industry globally. It is a severe, highly contagious disease that has a significant impact on animal welfare and the economy: trade restrictions imposed by the veterinary services of importing countries hinder access to markets, which have serious social and economic consequences. In addition, FMD affects small producers, threatening their food security.

Worldwide, this disease has been cause for constant concern due to its frequent reintroduction and its negative impact on some of the territories that are FMD-free with vaccination or without vaccination. such as the 2001 outbreaks in the United Kingdom and the Southern Cone of the Americas.

In South America, after FMD was introduced in the 19th century, it became endemic in all countries. When introduced in Canada (1949) and Mexico (1950), this raised a concern throughout the Americas.

This situation led to the establishment in 1951 of the Pan American Foot-and-Mouth Disease Center (PANAFTOSA), through an Efficient technical agreement between the Organization of American States (OAS) and the Brazilian Government, which placed it under the management of the Pan American Health Organization (PAHO).

> Since its establishment, the Center has been providing technical cooperation to Member Countries, generating knowledge and tools for controlling the disease, particularly: the development South American network of diagnostic laboratories; the set-up of a continental system of surveillance and information; the

epidemiologic characterization of ecosystems of the disease related to livestock production systems; and the implementation of an extensive capacity building and human resources development programme, mainly for national veterinary services.

Additionally, in 1972, PANAFTOSA established the South American Commission for the Fight Against Foot-and-Mouth Disease (COSALFA), the regional forum, with public-private partnerships for the coordination and follow-up of FMD interventions, Later, in 1988, PAHO, through PANAFTOSA and in response to country mandates, established the Hemispheric Committee for the Eradication of the Foot-and-Mouth Disease (COHFFA) together with the first Plan of Action 1988–2009 of the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA), which was drafted n close coordination with the national veterinary services and the private sector. In 2010, the second PHEFA Plan of Action 2011–2020 was ratified by the countries. It responded to the challenge of eradicating FMD by 2020, defining strategies and plans of action, and relying on the commitment and political will of the countries.

> PHEFA has achieved remarkable results, with 95.4% of the bovine population of South America, i.e. around 334.2 million heads of cattle, now recognized by the World Organization for Animal Health (OIE) as FMD-free with or without vaccination.

> > This significant result is due to the substantial technical and financial efforts of the Member Countries, the efficient technical cooperation provided by PANAFTOSA, and the dedicated efforts of around 5.6 million livestock producers who value the health of their livestock as a priority and an asset for our society.

his worldwide achievement in health is unprecedented, not only for the technical and scientific challenges involved, but also for the magnitude of the intervention, which costs around US\$1 billion a year – a sum that, in most Member Countries, has been directly funded

by the livestock producers.

cooperation for

an unprecedented



Status following the implementation of the PHEFA Plan of Action 2011-2020 at May 2018

PANAFTOSA established on 25 August to provide technical cooperation to the countries of the Americas in the fight against



Kick-off of the training programme for professionals of the national veterinary services on the prevention, control and eradication of Foot-and-Mouth Disease.

First international course on FMD diagnosis and prevention programmes.

Opening of the Virus Diagnosis Unit.

Development and standardization of diagnostic tests, definition of standard laboratory procedures, and launching of a continuous capacity-building programme by organizing and implementing a network of diagnostic and serological laboratories for FMD virus and other vesicular diseases in South American countries.



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Establishment of the FMD Vaccine Production Plant.

> Start of research with the Virus Diagnosis Unit on the antigenicity and immunogenicity of the circulating field virus strains for selecting strains for vaccines production.

Start of the research, with the Virus Diagnosis Unit, on the direct and indirect methods for controlling the efficacy of FMD vaccines.

PANAFTOSA organizes two international conferences in Venezuela (1958) and Colombia (1959), with the participation of Colombia, Ecuador, Panama and Venezuela, where it recommends establishing a programme for preventing the transmission of FMD on the Colombia and Panama border.





During the 2nd Inter-American Ministerial Meeting on Control of Foot-and-Mouth Disease and Other Zoonoses (RICAZ II), the Member Countries recognize PANAFTOSA as a reference laboratory on vesicular diseases for the Americas, which was later recognized by the Food and Agriculture Organization of the

> An unprecedented achievement.

United Nations (FAO) and OIE.

The Inter-American Development Bank (IADB) provides loans for the development of national plans to control the disease in South American countries.

PANAFTOSA produces quidelines for developing FMD national control programmes, which are rapidly established by South American countries.

The South American Conference to Fight FMD is held in Brazil, with the technical and ministerial participation of all countries of the region, a landmark in the establishment of national FMD control programmes.



PANAFTOSA organizes the 1st Technical meeting to fight FMD, with the participation of Argentina, Brazil, Chile, Paraguay and Uruguay, to address key methodological issues on controlling the disease.

An inter-countries commission makes recommendations on the international transit of animals and defines the standards of disease control in border areas.

These actions pave the way to the continental planning in the fight against FMD.

PAHO defines PANAFTOSA as a regular programme and authorizes its Director to annually convene the Inter-American Ministerial Meeting on Control of Foot-and-Mouth Disease and Other Zoonoses (RICAZ), with the participation of the Ministers of Agriculture of all countries of the Americas. The objective was to promote regional integration and bilateral agreements among FMD-affected and disease-free areas.

PANAFTOSA urges countries to establish national plans for the control and prevention of FMD.

The 1970s are characterized by concerns over the quality of the FMD vaccines used for the control of the disease in the infected areas.

First edition of the PANAFTOSA Bulletin.

The New Epidemiological Ecosystem Model.

This model – which takes into consideration the characteristics of livestock production and the socioeconomic, political and cultural aspects that influence the production processes – becomes the basis for the FMD eradication strategy. It makes it possible to evaluate the degree of vulnerability in areas of livestock production in their FMD prevention stage.

Establishment of the COSALFA – The South American Commission for the Fight Against Foot-and-Mouth Disease composed of the executive heads of the animal health services and the representatives of the livestock production sector of the countries of South America.

The First Ordinary Meeting of COSALFA held in Brazil

Launching of the Continental Epidemiologica Surveillance System

on this new product.

PANAFTOSA develops and standardizes the methodology for the industrial production of a FMD vaccine with an oil-based adjuvant and conducts field studies

This decade is characterized by a reduction in the number of outbreaks due to the efforts of the national programmes that apply a model for FMD risk characterization at the regional level, based on the definition of FMD epidemiological ecosystems guiding the control strategies.

Chile becomes the first South American country internationally recognized as FMD-free.

PANAFTOSA develops the Epidemiological FMD Data Bank.



e Brazilian Minister

PANAFTOSA reaches the milestone of 6,180 professionals from the countries of the region and other continents trained at its headquarters.

> PANAFTOSA develops the enzyme-linked immunoelectrotransfer blot (EITB) test to identify viral activity in the field, supporting the PHEFA in the identification and expansion of FMD virus-free zones.

PANAFTOSA develops and provides Member Countries with the Guidelines to Maintain, Increase and Establish FMD-free Areas in South America.

PANAFTOSA produces the oil-based FMD vaccine to respond to emergencies and implements systematic vaccination plans in Bolivia, Brazil. Ecuador, Paraguay and Peru.

Uruguay, Argentina, Paraguay and the Brazilian States of Rio Grande do Sul and Santa Catarina, which have most of the

bovine population of South America. are internationally recognized as FMD-free with vaccination.

Subcommittees were established for the Prevention of FMD in North and Central America, and Caribbean countries.

PANAFTOSA develops the Hemispheric Program for the Eradication of Foot-and-Mouth Disease (PHEFA).

> At the 1st Meeting of COHEFA in Washington, D.C., USA, the 1st PHEFA Plan of Action 1988-2009

The establishment of the Hemispheric Committee for the Eradication of the Foot-and-Mouth Disease (COHEFA), composed of six sub-regions: the Amazon, the Andean, the Caribbean, the Southern Cone, Central America and North America

The River Plate Basin Agreement is signed with the aim to control FMD at the sub-regional level.



PANAFTOSA organizes the International Workshop on the "Evaluation of the Oil-Adjuvant Vaccine Use in the FMD Control Programs in South America".



PANAFTOSA provides 20UL technical cooperation to the countries of South America in the process of certification for official status recognition of Foot-and-Mouth Disease by the World Organization for Animal Health (OIE).

COSALFA recommends Member Countries to use the diagnostic system I-ELISA 3ABC/ EITB, developed by PANAFTOSA, for serological diagnosis in support of FMD

surveillance activities.



 Establishment of the Continental Epidemiological Surveillance System

> During the COSALFA, countries requested PANAFTOSA to lead research for the development and adaption of serological and virological tests to meet the new requirements for FMD-free areas.

The Houston Conference and the establishment of GIEFA.



PANAFTOSA acts as the technical secretariat of the Hemispheric Conference for the Eradication of Foot-and-Mouth Disease.

held in Houston, Texas, USA, which established the Inter-American Group for the Eradication of Foot-and-Mouth Disease (GIEFA) with the mission of mobilizing financial resources for PHEFA.

First international training course on the use of SivCont.

/ IADB and PAHO/ PANAFTOSA start the Technical Cooperation Project "Regional Program for FMD Control for the expanded Mercosur Countries".

Implementation of the Technical Cooperation Agreement between the Ministry of Agriculture, Livestock and Food Supply of Brazil (MAPA) and PAHO/PANAFTOSA, with the aim of strengthening animal health programmes in Brazil.

Through COSALFA, countries request PANAFTOSA to develop a project for the creation of a Regional Bank of Antigens/ Vaccines (BANVACO) to meet the needs of the Member Countries of the COSALFA.

The Republic of Panama becomes a full member of COSALFA.

> PANAFTOSA, by request of the Permanent Veterinary Committee of the Southern Cone (CVP), with the narticipation of 56 technical staff from Brazil, Uruguay, Bolivia and Argentina, coordinates the field and laboratory technical cooperation to support Paraguay in demonstrating the lack of viral circulation for restoring the FMD-free with vaccination status.

The Technical Cooperation Agreement between the Development Bank of Latin America (CAF) and PAHO/ PANAFTOSA is signed to strengthen actions for FMD prevention and control on the Peru and Ecuador border.

The Animal Health Coordinating Association (ACONASA) of Paraguay signs a Memorandum of Understanding with PAHO to contribute to the Trust Fund for financing the technical cooperation of PANAFTOSA in support of PHEFA.

The PHEFA 2() | Plan of Action 2011-2020 begins mplementation.

A new landmark for Latin America is set: 85% of the bovine population attains the FMD-free status.

20 2011-2020 is approved.

2011-2020.

The Trust Fund for

Strengthening PHEFA

At COSALFA, the Member Countries endorse the

proposal for creating a Trust Fund for strengthening

PANAFTOSA's technical cooperation to support the

consolidation of PHEFA – the PHEFA Trust Fund – and

request the drafting of a new PHEFA Plan of Action

(PHEFA Trust Fund).



country by 2023. PANAFTOSA submits to the countries the *Agreement*

Committee for Biological Risk Management and Biosafety.

of the FMD vaccine type-C virus in the region.

OIE certifies the entire **Brazilian** territory as FMD-free – with 26 states as FMD-free with vaccination and one state as FMD-free without vaccination.

During the 2nd Extraordinary COHEFA meeting, the new Plan of Action 2011-2020 of the PHEFA is approved.

The new PHEFA Plan of Action



A Technical Cooperation Agreement between the Brazilian National Beef Cattle Council (CNPC) and PAHO/PANAFTOSA is signed to support actions for strengthening the PHEFA, in particular the FMD control programme in Ecuador.

OIE recognizes PANAFTOSA as a 4 Collaborating Center in Veterinary Public Health.

Beginning of the agreement between Agrocalidad, Ecuador, and PAHO/PANAFTOSA to finance technical cooperation programmes for Animal Health and Foot-and-Mouth Disease eradication.

PANAFTOSA initiates technical cooperation missions to evaluate the program for the prevention and eradication of FMD in Suriname.

PANAFTOSA's OIE/FAO Reference Laboratory for Vesicular Diseases begins its activities in the facilities of the National Agriculture Laboratory of Pedro Leopoldo, Minas Gerais State, Brazil (LANAGRO - MG), that fulfills the biosecurity BSL4-OIE standards.

The Technical Cooperation Agreement between the National Service of Quality and Animal Health (SENACSA), Paraguay and PAHO/PANAFTOSA is signed to support the animal health and FMD eradication programmes. **Bolivia** attains the status of FMD-free country.

OIE certifies Ecuador as FMD-free with

2011 vaccination, with the Galapagos Islands as FMD-free without vaccination. Suriname becomes a full member of COSALFA

During the 5th COSALFA Extraordinary Meeting, countries approve the **Technical Euidelines** for the implementation of the last stage in the PHEFA Plan of Action 2011-2020, i.e. the transition from FMD-free with vaccination to FMD-free without vaccination.

The COHEFA Meeting held in Paraguay recommends that PAHO/PANAFTOSA manages and administers the BANVACO.

South America reaches the landmark of 95.5% of the bovine and buffalo

Brazil approves its new National FMD Prevention and Eradication Program aiming at becoming a FMD-free without vaccination

establishing BANVACO and establishes the Regional

PANAFTOSA recommends countries to suspend the administration

Peru attains the FMD-free without vaccination status and becomes the second South American country to achieve such a status as a result of a FMD control and eradication programme.

> Suriname is recognized as FMD-free without vaccination.

All countries in the exception of

South America, with Venezuela, attain the FMD-free status.

